NOV 2000
RECEIVED
OCD - ARTESIA

N.M. Oil Cons. Division
811 S. 1st Street
Artesia, NM 88210-2834

Form 3160-3
(August 1999)

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM92957 LC-029389-B

6. If Indian, Allottee or Tribe Name

1a. Type of Work: [X] DRILL [ ] REENTER

7. If Unit or CA Agreement, Name and No.
26908

1b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

8. Lease Name and Well No.
ANADARKO FEDERAL #1

2. Name of Operator
ANADARKO PETROLEUM CORPORATION 817

9. API Well No.
30-015-31455

3a. Address
P O BOX 2497, MIDLAND TX 79702

3b. Phone No. *(include area code)*
915/682-1666

10. Field and Pool, or Exploratory
CEDAR LAKE MORROW, EAST

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 1815' FSL & 1650' FWL QRSB U.L. K
At proposed prod. zone SAME

11. Sec., T., R., M., or Blk. and Survey or Area
SEC 4 - 18S - 31E

14. Distance in miles and direction from nearest town or post office*
7 MILES SOUTHEAST FROM LOCO HILLS

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
1650' (990')	160 + 320 = 480	320 ACRES
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
369' QRSB	12,200	153571
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3721' G.L.	OCTOBER 15, 2000	60 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature: George R S Buehler — Name *(Printed/Typed)*: GEORGE R. S. BUEHLER — Date: 09/06/00

Title

Approved by *(Signature)*: /S/LARRY D. BRAY — Name *(Printed/Typed)* — Date: NOV 13 2000

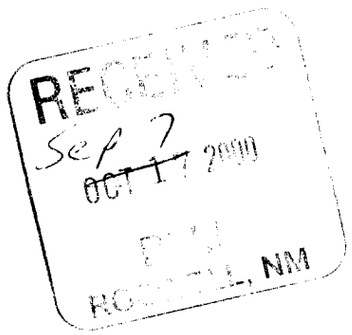
Title: Assistant Field Manager, Lands And Minerals — Office: ROSWELL FIELD OFFICE

APPROVED FOR 1 YEAR

Application approval does not warrant or certify the the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on reverse)


Sep 7
NM

NOTICE OF STAKING

(NOT TO BE USED IN PLACE OF
Application of Permit to Drill Form 3160-3)

6. Lease Number

NM NM 92957
LC-029389-B

1. Oil Well ☐ Gas Well ☒ Other (Specify)

7. If Indian, Alottee or Tribe Name

2. Name of Operator

ANADARKO PETROLEUM CORPORATION

8. Unit Agreement Name

3. Name of Specific Contact Person:

GEORGE R. S. BUEHLER

9. Farm or Lease Name

ANADARKO FEDERAL

4. Address & Phone No. of Operator or Agent

P O BOX 2497
MIDLAND TX 79702
915/683-0549

10. Well No.

1

5. Surface Location of Well

UNIT LETTER K
1815' FSL & 1650' FWL

11. Field or Wildcat Name

CEDAR LAKE MORROW, EAST

12. Sec., T., R., M., Blk and Survey or Area

SEC 4, T-18-S, R-31-E

15. Formation Objective (s)	17. Estimated Well Depth	13. County, Parish	14. State
MORROW/MISS. LS	12,500	EDDY	NEW MEXICO

17. Additional Information (as appropriate; shall include surface owner's name, address and, if known, telephone number

18. Signed George R S Buehler Title ENGINEER Date AUGUST 14, 2000

Note: Upon receipt of this Notice, the Bureau of Land Management (BLM) will schedule the date of the onsite predrill inspection and notify you accordingly. The location must be staked and access road must be flagged prior to the onsite.

Operators must consider the following prior to the onsite:

1) H_2S Potential

2) Cultural Resources (Archeology)

3) Federal Right of Way or Special Use Permit

Cementing Program

700'	13-3/8" Surface Casing:	Cement to surface: 380 sxs Class C containing 6% Gel, 2% Calcium Chloride, 0.25 pps Cello-flake followed by 220 sxs 25:75 Poz C containing 2% Calcium Chloride.
4500'	9-5/8" Intermediate Casing:	Cement to surface:
	Lead Slurry:	830 sxs 50:50:10 Poz C containing 10% bentonite, 6.0 pps salt, 0.2% Antifoam, 0.25 pps cello-flake.
	Tail Slurry:	220 sxs 25:75 Poz C containing 0.25 pps cello-flake.
12200'	5 1/2" Production Casing with DVT @ 9000'	
	First Stage	
	Lead Slurry:	50:50:10 Poz H containing 10% bentonite, 0.5% FLAC, 0.25% TIC, 0.25 pps cello-flake, 5 pps kolite
	Tail Slurry:	50:50:2 Poz H containing 2% bentonite, 2% B28, 0.5% FLAC, 0.25% TIC, 0.25 pps cello-flake
	Second Stage DVT into 9-5/8" Intermediate Casing	
	Lead Slurry:	50:50:10 Poz H containing 10% bentonite, 0.1% FLAC, 0.25 pps cello-flake
	Tail Slurry:	50:50:2 Poz H containing 2% bentonite, 5% (bwow) salt, 0.25 pps cello-flake

5. Minimum Specifications for Pressure Control

The blowout preventor equipment (BOP) shown in Exhibit #1 will consist of a (5M system) double ram type (5000# WP) preventor. This unit will be hydraulically operated. The BOP will be installed on the 9 5/8" intermediate casing and utilized continuously until total depth is reached. As per BLM Drilling Operations Order #2, prior to drilling out the 9 5/8" casing shoe, the BOP will be function tested.

Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These function tests will be documented on the daily driller's log. Other accessory BOP equipment will include a kelly cock, floor safety valve, choke lines and choke manifold having a 5000# WP rating.

6. Types and Characteristics of Proposed Mud System

This well will be drilled to total depth with fresh water, brine and Duo Vis/Polypac cut brine mud systems. Depths are as follows:

Depth			Type	Weight (ppg)	Viscosity	Water Loss
0'	-	700'	Spud Mud	8.3 - 9.2	28 - 36	No control
700'	-	4500'	Brine	10.0 - 10.3	29	No control
4500'	-	8900'	Fresh Water	8.3 – 8.6	28	No control
8900'	-	10800'	Cut Brine	9.5 – 9.8	29	No control
10800'	-	TD	Duo Vis/Poly Pac	9.8 – 10.0	35 - 38	5 - 6 cc
				Will add 3 to 5% KCL @ mudup		

7. Auxiliary Well Control and Monitoring Equipment

A. A kelly cock will be in the drill string at all times.

B. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

8. Logging, Testing and Coring Program

A. Possible repeat formation tester of Morrow and/or drill stem test.

B. The open hole electrical logging program will be:

1. DLL/MSFL/GR (TD to 4500')
   Note: GR will be pulled to Ground Level

2. DEN/NEU/CAL (TD to 4500')
   Note: Neutron log will be pulled to Ground Level

C. No coring program is planned.

D. No additional testing will be initiated subsequent to setting the 5-1/2" production casing.

9. Abnormal Pressures, Temperatures and Potential Hazards

No abnormal pressures or temperatures are expected. The anticipated bottom hole temperature at total depth is 180 degrees and maximum bottom pressure is 5000 psia. Lost circulation within the surface and intermediate intervals have been encountered in adjacent wells. Small quantities of hydrogen sulfide gas are associated with the Queen, Grayburg and San Andres formations in this area. A hydrogen sulfide plan is attached.

10. Anticipated Starting Date and Duration of Operations

Geo Marine has been requested to perform and submit a cultural resources examination to the BLM office in Carlsbad, New Mexico.

Road and location preparation will not be undertaken until approval has been received from the BLM. The anticipated spud date for this well is approximately October 15, 2000. The drilling operation should require approximately 35 days. If the well is deemed productive, completion operations will require, at minimum, an additional 30 days for completion and testing.

