Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-015-29380

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

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
Penwell Energy, Inc. 147380 (915) 683-2534

3. ADDRESS OF OPERATOR
600 N. Marienfeld, Ste. 1100, Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FSL & 660' FWL
At proposed prod. zone: 1980' FSL & 660' FWL Lot 6 UNIT L

5. LEASE DESIGNATION AND SERIAL NO.: NM 96212

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Angell "6" Federal 20458

9. WELL NO.: #1

10. FIELD AND POOL, OR WILDCAT: 10310 Atoka-Angell Ranch Morrow

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 6, T20S, R28E

12. COUNTY OR PARISH: Eddy 13. STATE: N.M.

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
11 miles North from Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 660'

16. NO. OF ACRES IN LEASE: 331.3

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

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

19. PROPOSED DEPTH: 11,200'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3375 GR

22. APPROX. DATE WORK WILL START*: February 20, 1996

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48#	450'	450 sks. Cl, C Neet + CaCl2
11"	8 5/8"	32#	2900'	500 sks C Lite + 250sx H
7 7/8"	5 1/2"	17#	11200'	500 sks H Lite + 350 sx H Ne Estimated TOC 6,000

*Surface - Circulated to ground surface.

*Inter. - Circulated to ground surface

RECEIVED
JAN 13 10 08 AM '97

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 Brenda Coffman TITLE Production Analyst DATE 1-10-97

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY (ORIG. SGD.) TONY L. FERGUSON TITLE ACTING ASSISTANT FIELD MANAGER, MINERALS DATE 2-12-97

CONDITIONS OF APPROVAL, IF ANY:

Form 9-331 C
(May 1963)

OPERATOR'S COPY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM 96212

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Angell "6" Federal

9. WELL NO.: #1

10. FIELD AND POOL, OR WILDCAT: Angell Ranch Morrow

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 6, T20S, R28E

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
Penwell Energy, Inc. (915) 683-2534

3. ADDRESS OF OPERATOR
600 N. Marienfeld, Ste. 1100, Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FSL & 660' FWL
At proposed prod. zone: 1980' FSL & 660' FWL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
11 miles North from Carlsbad, New Mexico

12. COUNTY OR PARISH: Eddy
13. STATE: N.M.

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 660'

16. NO. OF ACRES IN LEASE: 331.3

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

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

19. PROPOSED DEPTH: 11,200'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3375 GR

22. APPROX. DATE WORK WILL START*: February 20, 1996

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48#	450'	450 sks. Cl. C Neet + CaCl2 *
11"	8 5/8"	32#	2900'	500 sks C Lite + 250sx H *
7 7/8"	5 1/2"	17#	11200'	500 sks H Lite + 350 sx H Nee
				Estimated TOC 6,000

RECEIVED
FEB 14 1997

RECEIVED
JAN 13 10 08 AM '97

*Surface - Circulated to ground surface.

*Inter. - Circulated to ground surface

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 Brenda Coffman TITLE Production Analyst DATE 1-10-97

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY Tony L Ferguson TITLE ADM, Minerals DATE 2/12/97

CONDITIONS OF APPROVAL, IF ANY:

C: BP(2) 2-14-97
CoE 2-17-97

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Departm...

Form C-102
Revised February 10, 1994
Instruction on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		Angell Ranch Morrow

Property Code	Property Name	Well Number
	Angell 6 Federal	1

OGRID No.	Operator Name	Elevation
147380	Penwell Energy Inc.	3375'

Surface Location

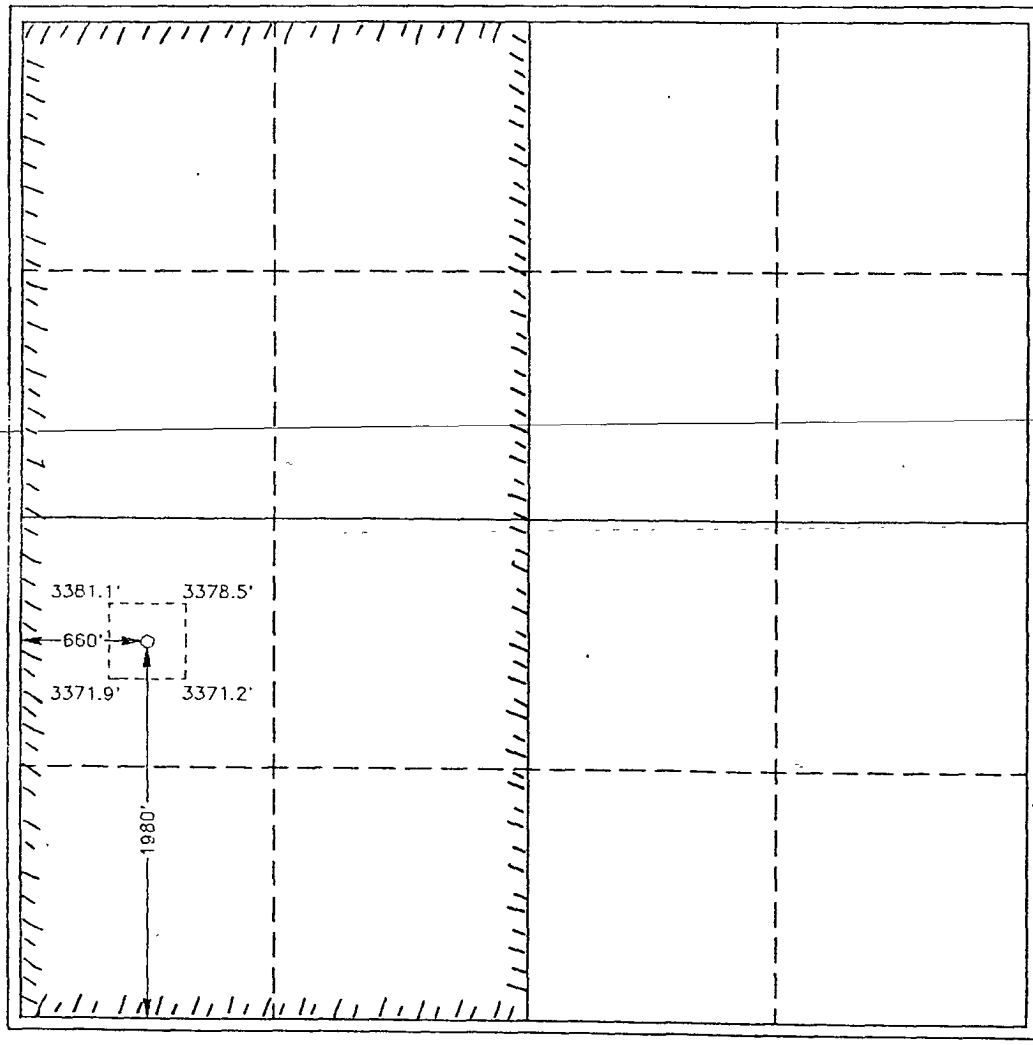
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	6	20 S	28 E		1980	South	660	West	Eddy

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

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

Brenda Coffman
Signature

Brenda Coffman
Printed Name

Prod. Analyst
Title

Jan. 10, 1996
Date

SURVEYOR CERTIFICATION

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 supervison, and that the same is true and correct to the best of my belief.

