

UNITED 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, Texas 79336

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1980' FSL X 660' FWL, Section 4, (Unit L, NW/4 of SW/4)

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

23 miles southeast of Maljamar, NM

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, (If any)
(Also to nearest drg. unit line, if any)18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

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

3701.9 GR

U. S. GEOLOGICAL SURVEY

23.

HOBBS, NEW MEXICO

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"	54.5#	450'	Circulate
12 1/4"	9 5/8"	40#	5000'	Circulate
8 3/4"	5 1/2"	15.5#, 17#	13700'	Tie back to 9 5/8"

Propose to drill and equip well in the Morrow formation. After reaching TD logs will be run and evaluate; perforate and stimulate as necessary in attempting commercial production.

APPROVAL TO FLARE GRANTED
WHILE DRILLING AND TESTING."

Mud program; 0' - 450' - Native mud x fresh water.
450' - 5000' - Commercial mud and brine water to maintain good hole conditions.
5000' - 12400' - Commercial mud and cut brine water.
12400' - 13700' - Commercial mud w/KCL for 6% system and cut brine water.

SEE ATTACHED FOR

BOP program attached. CONDITIONS OF APPROVAL
Gas is not dedicated.
Archaeological clearance report attached.

Unless Drilling Operations have
Commenced, this drilling approval
Expires Sept. 20, 1978

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

TITLE Admin. Analyst (SG)

DATE 5-26-78

(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

1-Susp

1-RC

*See Instructions On Reverse Side

APPROVED
AS AMENDED
JUN 20 1978
A. A. 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.

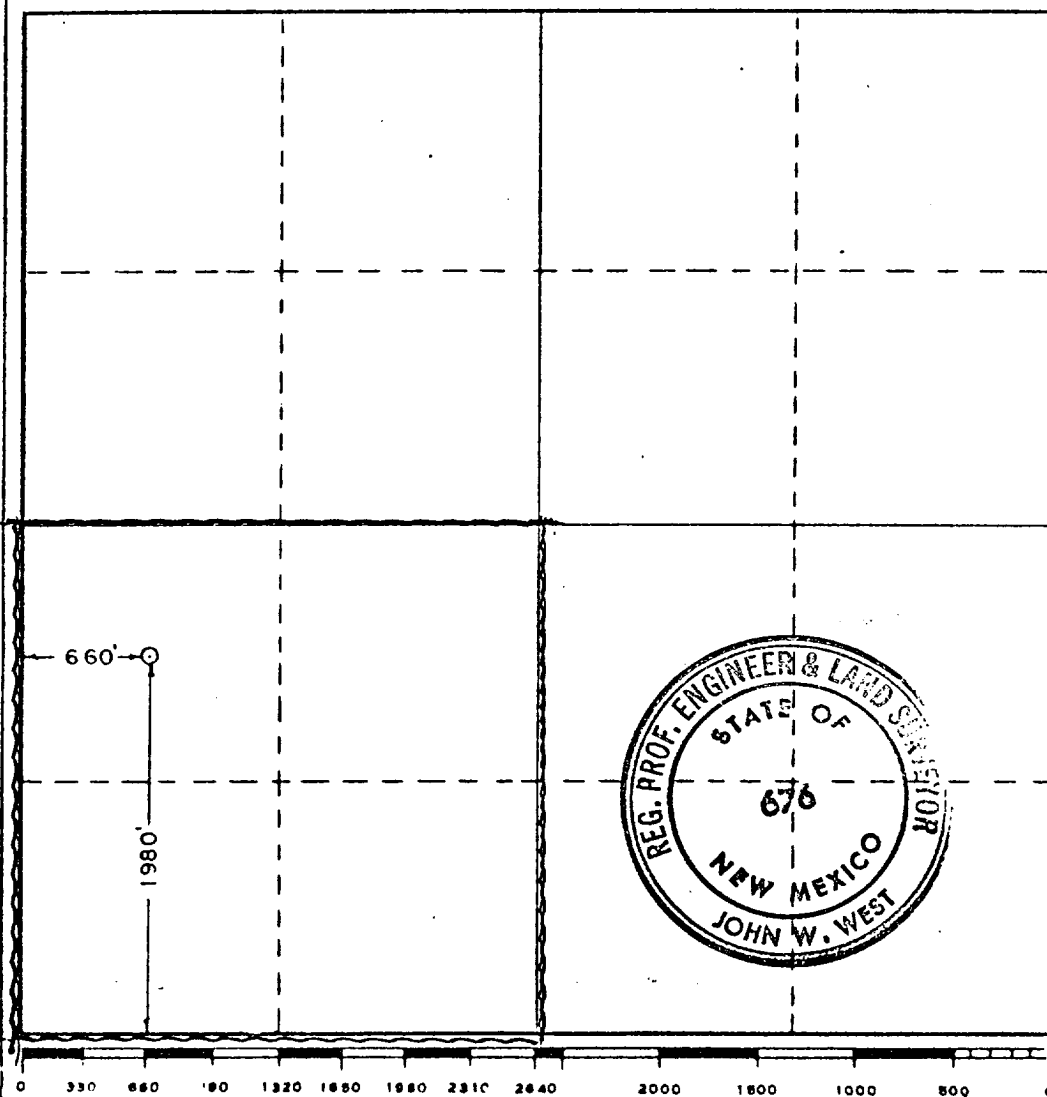
Operator Amoco Production Co.		Lease Dunn Fed.		Well No. 1
Unit Letter L	Section 4	Township 19 South	Range 33 East	County Lea
Actual Footage Location of Well: 1980 feet from the South line and 660 feet from the West line				
Ground Level Elev. 3701.9	Producing Formation MORROW	Pool BUFFALO PENN	Dedicated Acreage: 160 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Name **D. R. Buch**