SURFACE USE AND OPERATING PLAN

Attachment to Form 3160-3
Anadarko Petroleum Corporation
Anadarko Federal No. 1
1815' FSL & 1650' FWL
Section 4, T18S, R31E
Eddy County, New Mexico

1. Existing Roads

   A. The well site and elevation plat for the proposed Anadarko Federal No. 1 are reflected on Exhibit #2. The well was staked by John West Engineering of Hobbs, New Mexico.

   B. Approximately 150 feet of new road will be built from the existing road on Exhibit #3.

   C. From Loco Hills 5.5 miles east on Highway 82 to County Road 222. South (right) 3.2 miles to existing lease road. Left 0.5 miles on existing lease road. Left 0.2 miles on existing lease road. Left across existing well pad onto new lease road 150 feet to Anadarko Federal No. 1.

2. Proposed Access Road

   Only 150 feet of new road will be built.

3. Location of Existing Wells

   Exhibit #4 shows all existing wells within a one-mile radius of the proposed Anadarko Federal No. 1.

4. Location of Existing and/or Proposed Facilities

   A. If the well is productive, a new facility will be built on well pad.

   B. New tank battery facility will consist of one high pressure 3 phase gas unit, one low pressure 3 phase gas unit, two 500 barrel steel stock tanks, and one 300 barrel fiberglass water tank as reflected on Exhibit 7.

   C. The well should be a flowing gas well with flow rate controlled through an adjustable choke.

   D. If the well is productive, rehabilitation plans are as follows:

      1. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days of completion, weather permitting).

      2. Caliche from unused portions of the drill pad will be removed. The original topsoil from well site will be returned to the location. The drill site will then be contoured to the original natural state.

5. Location and Type of Water Supply

The Anadarko Federal No. 1 will be drilled using a combination of brine and fresh water mud systems (outlined in Drilling Program). The water will be obtained from commercial sources and trucked to location.

6. Source of Construction Materials

All caliche utilized for the drilling pad will be obtained from an existing BLM approved pit.

7. Methods of Handling Water Disposal

A. Drill cuttings will be disposed into the reserve pit.

B. Drilling fluids will be contained in steel mud tanks or lined earthen pits and the reserve pit. The reserve pit will contain excess drilling fluid or fluid from the well during drilling, cementing, and completion operations. The reserve pit will be an earthen pit roughly 200' x 150' x 5', or smaller, in size.

C. The working pits and reserve pit will be fenced on three sides throughout drilling operations and will be totally isolated upon removal of the rotary rig. The pit will be lined using a 5-7 mil plastic to minimize loss of drilling fluids.

D. Water produced from the well during completion operations will be disposed into a steel tank or reserve pit, if volumes prove excessive. After placing the well on production through the production facilities, all water will be collected in tanks, pumped via an existingwater line, and used as makeup water into MNA Enterprises' Penasco Shugart Queen Sand Unit Waterflood (Exhibit #5). Produced condensate will be separated into steel stock tanks until sold.

E. Garbage, trash and waste paper produced during drilling operations will be collected in a contained trailer and disposed at an approved landfill. All waste material will be contained to prevent scattering by the wind. All water, fluids, salt or other chemicals will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be generated by this operation.

F. All waste material will be removed within 30 days after the well is either completed or abandoned. The reserve pit will be completely fenced until it has dried. At the point the reserve pit is found sufficiently dry, it will be backfilled and reclaimed. The portion of the drilling pad used by the production equipment (pumping unit) will remain in use. If the well is deemed non-commercial, only a dry hole marker will remain.

8. Ancillary Facilities

No campsite or other facilities will be constructed as a result of this well.

9. Well Site Layout

A. The drill pad is shown on Exhibit #6. Approximate dimensions of the pad, pits and general location of the rig equipment are displayed. Top soil, if any found, will be stored adjacent to the pad until reclamation efforts are undertaken. Only modest cuts will be necessary to build the pad which will be covered with 6" compacted caliche.

B. No permanent living facilities are planned, but a temporary trailer for the tool pusher, may be on location throughout drilling operations.

C. The reserve pit and earthen pits will be lined using plastic sheeting of 5-7 mil thickness.

10. Plans for Restoration of Surface

A. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The reserve pit area will be broken out and leveled after drying to a condition where these efforts are feasible. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.

B. The pit lining will be buried or hauled away in order to return the location to its pristine nature. All pits will be filled and location leveled, weather permitting, within 120 days after abandonment.

C. The location will be rehabilitated as recommended by the BLM.

D. The reserve pit will be fenced on three sides throughout drilling operations. After the rotary rig is removed, the reserve pit will be fenced on the fourth side to preclude endangering wildlife. The fencing will be in place until the pit is reclaimed.

E. If the well is deemed commercially productive, the reserve pit will be restored as described in 10 (A) within 120 days after the completion date. Caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. The unused area of the drill pad will be contoured, as close as possible, to match the original topography.

11. Surface Ownership

This well site is owned by the U.S.A. An agreement for surface damages will be reached with the BLM Field Inspector during the onsite meeting.

12. Other Information

A. The area surrounding the well site is gypsiferous and supportive of desert scrub and grassland formation. The vegetation is moderately sparse with desert scrub.

B. No permanent water or water wells are within a 1 mile radius of this location.

C. Geo Marine has been requested to perform and submit a cultural resources examination to the BLM office in Carlsbad, New Mexico.

13. Lessee's and Operator's Representative

The Anadarko Petroleum Corporation representative responsible for ensuring compliance of the surface use plan is:

George Buehler
Sr. Staff Drilling Engineer
(915) 682-1666 (office)

Anadarko Petroleum Corporation
P. O. Box 2497
Midland, TX 79702

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road, that I am familiar with the conditions that 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 Anadarko Petroleum Corporation and its contractors under which it is approved.

Signed: George Buehler Date: September 6, 2000
George Buehler – Sr. Staff Drilling Engineer

BLOWOUT PREVENTOR ARRANGEMENT

11" SHAFFER TYPE LWS, 5000 psi WP
11" CAMERON SPHERICAL, 5000 psi WP
120 GALLON, 5 STATION KOOMEY ACCUMULATOR
5000 psi WP CHOKE MANIFOLD