December 7, 1996
Date Surveyed

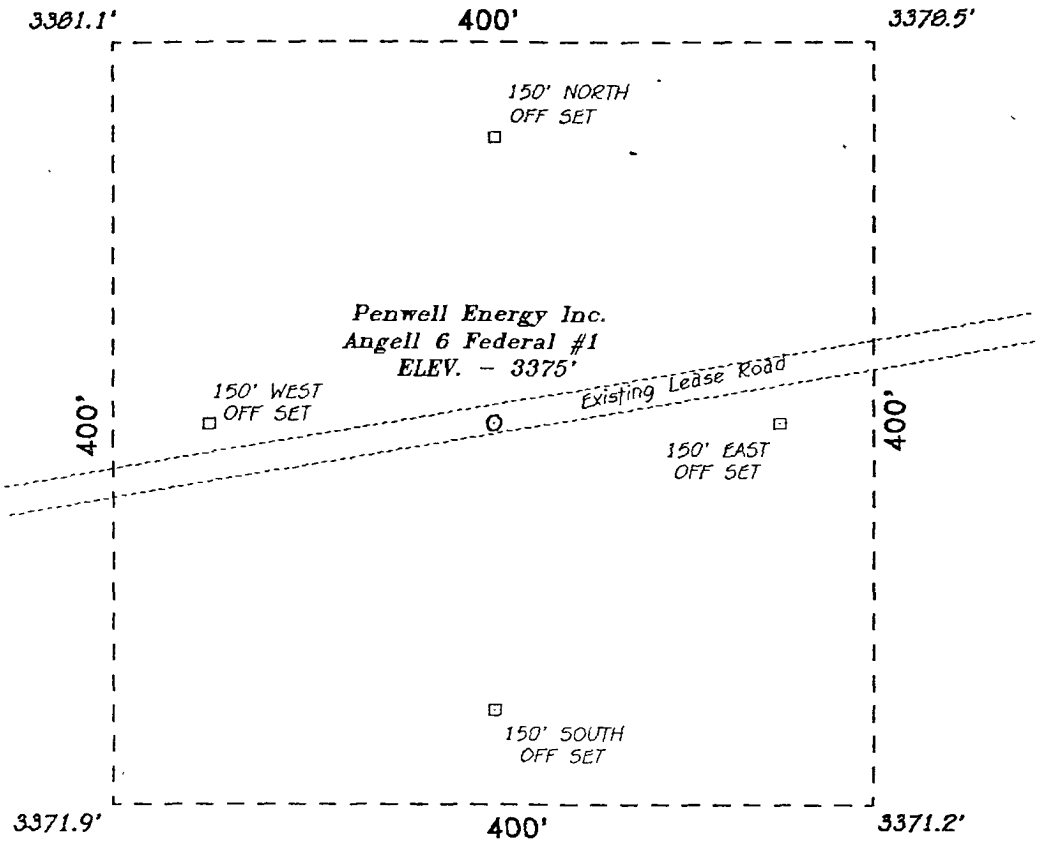
Signature & Seal of Professional Surveyor

W.O. No. 6550c

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SECTION 6, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



100 0 100 200 FEET

SCALE: 1" = 100'

DIRECTIONS

OUT OF CARLSBAD N.M. NORTH ON HIGHWAY 208 (ILLINOIS CAMP ROAD) 11 MILES TO A LEASE ROAD GO EAST 660' TO LOCATION

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

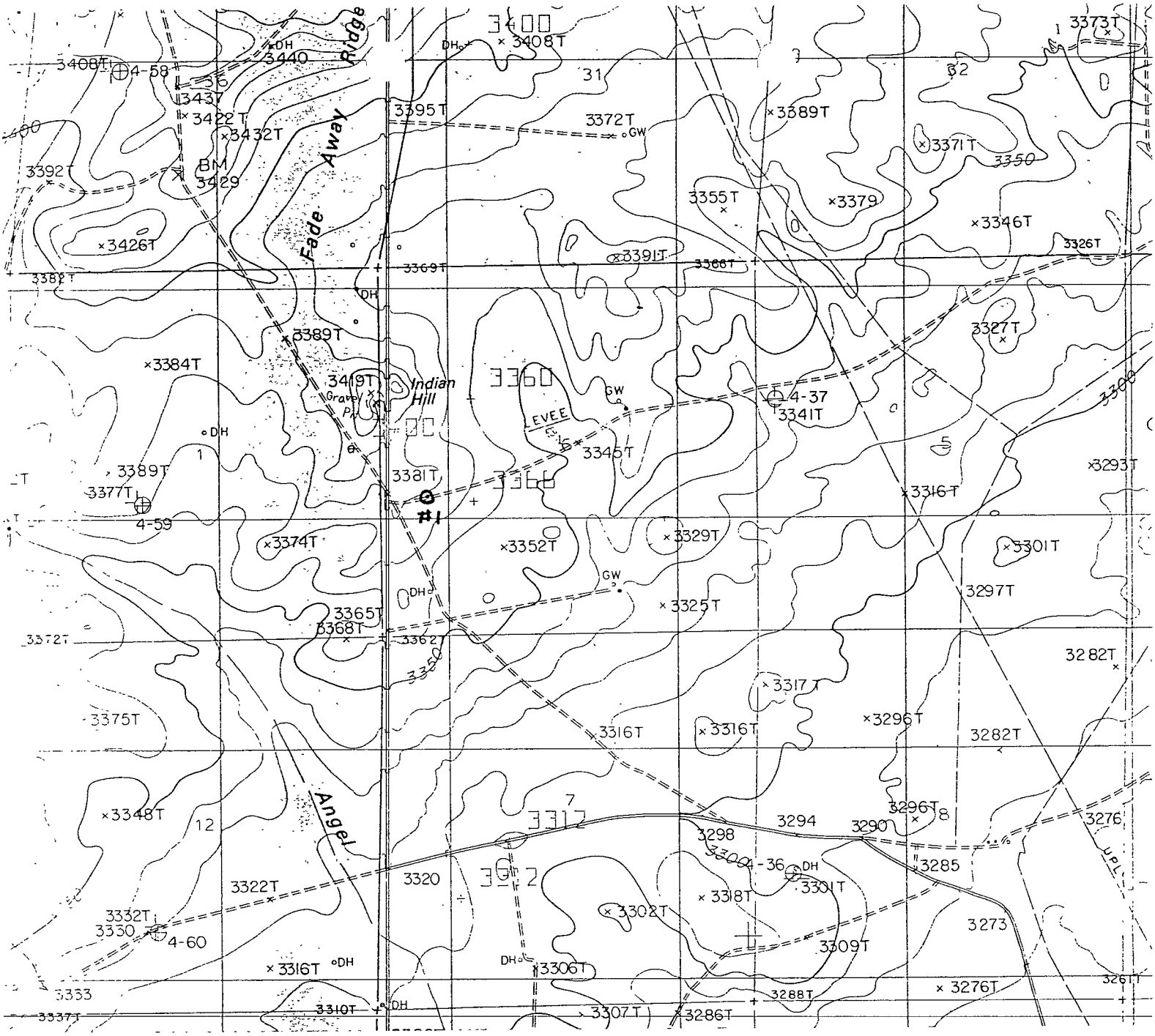
W.O. Number: 6550	Drawn By: S.C. NICHOLS
Date: 12-09-96	Disk: SCN #33 – 6550AA.DWG