Position **Administrative Analyst (SG)**

Company **AMOCO PRODUCTION COMPANY**

Date **5-26-78**

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.

4/10/78

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

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

1. BOP'S TO BE FIELD OPERATED.
2. BOP'S AND ALL FITTINGS MUST BE IN GOOD CONDITION AND RATED AT 3000 PSI W.P. MINIMUM.
3. EXISTING THROUGH WHICH THE FIRST CASE SHALL BE AT LEAST AS LARGE AS CASING SIZE BEING DRILLED THROUGH.
4. HOLE ABOVE BOP'S SHALL BE SAME SIZE AS LAST CASING SET.
5. UPPER KILL COCK IS REQUIRED AND SHALL BE 3000 PSI W.P. MINIMUM.
6. T. I. W. OR COMPRESSOR SAFETY VALVE SHALL BE AVAILABLE ON RIG FLOOR WITH CONNECTION OR SUBS TO FIT ANY TOOL JOINT IN THE STRING. VALVE TO BE FULL BORE 5000 PSI MIN.
7. VALVE NEXT TO SPOOL SHALL BE 4". OTHER EQUIPMENT MAY BE 3" OR 4". ALL CROSS MANIFOLD EQUIPMENT SHALL BE FLANGED. FLOW LINE FROM MANIFOLD TO BE MINIMUM OF 3" AND STRENGTH AS POSSIBLE WITH MINIMUM BENDS.
8. FLUID LINES FROM ACCUMULATOR TO BOP'S AND ALL REMOTE CONTROL FLUID LINES SHALL BE STEEL, AND RATED AT OR ABOVE MAXIMUM ACCUMULATOR PRESSURE. LINES SHALL BE ROUTED IN BUNDLES AND ADEQUATELY PROTECTED FROM DAMAGE.
9. USE RYS IN FOLLOWING POSITIONS:*