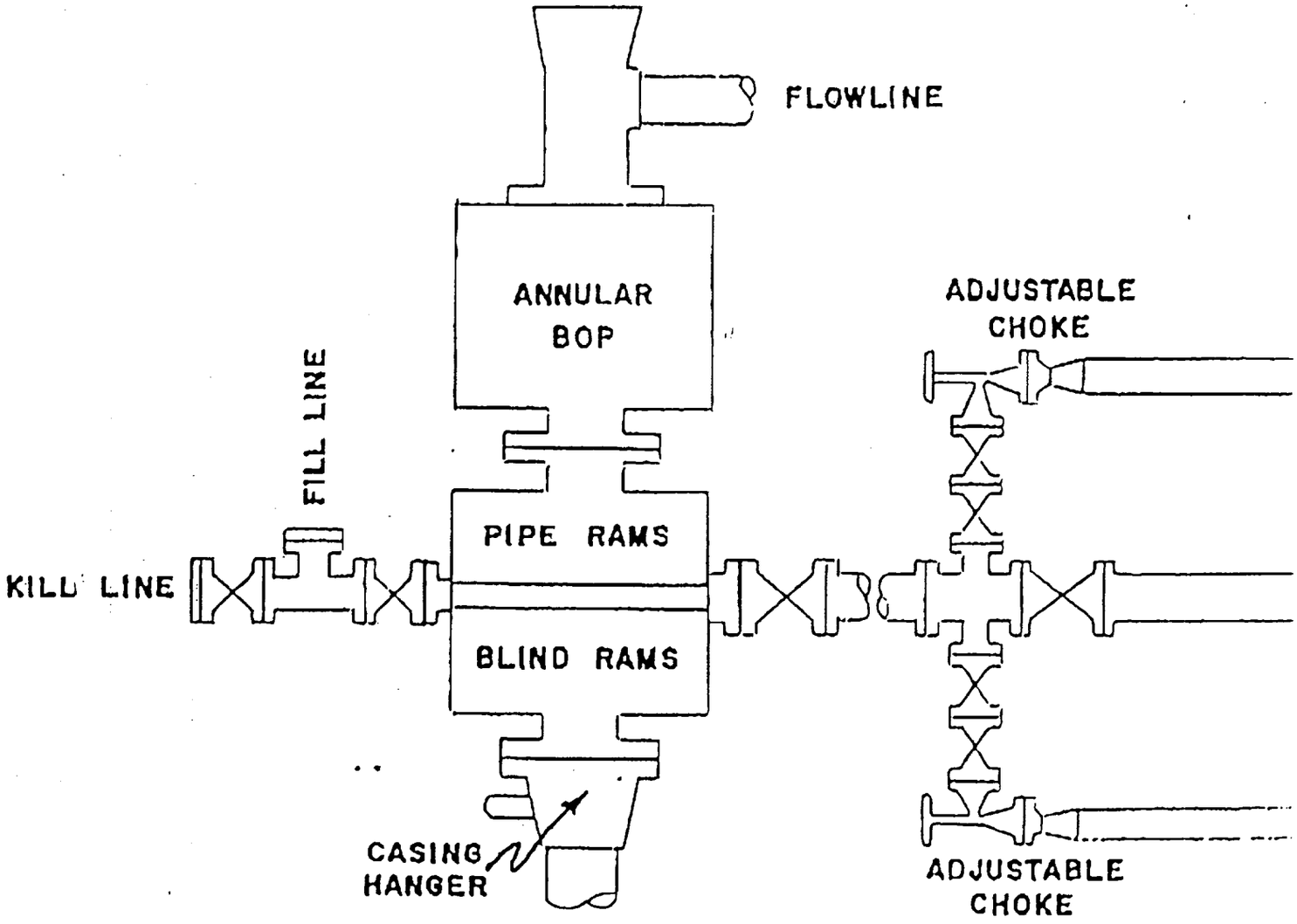


EXHIBIT 1
Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

BOP & Choke Manifold

Attachment to Exhibit #1
Attachment to Form 3160-3
Anadarko Petroleum Corporation
Anadarko Federal No. 1
GRSB 1815' FSL & 1650' FWL
Section 4, T18S, R31E
Eddy County, New Mexico

1. Drilling nipple will be constructed so it can be removed mechanically without the aid of a welder. The minimum internal diameter will equal BOP bore.

2. Wear ring will be properly installed in head.

3. Blowout preventor and all associated fittings will be in operable condition to withstand a minimum 3000 psi working pressure.

4. All fittings will be flanged.

5. A full bore safety valve tested to a minimum 3000 psi WP with proper thread connections will be available on the rotary rig floor at all times.

6. All BOP equipment will be equal to or larger in bore than the internal diameter of the last casing string.

7. Will maintain a kelly cock attached to the kelly.

8. Hand wheels and wrenches will be properly installed and tested for safe operation.

9. All BOP equipment will meet API standards and include a minimum 40 gallon accumulator having two independent means of power to initiate closing operation.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	74605	CEDAR LAKE MORROW, EAST

Property Code	Property Name	Well Number
	ANADARKO FEDERAL	1

OGRID No.	Operator Name	Elevation
000817	ANADARKO PETROLEUM CORPORATION	3721

Surface Location

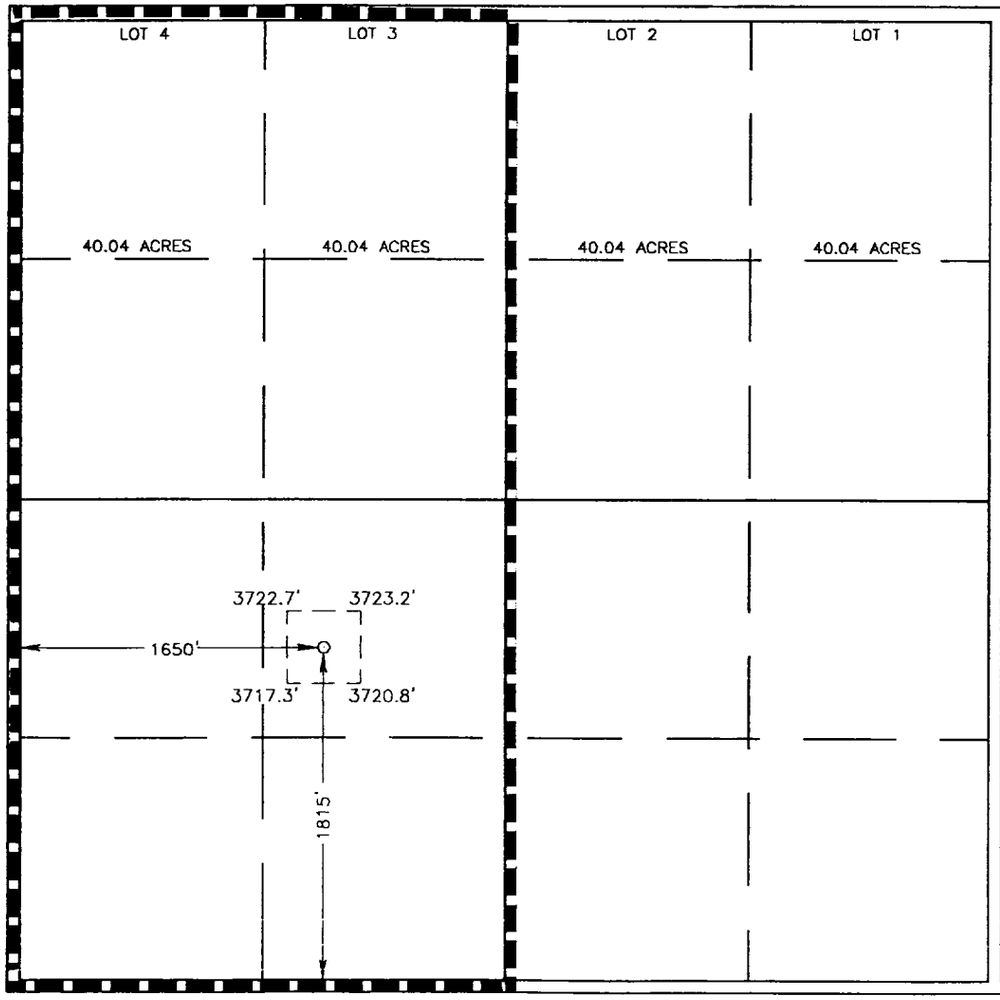
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	4	18 S	31 E		1815 1980	SOUTH	1650	WEST	EDDY

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.

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.

Signature

GEORGE R. S. BUEHLER
Printed Name

ENGINEER
Title

SEPTEMBER 6, 2000
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.