Penwell Energy Inc.

REF: Angell "6" Federal No. 1 / Well Pad Topo

THE ANGELL "6" FED. No. 1 LOCATED 1980' FROM THE SOUTH LINE AND 660' FROM THE WEST LINE OF SECTION 6, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 12-07-96	Sheet 1 of 1 Sheets



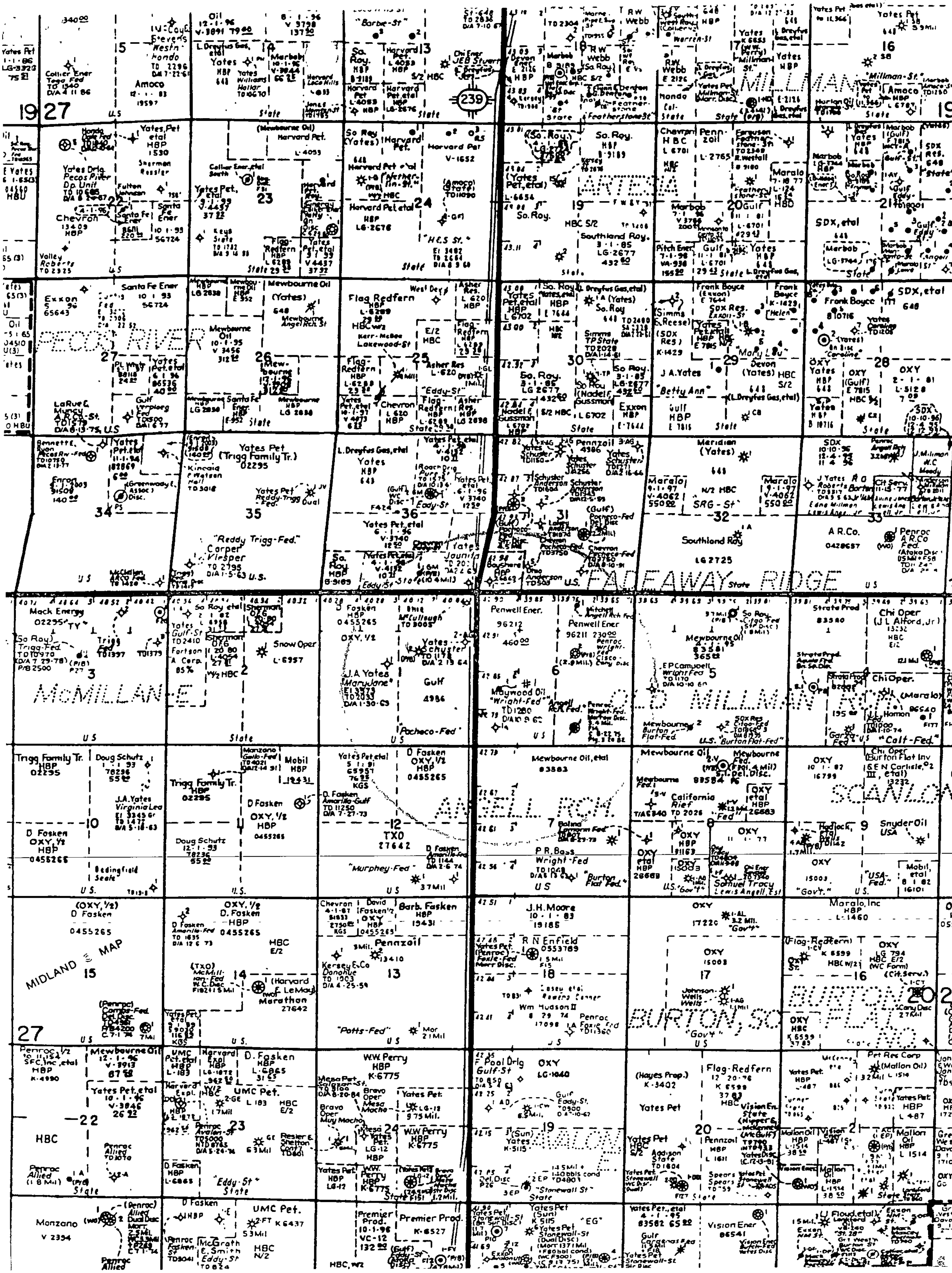
PENWELL ENERGY INC.
ANGELL "6" FEDERAL #1
1980' FSL & 660' FWL
Sec. 6, T-20-S, R-28-E,
Eddy County, New Mexico.