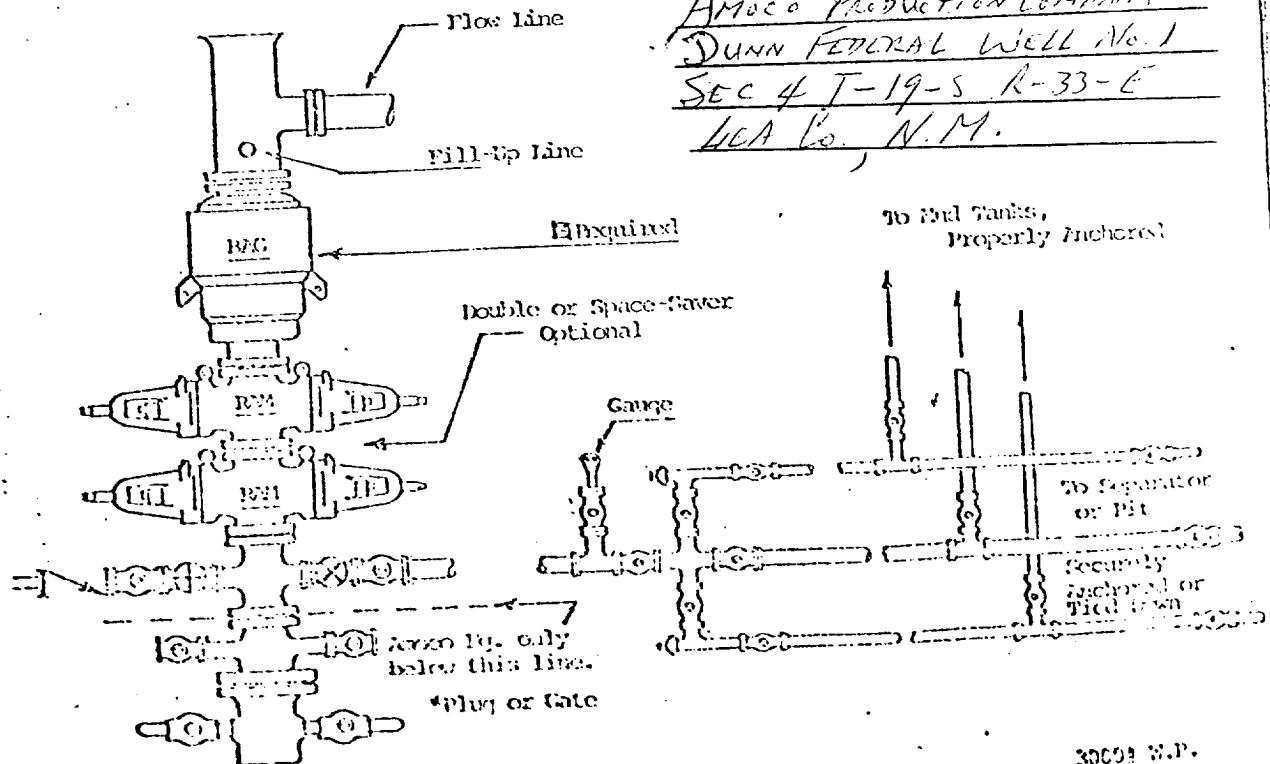
	DRILLING	RUNNING CASING
UPPER RYM	DRILL PIPE	CASING
LOWER RYM	BLIND	BLIND

*WIDEN AREA SUPT. MAY REVERSE LOCATION OF RYS.

10. CROSS MANIFOLD, BEYOND SECOND VALVE FROM CROSS MAY BE OPTIONALLY POSITIONED OUTSIDE OF SUBSTRUCTURE.
11. EXTENSION AND HAND WHEELS TO BE INSTALLED AND BRACED AT ALL TIMES.
12. TWO INCH (2") LINES AND VALVES ARE PERMITTED ON THE KILL LINE.

NOTE: ALL UNSEIZED VALVES MAY BE PLUG OR GATE VALVE, RETAL TO RETAL SEAL.

Amoco Production Company
Dunn Federal Well No. 1
SEC 4 T-19-S R-33-E
LEA Co. N.M.