AUGUST 3, 2000
Date Surveyed DC

Signature & Seal of Professional Surveyor

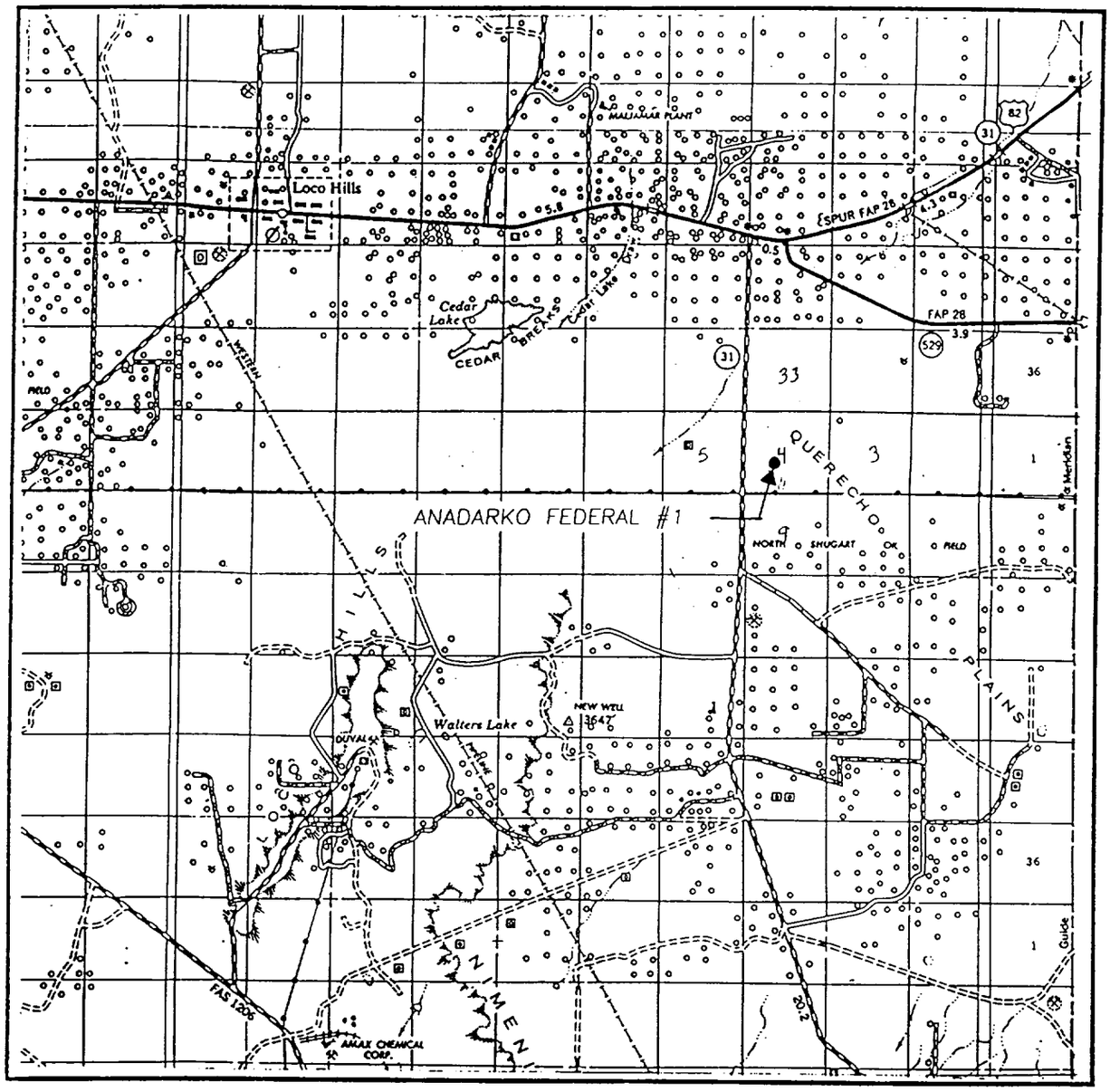
NEW MEXICO
3239
08-11-0850
REGISTERED PROFESSIONAL

8/08/00

Certificate No. RONALD J. EIDSON 3239
GARY L. JOSON 12641

EXHIBIT 2

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 4 TWP. 18-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1815' FSL & 1650' FWL

ELEVATION 3721

OPERATOR ANADARKO PETROLEUM CORPORATION

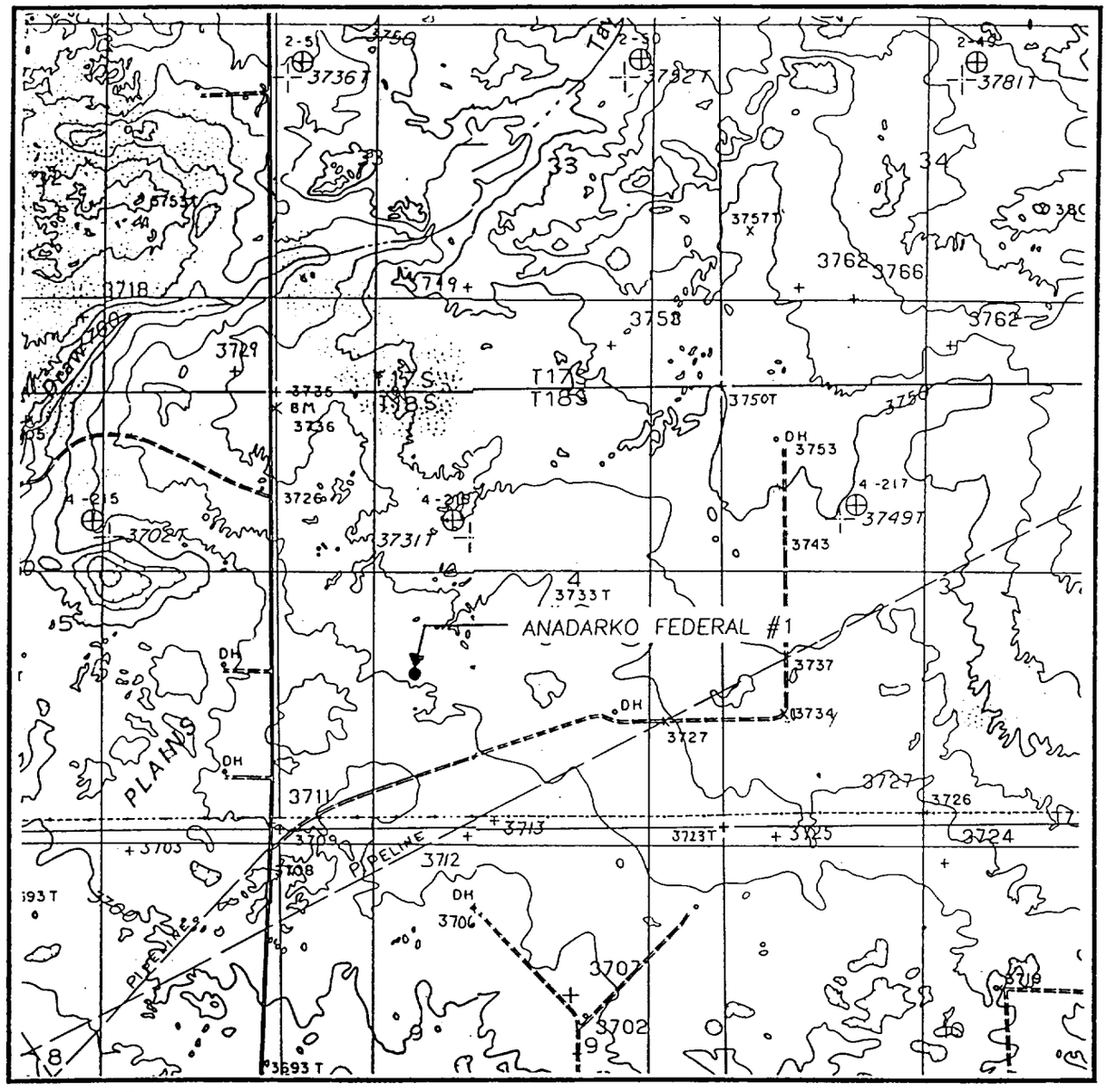
LEASE ANADARKO FEDERAL

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505 393-3117

EXHIBIT 2
Attachment 1
Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

Vicinity Map

LOCATION VERIFICATION MAP



SEC. 4 TWP. 18-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1815' FSL & 1650' FWL