SCALE: 1"=2000'

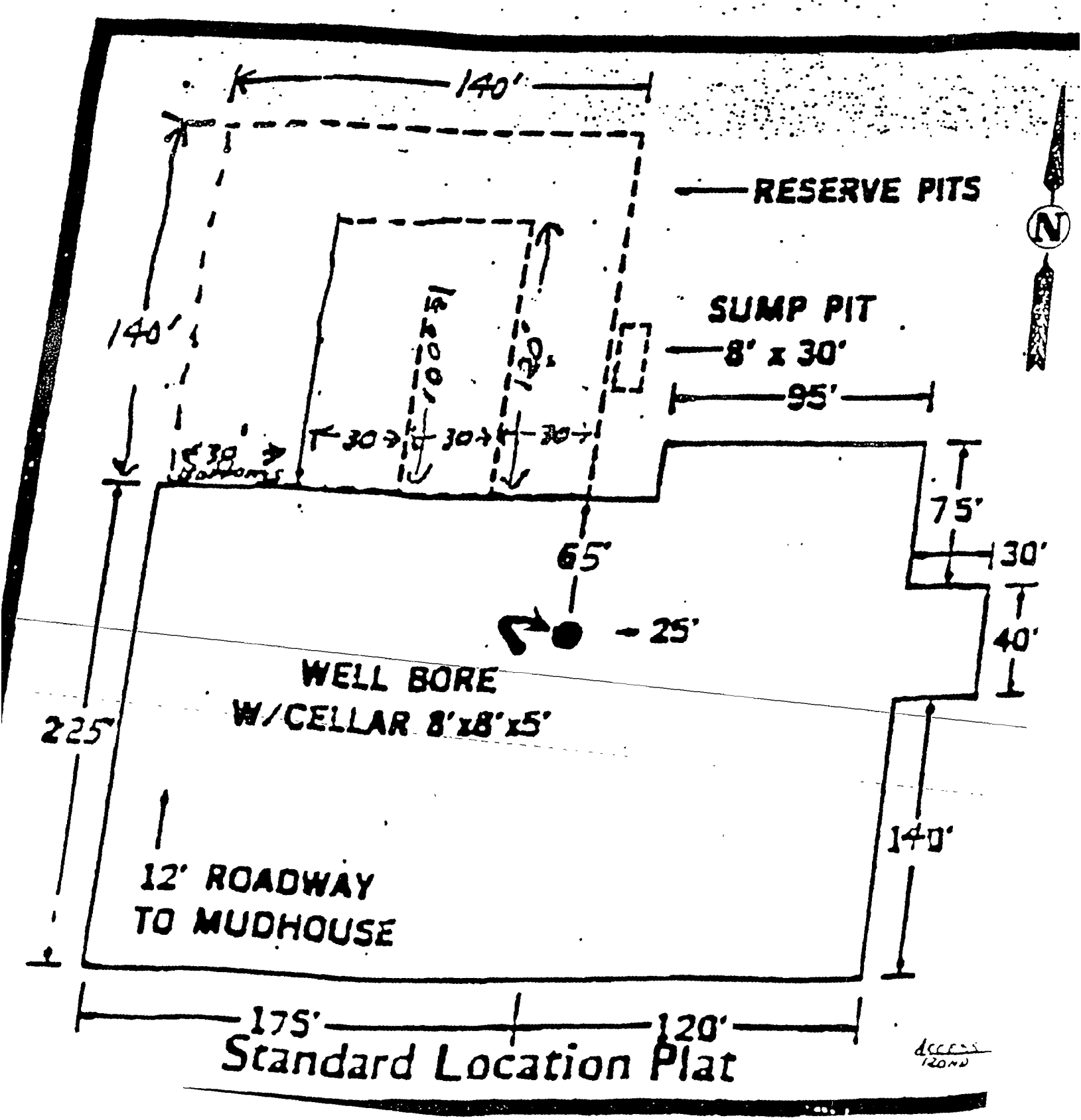
2000' 0 2000' 4000 Feet

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

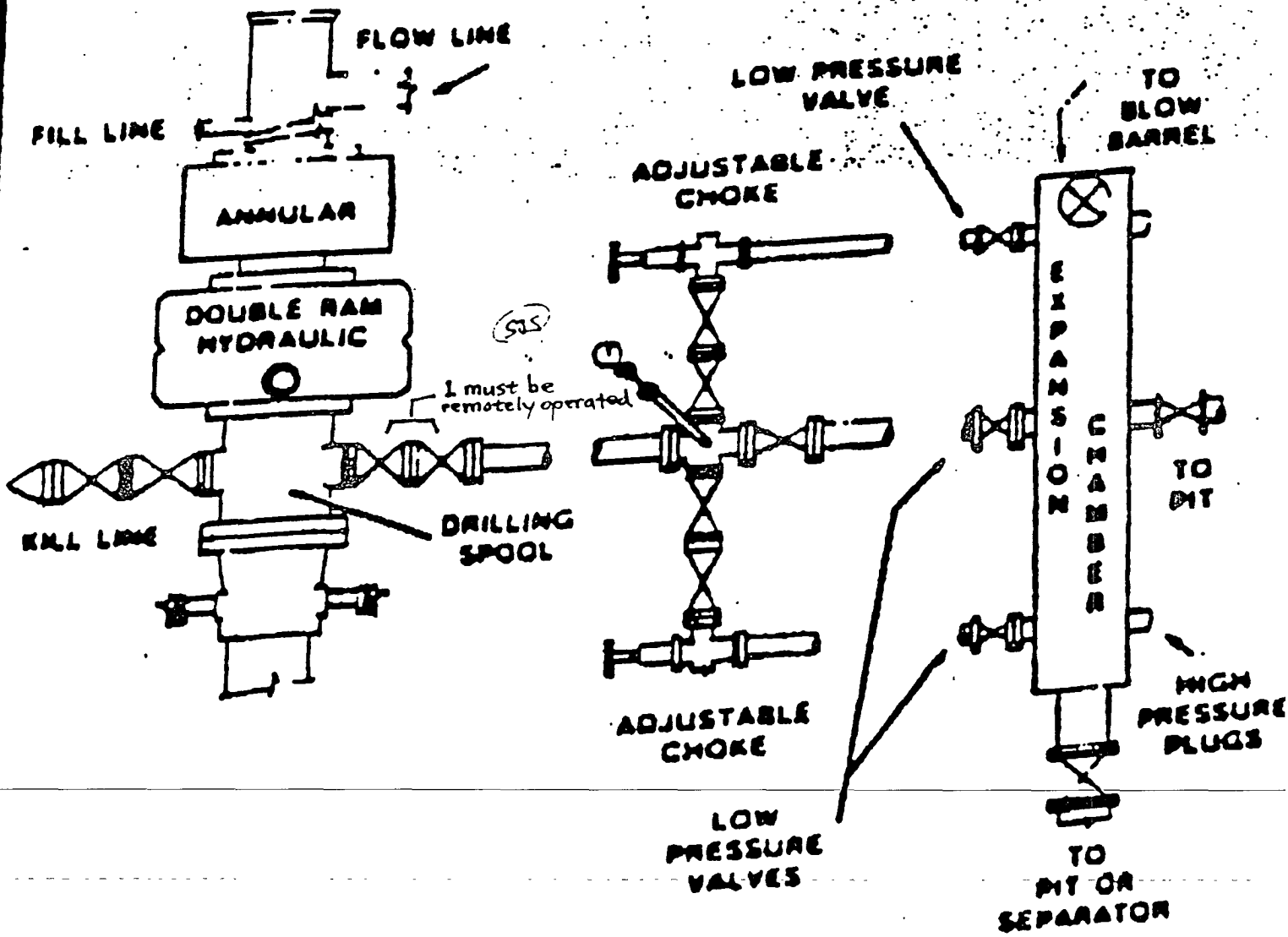
W.O. Number: 6550	Drawn By: S.C. Nichols	Survey Date: 12-07-96	Sheet 1 of 1 Sheets