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

Dunn Federal Well No. 1

Unit 8, 1980' FSL X 660' FWL, Sec. 4, T-19-S, R-33-E, Lea County, NM

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.

Yates - 2840'	Wolfcamp - 10810'
Queen - 4200'	Mid-Morrow - 13000'
Delaware - 5580'	Mis Silic - 13700'
Bone Spring - 7580'	

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

Delaware - 5580'
Wolfcamp - 10810'
Mid-Morrow - 13000'

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>
450'	13 3/8"	54.5#	K-55	New
5000'	9 5/8"	40#	K-55	New
13700'	5 1/2"	15.5#, 17#	K-55	New

9. Proposed cementing program.

13 3/8" csg - circulate to surface
9 5/8" csg - circulate to surface.
5 1/2" csg - tie back to 9 5/8"

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.
Surf to 450' - Native mud and fresh water.
450' - 5000' - Commercial mud and brine water to maintain good hole conditions.
5000' - 12400' - Commercial mud and cut brine water.
12400' - 13700' - Commercial mud w/KCL for 6% system and cut brine water.
12. Testing, logging and coring programs to be followed with provisions made for required flexibility.

CNL, FDC, GR W/caliper - 0' to 13700'
DLL W/Micro SFL GR - 0' to 13700'
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 6-25-78. Complete 7-25-78
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 Dunn Federal WELL NO. 1

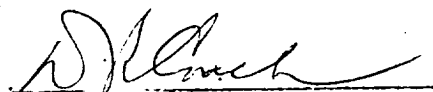
LOCATION 1980' FSL X 660' FWL, Section 4, T-19-S, R-33-E,

POOL Buffalo Penn (Morrow)

COUNTY Lea

The undersigned hereby states that Amoco's representative, Mr. E.E. Pauley, personally contacted Snyer Ranch (Larry Squires) Lovington, NM 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)

May 26, 1978

Date

Proposed Development Plan for Surface Use

Amoco Production Company's Dunn Federal Well No. 1, Unit J, 1980' FSL
X 660' FWL, Section 4, T-19-S, R-33-E, Lea County - (Development Well).

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

Detailed map showing drillsite location in relation to the nearest town and all existing roads within one mile of the wellsite are shown on Exhibit A. From Maljamar, go south on Hiway 33 for 14 miles, turn east on dirt road 5.3 miles, turn north .2 miles, east 2.2 miles, north 1.3 miles. New lease road will be constructed 1320' north to well location.

2. Planned access roads.

Approx. 1320' new road will be built.

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 production facilities (i.e. tanks, separators, and treaters) will be located on the southeast end of the pad. See Exhibit D.

5. Location and type of water supply.

Fresh water and brine water will be hauled from the nearest available source by commercial contractor (I & W Inc. Loco Hills, NM)

6. Source of construction materials. (Contractor-Allstate)

Caliche will be obtained from an existing pit located ~~approximately 1 mile west of~~ location approximately 2 miles SW of well. NE/4 of SE/4 Sec. 15.

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 - 210' x 330' x 6"
- b. Compacted - Caliche
- c. Surfaced - No
- d. 450' 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 - Broad, flat plain, with low sand dunes.
- b. Soil - Sandy w/angular caliche inclusions.
- c. Vegetation - oak brush, sage brush, yucca, broomweed, gramma & other grass.
- 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 broad, flat plain is in a low environmental risk area. The total effect of drilling and producing in this area would be minimal. No known archeological, historical, or cultural sites exist in the drill or road areas.

LEASE & WELL NUMBER Dunn Federal Well No. 1

LOCATION Unit L, 1980' FSL X 660 ' FWL, Sec. 4 , T-19-S , R-33-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.