ELEVATION 3721

OPERATOR ANADARKO PETROLEUM CORPORATION

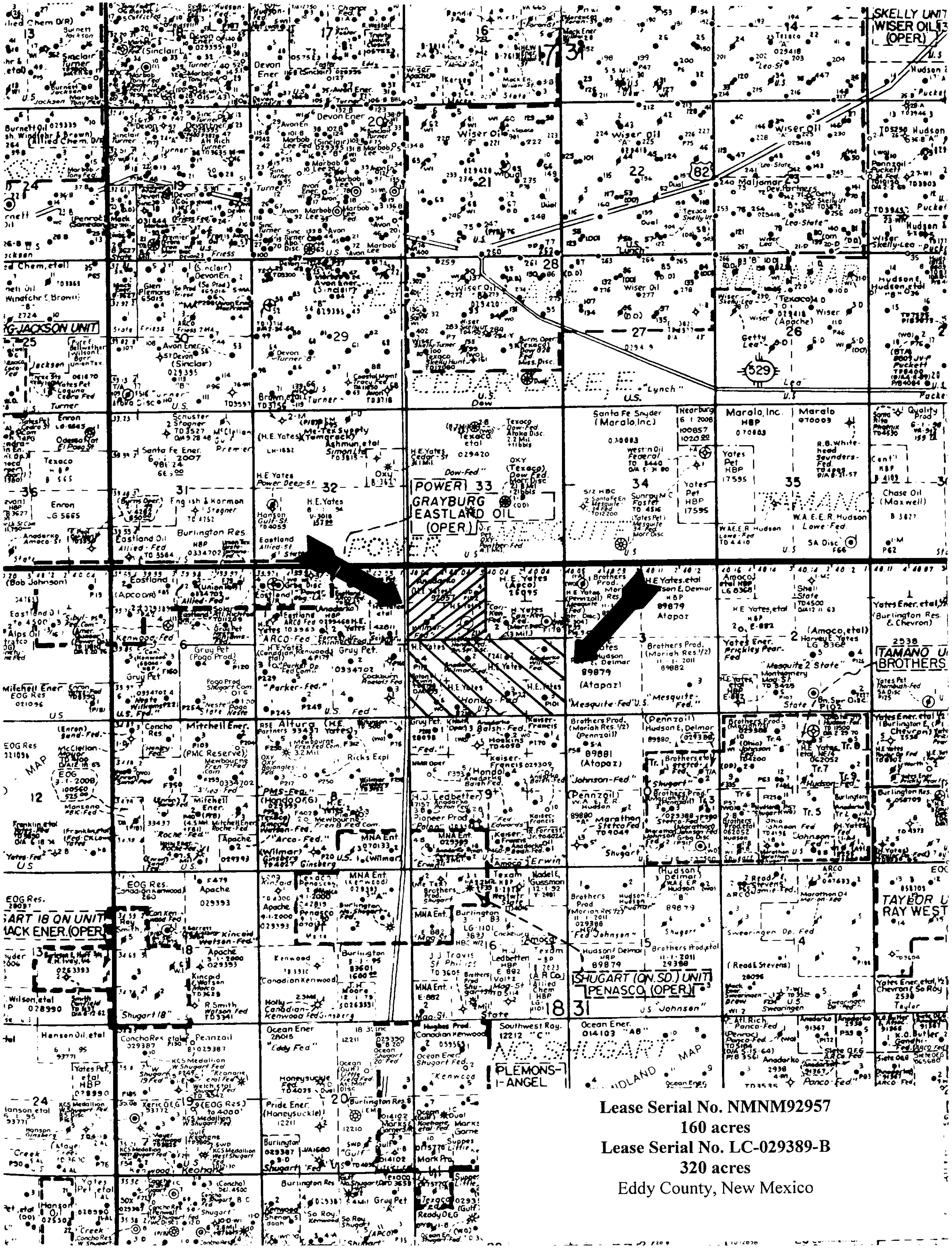
LEASE ANADARKO FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
LOCO HILLS, MALJAMAR, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505 393-3117