MIDLAND MAP
PECOS RIVER
ARTESIA
MILLMAN
McMILLAN-E
FADEAWAY RIDGE
ANGELL RCH.
SCANLON
BURTON, SO.
BURTON FLAT
AVALON
239
"Reddy Trigg-Fed."
"Pacheco-Fed"
"Murphey-Fed"
"Potts-Fed"
"Eddy-St"
"Stonewall St"
"Betty Ann"
"Mary Lou"
"Burton Flat-Fed"
Yates Pet
Mewbourne Oil
Harvard Pet
So. Roy.
Flag Redfern
Santa Fe Ener
Penwell Ener.
Penwell Ener
Southland Roy
Meridian (Yates)
OXY
D Fasken
Trigg Family Tr.
Doug Schutz
Chevron
Exxon
Amoco
Marathon
Pennzoil
UMC Pet.
W.W. Perry
Premier Prod.
Vision Ener
Monzano
Penroc
J.H. Moore
R N Enfield
Mack Energy
Snow Oper
Chi Oper
Strata Prod
A R.Co.
SDX, etal
Frank Boyce
Gulf
Marbob
Mobil
Snyder Oil USA
TXO
HBC
HBP
U.S.
State



Standard Location Plat



Standard Blowout Preventer Stack

EXHIBIT "E"
PENWELL ENERGY, INC.

SPECIAL DRILLING STIPULATIONS

THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

OPERATOR'S NAME PENWELL ENERGY INC. **WELL NO. & NAME** #1 ANGELL "6" FEDERAL
LOCATION 1980' F S L & 660' F W L **SEC.** 6, **T.** 20S., **R.** 28E.
LEASE NO. NM-96212 **COUNTY** EDDY **STATE** NEW MEXICO

The special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CFR 3165.3 and 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

I. SPECIAL ENVIRONMENT REQUIREMENTS

( ) Lesser Prairie Chicken (Stips attached)
( ) San Simon Swale (Stips attached)
( ) Floodplain (Stips attached)
( ) Other

II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

(✓) The BLM will monitor construction of this drill site. Notify the (✓) Carlsbad Resource Area Office at (505) 887-6544 ( ) Hobbs Office at (505) 393-3612, at least 3 working days prior to commencing construction.

(✓) Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche.

( ) All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately ____ inches in depth. Approximately _____ cubic yards of topsoil material will be stockpiled for reclamation.

( ) Other

III. WELL COMPLETION REQUIREMENTS

( ) A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

(✓) Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at a depth of 1/2 inch) with the following seed mixture, in pounds of Pure Live Side (PLS), per acre.

( ) A. Seed Mixture 1 (Loamy Site)
Lehmanns Lovegrass (Eragrostis lehmannlana) 1.0
Side Oats Grass (Bouteloua curtipendula) 5.0
Sand Dropseed (Sporobolus cryptandrus) 1.0

( ) B. Seed Mixture 2 (Sandy Sites)
Sand Dropseed (Sporobolus cryptandrus) 1.0
Sand Lovegrass (Eragrostis trichodes) 1.0
Plains Bristlegrass (Setaria magrostachya) 2.0

( ) C. Seed Mixture 3 (Shallow Sites)
Sideoats Grama (Boute curtipendula) 1.0
Lehmanns Lovegrass (Eragrostis lenmanniana) 1.0
or Boar Lovegrass (E. chloromalas)

(✓) D. Seed Mixture 4 ("Gyp" Sites)
Alkali Sacaton (Sporobolus airoides) 1.0
Four-Wing Saltbush (Atriplex canescens) 5.0

Seeding should be done either late in the fall (September 15 - November 15, before freeze up) or early as possible the following spring to take advantage of available ground moisture.

( ) Other

RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6 mil plastic.

Mineral material extracted during construction of the reserve pit may be used for development of the pad and access road as needed. Removal of any additional material on location must be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is NOT TO BE RUPTURED to facilitate drying; a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

1) Lined as specified above and,

2) A borrow/caliche/gravel pit can be constructed immediately adjacent to the reserve pit and is capable of containing all reserve pit contents. The mineral material removed in the process can be used for pad and access road construction. However, a material sales contract must be purchased from BLM prior to removal of the material.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be recontoured, all trash removed, and reseeded as specified in this permit.

CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to proceed by BLM.

TRASH PIT STIPS

All trash, junk and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

CONDITIONS OF APPROVAL - DRILLIN

Operator's Name: PENWELL ENERGY Well No: ANGELL 6 FEDERAL
Location: 1980 ' FSL & 660' FWL sec. 6 T. 20S, R. 28 E
Lease: NM 96212

.....

I. DRILLING OPERATIONS REQUIREMENTS:

The Bureau of Land Management (BLM) is to be notified at Roswell Resource Area Office, 2902 West Second St., Roswell NM. 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties, the Carlsbad Resource Office,620 East Greene St., Carlsbad, NM 88220, (505) 887-6544 for wells in Eddy County, and the BLM Hobbs 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

1. Spudding

2. Cementing casing: 13 3/8 inch 8 5/8 inch 5 1/2 inch

3. BOP tests

4. A Hydrogen Sulfide Contingency Plan should be activated A MINIMUM OF 500 ' prior to drilling in the Bone Springs formation. A copy of the plan shall be posted at the drilling site.

5. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

6. Include the API No. assigned to well by NMOCD on the subsequent report of setting the first casing string.

7. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

8. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface; cable speed not to exceed 30 feet per minute.

9. Other

II. CASING:

8 5/8 inch surface casing should be set at 450' . If cement does not circulate to the surface this BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

Minimum required fill of cement behind the 13 3/8 inch intermediate casing is TO CIRCULATE.

Minim requied fill of cement behind the 8 5/8 should be to tie back 100 feet iabove the 13 3/8 inch shoe.