EXHIBIT 2
Attachment 2
Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

Location Verification Map



Lease Serial No. NMNM92957

160 acres

Lease Serial No. LC-029389-B

320 acres

Eddy County, New Mexico

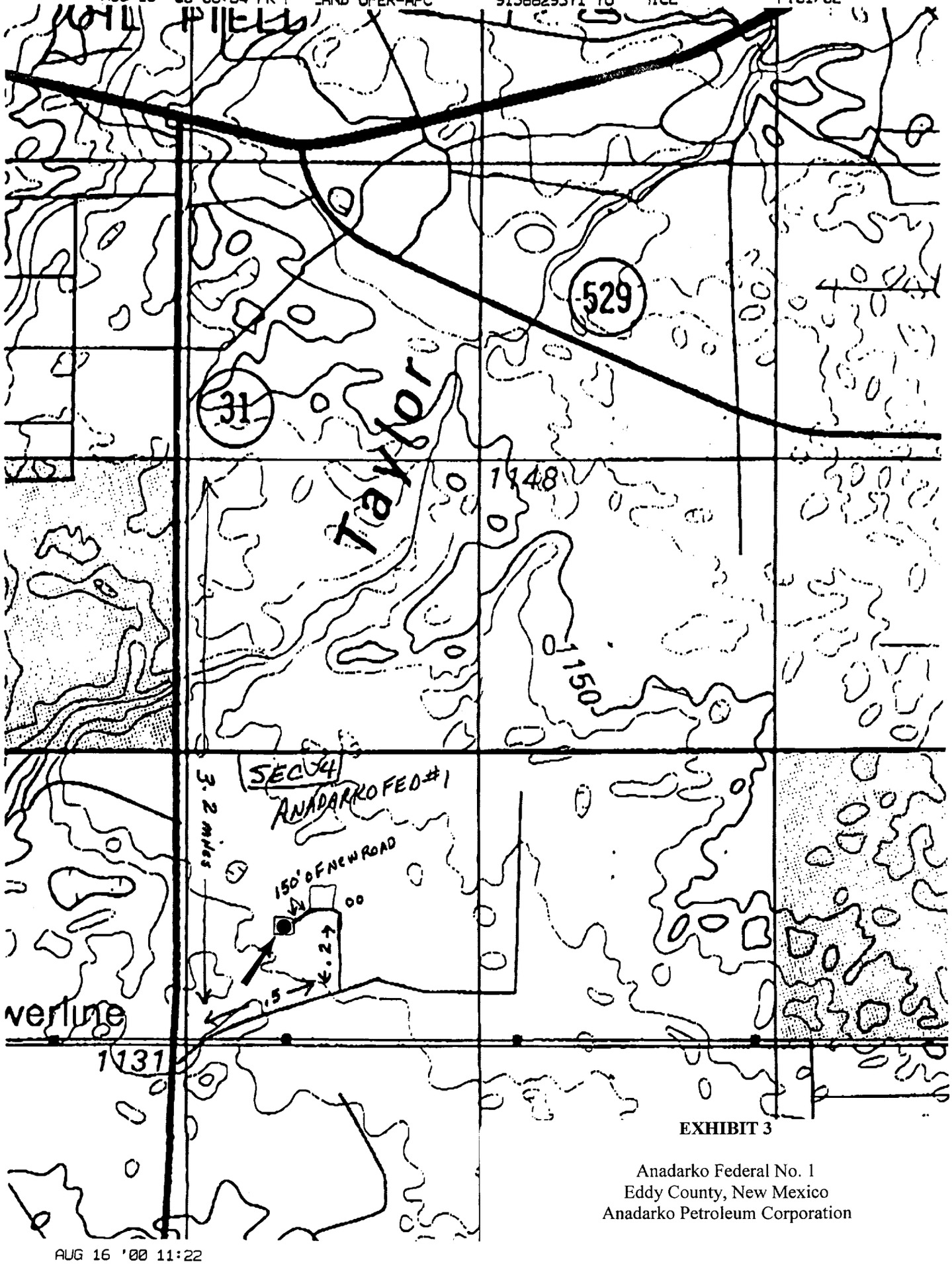


EXHIBIT 3

Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

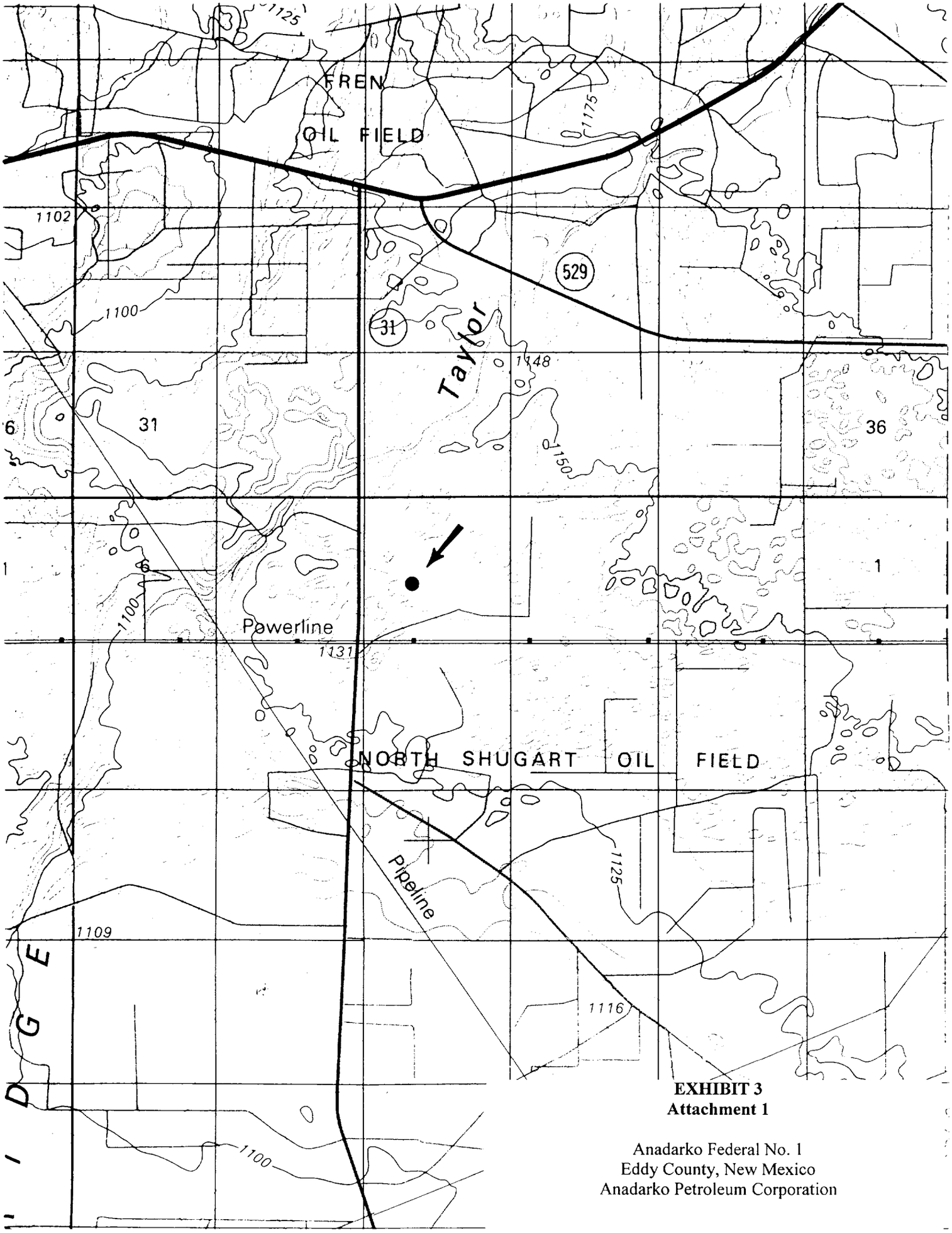


EXHIBIT 3
Attachment 1

Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

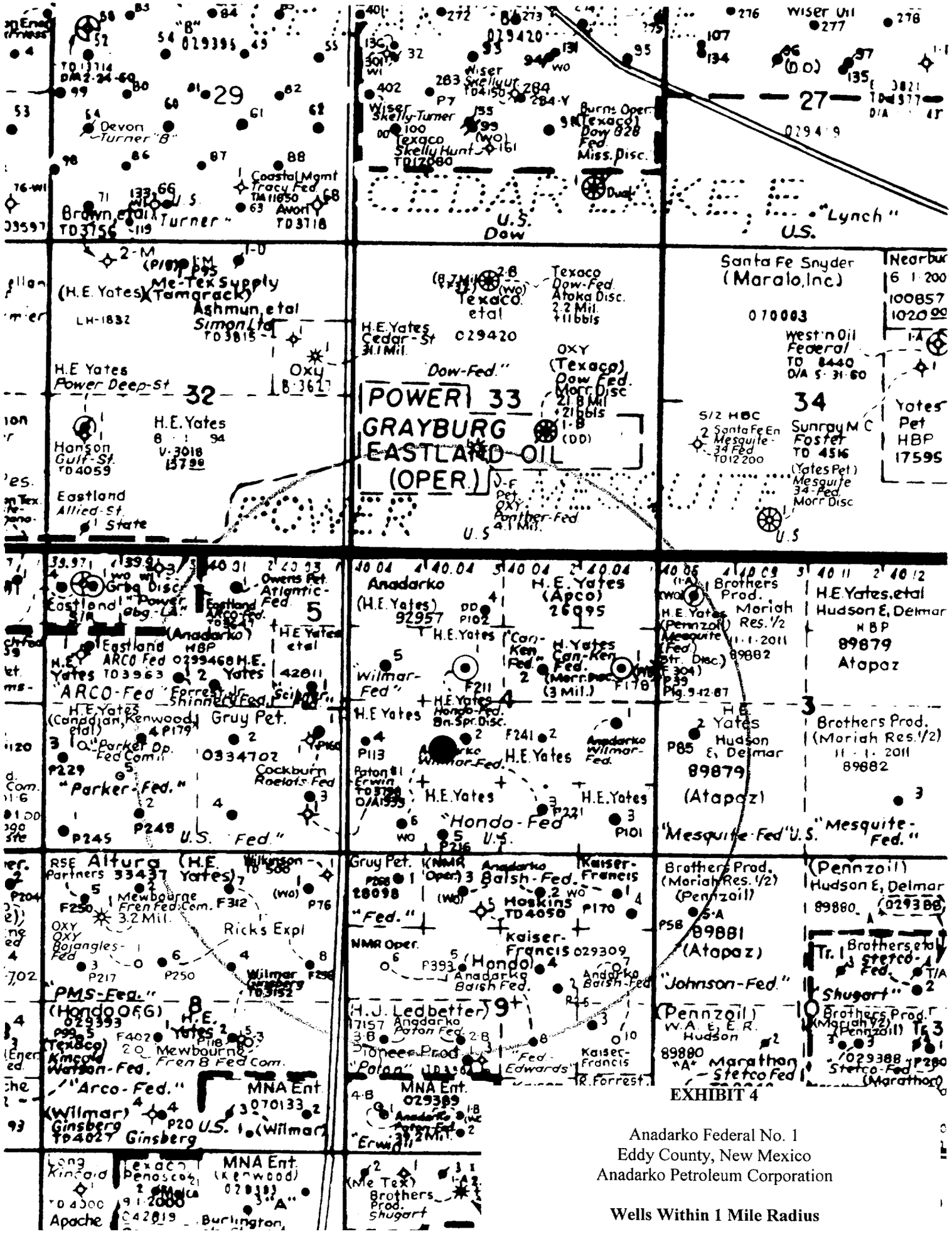


EXHIBIT 4

Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

Wells Within 1 Mile Radius

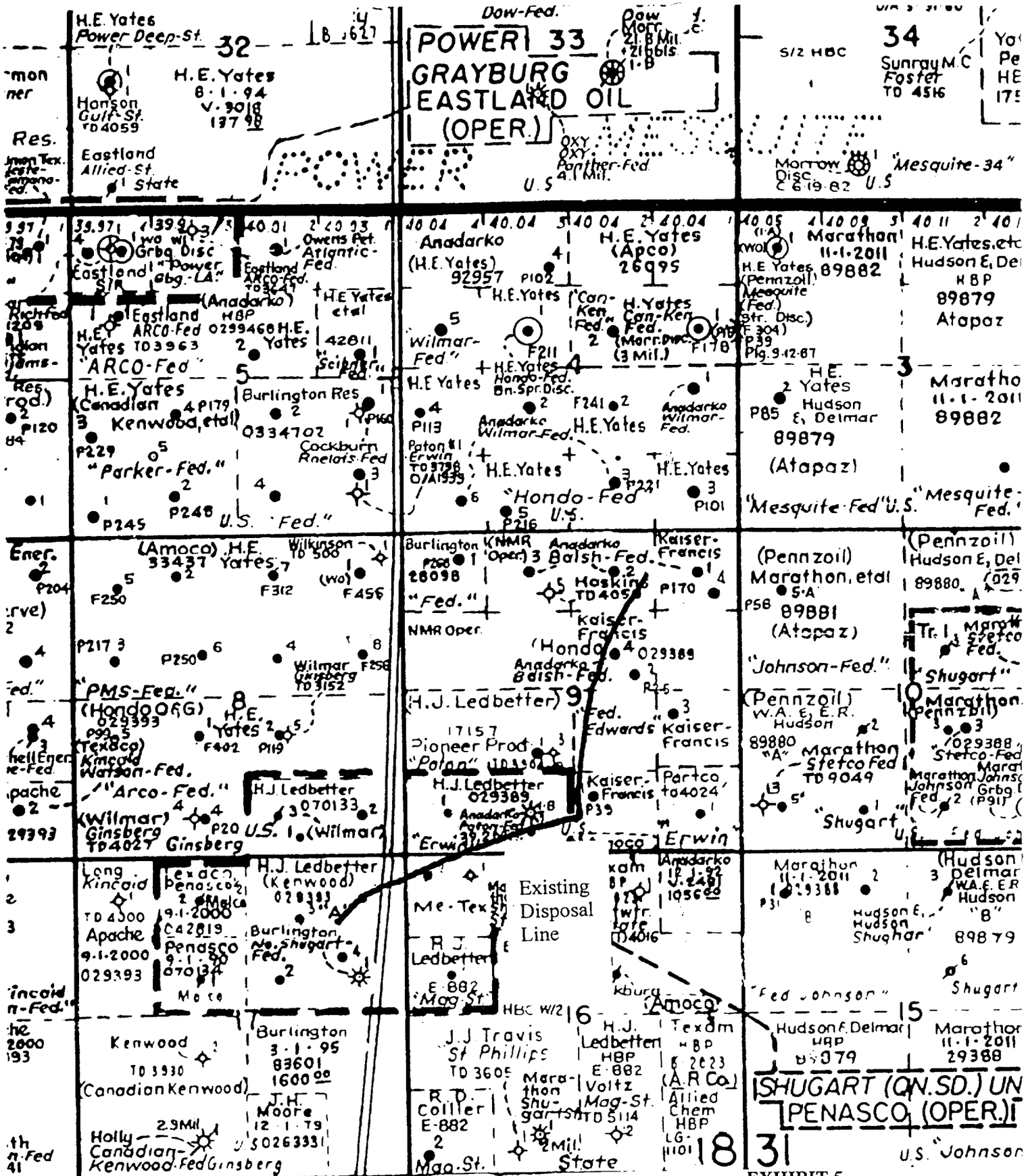
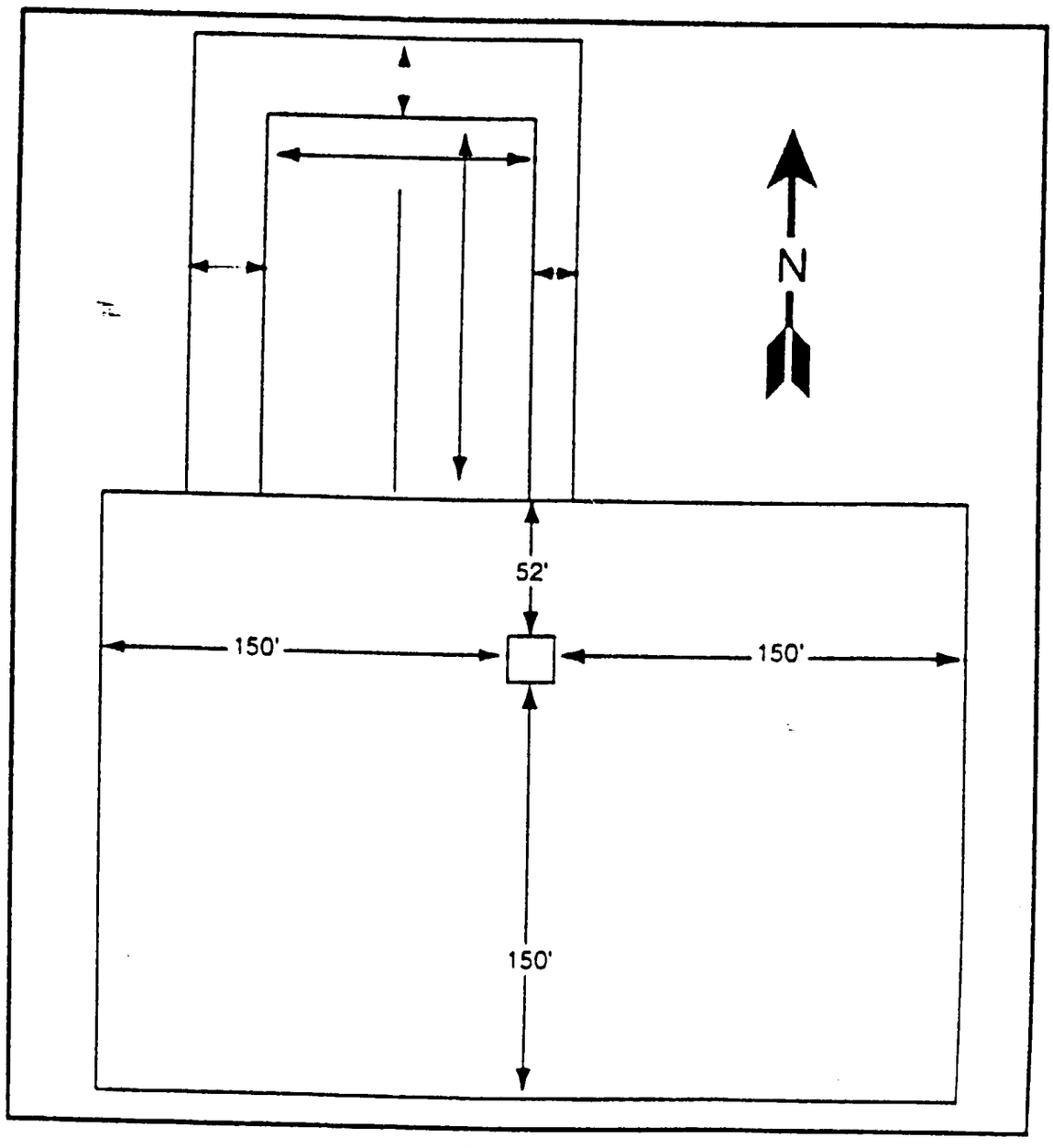


EXHIBIT 5

Attached to and made a part of the
"Salt Water Disposal Agreement" between
Anadarko Petroleum Corporation