Minimum required fill of cement behind the 5 1/2 inch production casing is TO cover all possible hydrocarbon bearing formations by 600'.

Whenever a casing string is cemented in the R-111-P Potash Area, cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

Other:

III. PRESSURE CONTROL:

Before drilling below the 8 5/8 inch casing shoe, the blowout preventer assembly shall consist of a minimum of:

One Annular Preventer

Two Ram-Type Preventers

Kelly Cock/Stabbing Valve

Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2 M psi.

The BOPE shall be installed before drilling below the 13 3/8 inch casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

The BLM office shall be notified at (505) 627-0272 for wells in Chaves and Roosevelt Counties, at (505) 887-6544 for wells in Eddy County, and at (505) 393-3612 for wells in Lea County in sufficient time for a representative to witness the tests.

1. The tests shall be done by an independent service company.

2. The results of the test will be reported to the apporiate BLM office.

3.OMIT

4.Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not allowed since it can mask small leaks.

5.Testing must be done in a safe workman like manner. Hard li ne connections shall be required.

PENWELL ENERGY, INC.

ANGELLI "6" FEDERAL #1
1980 FSL & 660 FWL
SECTION 26T20S, R28E
EDDY COUNTY, NEW MEXICO

APPLICATION FOR PERMIT TO DRILL

1. LOCATION: 1980 FSL & 660' FWL, SECTION 6, T20S, R28E

2. ELEVATION ABOVE SEA LEVEL: 3375'.

3. GEOLOGIC NAME OF SURFACE FORMATION:

4.. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using mud for the circulation medium.

5. PROPOSED DRILLING DEPTH: 11200'

6. ESTIMATED GEOLOGICAL MARKER TOPS:

Delaware	2833'
Bone Spring	4250'
Wolfcamp	8667'
Strawn	9395'
Atoka	10217'
Morrow	10720'

7. POSSIBLE MINERAL BEARING FORMATION:

OIL		GAS	
Delaware	2833'	Wolfcamp	9952'
Bone Springs	4250'	Strawn	9395'
		Atoka	10217'
		Morrow	10720

CASING PROGRAM:

Hole Size	Interval	OD Csg	Weight	Thread	Collar	Grade	Cond.
17 ½"	0-450'	13 3/8"	48#	8-Rd	ST&C	H-40	New
11"	450-2900'	8 5/8"	32 #	8-Rd	ST&C	J-55	New
7 7/8"	2900-11200'	5 ½"	17#	8-Rd	LT&C	N-80 & S-95	New

PENWELL ENERGY, INC.
ANGELL "6" FEDERAL #1
APPLICATION FOR PERMIT TO DRILL

9. CASING CEMENTING & SETTING DEPTH:

13 3/8"	Surface	Set 450' of 13 3/8" 48#, ST&C, H-40, new casing. Cement with 450 sacks Class "C" Neet + 2% $CaCl_2$ Circulate cement to surface.
8 5/8"	Intermediate	Set 2900' of 8 5/8" 32# J-55 ST&C casing. Cement with 500 sx Class "C" Lite + 250 sx "C" Neet + 2% $CaCl_2$. Circulate cement to surface.
5 ½"	Production	Set 11200' of 5 1/2" 17# , LTC casing. Cement with 500 sx Class "H" Lite + 350 sks "H" Neet + additives. Estimated top of cement @ 6,000'.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E". A Blow-out Preventer (no less than 1500 Series 5000 PSI working pressure) consisting of double ram type preventer with bag type preventer. Units will be hydraulically operated. Exhibit "E-1" Choke Manifold and Closing Unit. Blind rams on top, pipe rams on bottom to correspond with size of drill pipe in use. BOP will be nippled up on 13 3/8" casing and remain on well until casing is run and cemented. BOP will be tested as well as choke manifold. BOP will be worked at least once each day while drilling & blind ram will be worked on trips when no drill pipe is in hole. Full opening stabbing valve and upper kelley cock will be utilized. Anticipated BHP 4400 PSI and 140° BHT.

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD. WT.	MUD VISC.	FLUID LOSS	TYPE
0'- 450'	8.4	None	NC	FW
450' - 2900'	10.0	None	NC	BW
2900' - 9500'	8.7 - 9.2	29	NC	Cut brine
9900' - 11200'	9.2 - 9.6 8.6 - 9.6	32 - 40	15 cc's or less	Cut brine

12. TESTING, LOGGING AND CORING PROGRAM:

    A. Gamma Ray - Surface casing to T.D.
    B. CNL-LDT,D11-MFL - Below 2900 to T. D.
    C. Coring - None
    D. DST'S - As required.
    E.

13. POTENTIAL HAZARDS:
    No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered in Bone Springs, H_2S detectors will be in place to detect any presence. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used. Estimated BHP 2800 psi, estimated BHT 100°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:
    Road and location construction will begin after BLM approval of APD. Anticipated spud date is February 10, 1997. Drilling is expected to take 40 days. If production casing is run an additional 15 days will be required to complete and construct surface facilities.

15. OTHER FACETS OF OPERATIONS:
    After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals. The Morrow pay will be perforated and stimulated. The well will be swab tested and potentialed as a gas well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety safety instructor to the following:

   A. Characteristics of H_2S
   B. Physical effects and hazards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of H_2S detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

2. H_2S DETECTION AND ALARM SYSTEMS

   A. H_2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.

3. WINDSOCK AND/OR WIND STREAMERS

   A. Windsock at mudpit area should be high enough to be visible.
   B. Windsock at briefing area should be high enough to be visible.
   C. There should be a windsock at entrance to location.

4. CONDITION FLAGS AND SIGNS

   A. Warning sign on access road to location.
   B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow H2S safety flag indicates potential pressure and danger. Red flag, danger, H_2S present in dangerous concentration. Only emergency personnel admitted to location.

5. WELL CONTROL EQUIPMENT

   A. See exhibit "E"

6. COMMUNICATION

   A. While working under masks chalkboards will be used for communication.
   B. Hand signals will be used where chalk board is inappropriate.
   C. Cellular telephones will be used to communicate off location in case emergency help is required.

7. DRILLSTEM TESTING

   A. Exhausts will be watered
   B. Flare line will be equipped with an electric ignitor, diesel pilot, or a propane pilot light in case gas reaches the surface.
   C. If location is near any dwelling a closed D.S.T. will be performed.

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9. If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers, if necessary.

SURFACE USE PLAN
PENWELL ENERGY INC.
ANGELL "6" FEDERAL #1

1. EXISTING ROADS: Area maps, Exhibit "B" is a reproduction of Eddy Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. There will be approximately 80' of new road constructed to BLM specifications.