And MNA Enterprises
Sections 9, 16, 17, T18S, R31E
Eddy County, New Mexico

"Hole Requirements will dictate actual Reserve Pit size (TOOLPUSHER SHOULD BE CONSULTED)"

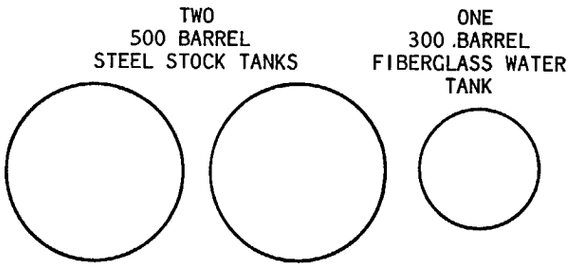


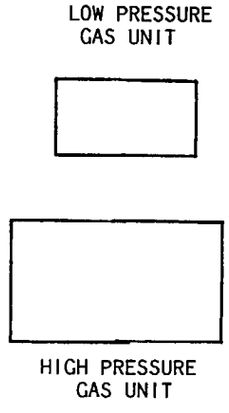
Rig 60

EXHIBIT 6

Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

Drill Pad





GAS WELL

EXHIBIT 7

Anadarko Federal No. 1
Eddy County, New Mexico
Anadarko Petroleum Corporation

Facility Diagram

SECTION 10

DRILLING OPERATIONS

Drilling operations conducted at Company operated facilities and locations where work area concentrations of Hydrogen Sulfide could exceed 10 ppm are to be conducted in compliance with applicable governmental regulations and in accordance with industry recommended practices.