   A. Exhibit "A" shows the proposed well site as staked.

   B. Out of Carlsbad, New Mexico, North on Highway 208 (Illinois Camp Road) 11 miles to a lease road go East 660' to location.

   A. The access road will be crowned and ditched to a 14' wide travel surface with a 30' right-of-way.

   B. Gradient on all roads will be less than 1.00%.

   C. There will be turnouts as needed.

   D. If needed, road will be surfaced with a minimum of 6" of compacted caliche. This material will be obtained from a local source.

   E. Earthwork will be as required by field conditions.

   F. Culverts in the access road will not be used.

3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A-1"

   A. Water wells - None in immediate vicinity.

   B. Disposal wells - None known

   C. Drilling wells - As shown on Exhibit "A-1"

   D. Producing wells - As shown on Exhibit "A-1

   E. Abandoned wells - As shown on Exhibit "A-1"If, upon completion this well is a producer , Penwell Energy Inc. will furnish maps and/or plats showing on site facilities or off site facilities if needed. This will be accompanied with a Sundry Notice.

4. LOCATION AND TYPE OF WATER SUPPLY

Water will be purchased locally from a private source and trucked over the access roads or piped in flexible lines laid on top of the ground.

5. SOURCE OF CONSTRUCTION MATERIALS

If needed, construction materials will be obtained from the drill site's excavations or from a local source. These materials will be transported over the access route as shown on Exhibit "A".

METHODS FOR HANDLING WASTE DISPOSAL

A. 1. Drill cuttings will be disposed of in the reserve pit.

2. Trash, waste paper, and garbage will either be contained in a fenced trash trailer or in a trash pit, fenced with mesh wire to prevent wind-scattering and will be buried at least 36" deep within a reasonable period of time.

3. Salts remaining after completion of the well will be picked up by the supplier, including broken sacks.

4. Sewage from trailer houses will drain into holes with minimum depth of 10'00". These holes will be covered during drilling and backfilled upon completion.

B. Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for backfilling. In the event drilling fluids will not evaporate in a reasonable period of time they will be transported by tank truck to a state approved disposal site.

Water produced during testing of the well will be disposed of in the reserve pit. Oil produced during testing of the well will be stored in test tanks until sold and hauled from the site.

6. ANCILLARY FACILITIES

No camps or airstrips will be constructed.

7. WELL SITE LAYOUT

A. Exhibit "D" shows the proposed well site layout.

B. This exhibit indicated proposed location of reserve and sump pits and living facilities.

C. Mud pits in the active circulating system will be steel pits and the reserve pit is proposed to be unlined unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.

D. If needed, the reserve pit is to be lined with polyethylene. The pit liner will be 6 mils thick. Pit liner will extend a minimum 2'00" over the reserve pits dikes where the liner will be anchored down.

E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded, as close as possible, to BLM requirements.

8. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly. The pit area will then be leveled and contoured to conform, as closely as possible, to the original and surrounding area. Drainage systems, if any, will be reshaped, as close as possible, to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be contoured to match, as close as possible, the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

9. OTHER INFORMATION:

A. Topography: The proposed well site and access road consists of arrid, hilly desert.with a sparce scattering of cactus and desert plants.

B. Soil: The topsoil at the well site is a shallow, brownish-black clay, sand loam.

C. Flora and Fauna: The vegetation cover is a poor grass cover of three-awn, sand and spike dropseed, bluestem and other misc. native grasses along with small cedar trees. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.

D. Ponds and Streams: None in area.

E. Residences and Other Structures: None in the immediate area, except oil production facilities.

F. Land Use: Cattle grazing.

G. Surface ownership: BLM, Carlsbad, N.M

H. There is no evidence of any archaeological, historical or cultural sites in the area. An archaeological survey has been conducted by Archaeological Services By Laura Michalik and their report is being submitted to the appropriate government agencies.

10. OPERATORS REPRESENTIVE:

PENWELL ENERGY, INC.
600 NORTH MARIENFELD, STE. 1100
MIDLAND, TEXAS 79701

BILL PIERCE PHONE 915 683-2534

11. 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 which currently 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 Penwell Energy Inc., its contractors/subcontractors is in the conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.

NAME Bill Pierce
Bill Pierce

DATE : 1/9/97

TITLE: Engineer

ARCHAEOLOGICAL SERVICES
by
LAURA MICHALIK
Surveys • Monitoring • Consultation • Research

AN ARCHAEOLOGICAL CLEARANCE SURVEY OF THE PROPOSED ANGELL 6 FEDERAL #1 WELL PAD LOCATION NORTHEAST OF CARLSBAD, EDDY COUNTY, NEW MEXICO

by

Laura Michalik
Principal Investigator

NMCRIS # 54930

Performed under BLM Permit No. 84-2920-96-K

A REPORT PREPARED BY ARCHAEOLOGICAL SERVICES BY LAURA MICHALIK AND SUBMITTED TO PENWELL ENERGY, INC. MIDLAND, TEXAS

ARCHAEOLOGICAL SERVICES BY LAURA MICHALIK
CULTURAL RESOURCES REPORT NUMBER 785

December 20, 1996

P.O. Box 8262 • Las Cruces, New Mexico 88006 • (505) 382-0247

ABSTRACT

On December 16, 1996, an archaeological clearance survey of a proposed well pad location was conducted by Joseph Martin of Archaeological Services by Laura Michalik. The proposed project area consists of the Angell 6 Federal #1 Well (1980 FSL, 660 FWL). The area surveyed for the proposed well pad consists of a square parcel of land measuring 400 by 400 feet (3.67 acres). The proposed well pad is located on land administered by the Bureau of Land Management, Roswell District, Carlsbad Resource Area in Eddy County, New Mexico in the NW 1/4 of the SW 1/4 of Section 6, T-20-S, R-28-E. The survey was conducted under BLM Permit No. 84-2920-96-K. The project was initiated at the request of Ms. Brenda Coffman of Penwell Energy, Inc., 1100 Arco Building, 600 N. Marienfeld, Midland, Texas 79701 (ph. 915-683-2534).

No prehistoric archaeological or historical sites, or isolated occurrences, were identified during the course of this survey. Archaeological clearance is recommended for the proposed undertaking.