Drilling Operations Management is responsible for ensuring that drilling operations are conducted in compliance with applicable governmental regulations and industry recommended practices.

The Division EH&S Coordinators are responsible for assisting Drilling Operations Management in compliance with applicable governmental regulations and industry recommended practices.

A. Hydrogen Sulfide Safety Equipment

Hydrogen Sulfide safety equipment is to be provided and utilized in Company operated drilling operations where work area concentrations of Hydrogen Sulfide could exceed 10 ppm. Safety equipment that may be required include:

- Safety trailer with breathing air cascade and manifold system. (Minimum 10-300 $ft.^3$ cylinders/4 manifolds.)
- Airline. (NIOSH approved airline hose/sufficient footage for location setup and complement of personnel.)
- Air-supplied airline respirators with emergency escape bottles. (Minimum 8 NIOSH approved units.)
- S.C.B.A. respirators. (Minimum 5 NIOSH approved units with 30 minute air supply.)
- Hydrogen Sulfide monitor. **(4 channel unit/4 sensors.)

- Alarm system. (Light @ 5 ppm/Siren @ 10 ppm.)
- Portable H_2S monitor** or hand pump/assortment detector tubes.
- Portable SO_2 monitor** or hand pump/assortment detector tubes.
- "H_2S Warning" sign. (Minimum 2)
- "H_2S Condition" sign. (Minimum 2)
- "Safety Briefing Area" sign. (Minimum 2)
- Windsock. (Minimum 2)
- Sample gas (sufficient quantity for daily testing of sensors).
- Flare gun/cartridges.
- First aid kit/stretcher.
- Resuscitator/spare cylinder.
- Hand portable fire extinguisher (Minimum 20# ABC).
- Full body harnesses/life lines (Minimum 2).
- Portable combustible gas detector.

Drilling Operations Management is responsible for ensuring that Hydrogen Sulfide safety equipment as described herein is available to protect personnel involved in Hydrogen Sulfide operations.

**NOTE: H_2S monitors are to be calibrated and sensors checked and tested in accordance with monitor manufacturers recommendations and a minimum of once every seven days by the contracted safety company.

The Division EH&S Coordinators are responsible for recommending appropriate Hydrogen Sulfide safety equipment to be utilized in Company operated drilling operations involving Hydrogen Sulfide.

B. Personnel Training

Training is to be provided to all personnel involved in Company operated drilling operations where the work area concentrations of Hydrogen Sulfide could exceed 10 ppm.

Drilling Operations Management is responsible for ensuring that all personnel involved in Hydrogen Sulfide operations receive Hydrogen Sulfide training.

Hydrogen Sulfide training is to be conducted or coordinated by the Division EH&S Coordinators and is to consist of instruction in:

- The hazards and characteristics of Hydrogen Sulfide.
- An explanation of the rig layout details including location and use of Hydrogen Sulfide detection equipment and alarms, use of sulfur dioxide detection equipment, prevailing winds, importance of adequate ventilation, use of mechanical blowers, if required, use of windsocks and wind indicators, and personnel movement in an upwind direction.
- Emergency response procedures contained in the contingency plan such as well control, blowout ignition and evacuation plans.
- Emergency drills utilizing respiratory protection equipment.
- The location, use and care of:
  - Respiratory protection equipment.
  - Fixed and portable Hydrogen Sulfide detection equipment.
  - Sulfur dioxide detection equipment.
  - Combustible gas detection equipment.
  - Resuscitation equipment and first aid supplies.
  - Portable fire extinguishers.
  - Emergency alarm system.

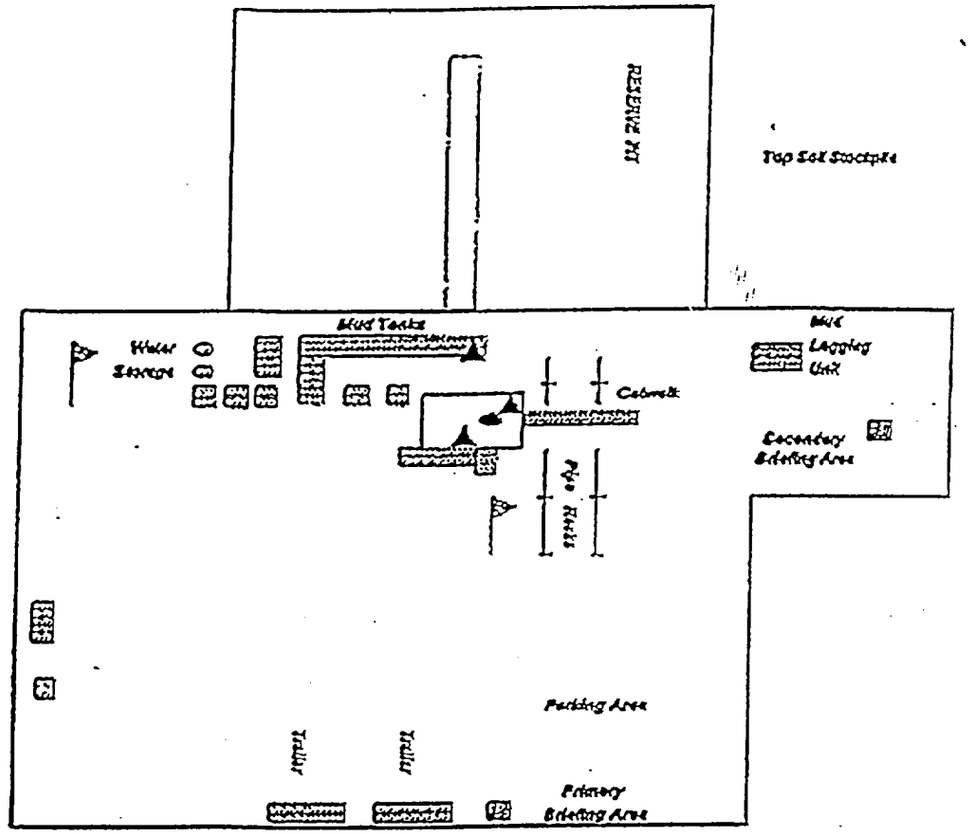
- First aid and CPR procedures.
- Procedures for testing areas suspected of being contaminated with Hydrogen Sulfide or sulfur dioxide.
- Use of the "Buddy System" when emergency conditions exist.
- Procedures to follow in the event of a sudden gas release with no advance warning.
- Materials selection for rig and well equipment.
- Drilling fluid treating plan and procedures.
- An explanation of applicable governmental rules and regulations affecting drilling operations involving Hydrogen Sulfide.

The Hydrogen Sulfide Training Record is to be used to document all training.

C. Contingency Plans

Written contingency plans are required for each Company operated drilling operation where the public, following an accidental release of Hydrogen Sulfide, could be exposed to potentially hazardous atmospheric concentrations of Hydrogen Sulfide. Such plans are to meet the minimal requirements of applicable regulatory agencies.

Specific details regarding the components of contingency plans are included in Section 8 of this program entitled "Hydrogen Sulfide Emergencies".



H2S MONITORS WITH ALARMS AT THE BELL NIPPLE, SUBSTRUCTURE, AND SHALE SHAKER

WIND DIRECTION INDICATORS

SAFE BRIEFING AREAS WITH CAUTION SIGNS AND PROTECTIVE BREATHING EQUIPMENT

H2S PLAN