MANAGEMENT SUMMARY

Location: Well Pad - NW 1/4 SW 1/4, Section 6, T-20-S, R-28-E (1980 FSL, 660 FWL)

Land Ownership: BLM, Roswell District, Carlsbad Resource Area

U.S.G.S. Quad: Angel Draw, NM 7.5' (1985)

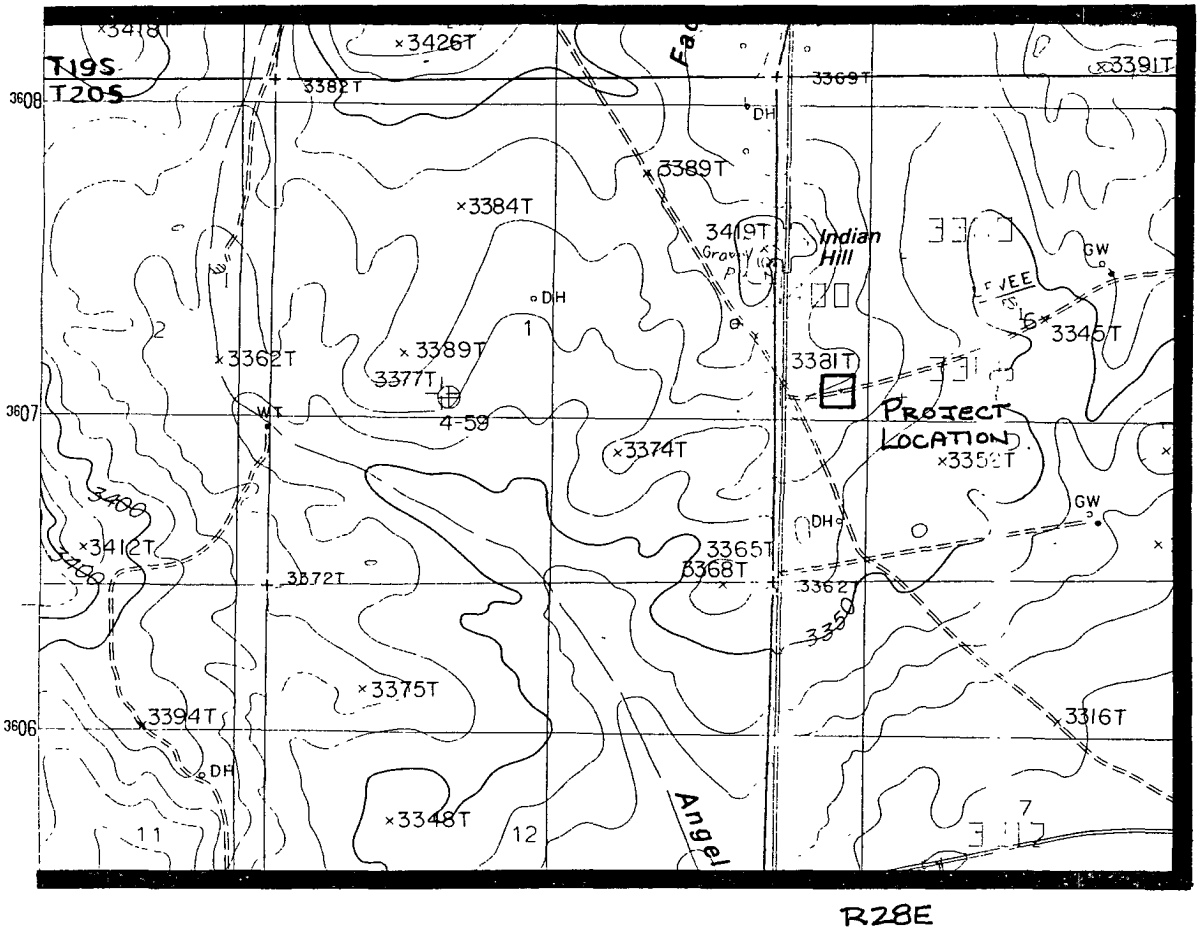
Area Covered: Well pad - 400 by 400 feet (3.67 acres)

Cultural Resources: None

ANGEL DRAW, NEW MEXICO

PROVISIONAL EDITION 1985

32104-E2-TF-024



SCALE 1:24 000

1 5 0 1 MILES

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10 000 FEET

1 5 0 1 2 KILOMETERS

1000 0 1000 2000 METERS

CONTOUR INTERVAL 10 FEET

NORTH

QUADRANGLE LOCATION

Figure 1. Project location

ENVIRONMENTAL SETTING

The project area lies in a physiographic province known as the Pecos Valley Section of the Great Plains Province (Hawley 1986). It is characterized on the east side of the river by rolling uplands, valleys and basins, and some areas of rough and broken terrain, and on the west side of the river by undulating hills. Specifically, the project area is located on the side of a limestone ridge. Drainage within the area is primarily to the southwest. Angel Draw is located one half mile southwest of the project area. Slopes within the project area average 0 to 3%. The elevation of the proposed drill pad is 3375 feet above mean sea level. Vegetation is dominated by acacia, creosote, snakeweed and grasses. Soils consist of aridisols (Maker and Daugherty 1986). These are light-colored, calcareous soils, found predominantly in the lower elevations of New Mexico. Large portions of the surrounding region have been disturbed by drilling activity and by the blading of access roads.

SURVEY METHODS AND RESULTS

The boundaries of the project area were clearly marked by lathe and flagging. The weather was clear and the general lack of vegetation made ground visibility good. The survey of the well pad was conducted by the archaeologist walking straight transects spaced 7.5 meters apart.

No prehistoric archaeological or historical sites, or isolated occurrences, were identified within the boundaries of the proposed project area.

IMPACT ASSESSMENT

Impact refers to those activities that directly or indirectly affect cultural resources and result in their alteration or destruction. Such impacts can be the result of the immediate effects of

construction activities or from the longer term adverse effects that result from modification of the land surface and increased access to site areas.

Since no archaeological or historical sites, or isolated occurrences, occur within the boundaries of the proposed project area, no cultural resources will be impacted by the proposed undertaking.

RECOMMENDATIONS

Since no archaeological or historical sites, or isolated occurrences, were located within the boundaries of the proposed project area, archaeological clearance is recommended. However, in the event that subsurface artifacts or features are discovered during the implementation of this project, the Carlsbad Resource Area Office of the Bureau of Land Management shall be notified and all activities having a potential impact shall be halted until a suitable course of action has been determined.

REFERENCES CITED

Hawley, John W.

1986 Physiographic provinces. In New Mexico in Maps, Second Edition. Edited by Jerry L. Williams. University of New Mexico Press. Albuquerque.

Maker, H. J. and L. A. Daugherty

1986 Soils. In New Mexico in Maps, Second Edition. Edited by Jerry L. Williams. University of New Mexico Press. Albuquerque.