May 26, 1978
DATE

J. H. Hawkins
NAME AND TITLE

Sr. Drlg. Foreman

12. OPERATOR'S REPRESENTATIVE -

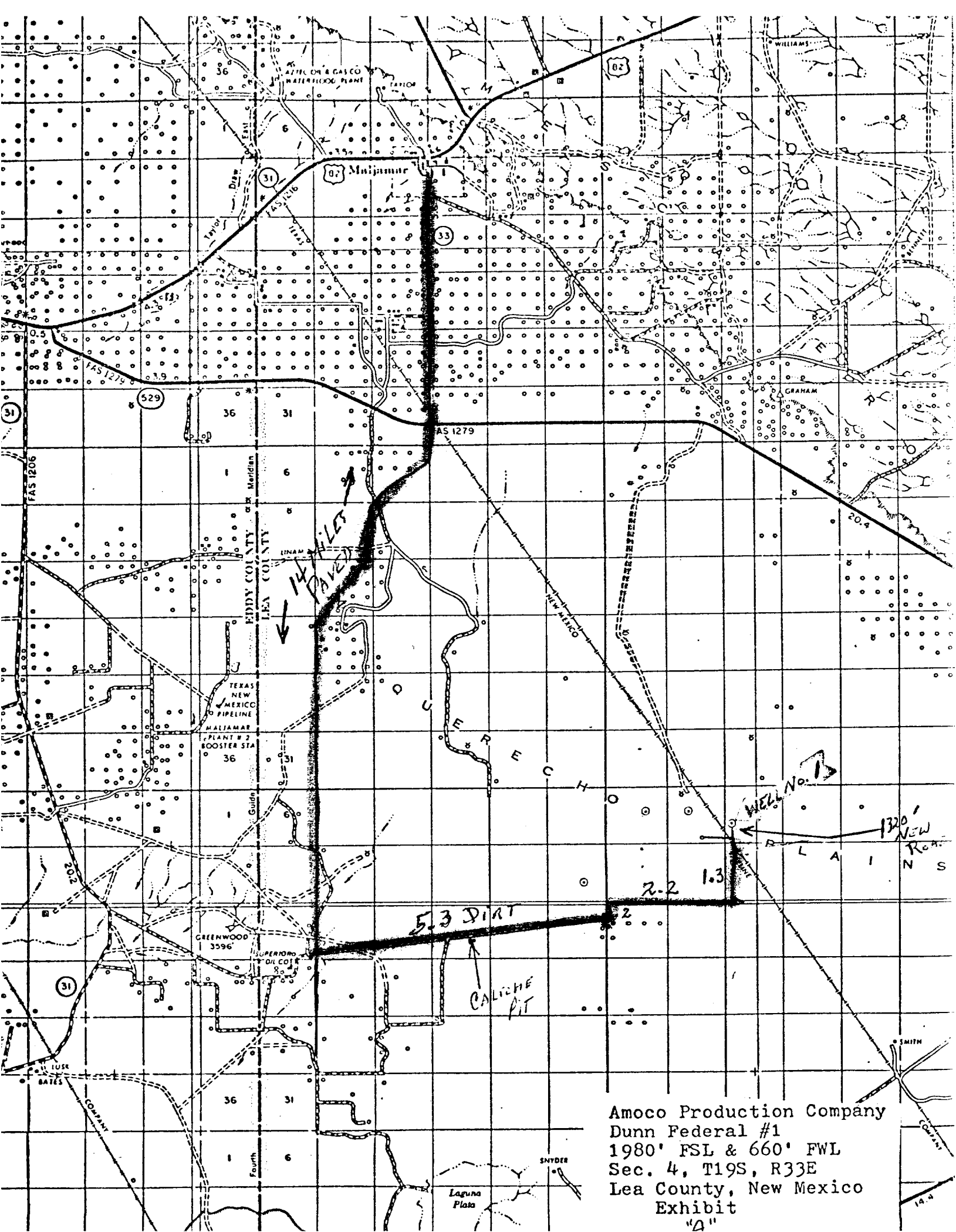
Field personnel responsible for compliance with development plan for surface use is:

J. H. Hankins, Senior Drilling Foreman

P. O. Drawer "A"

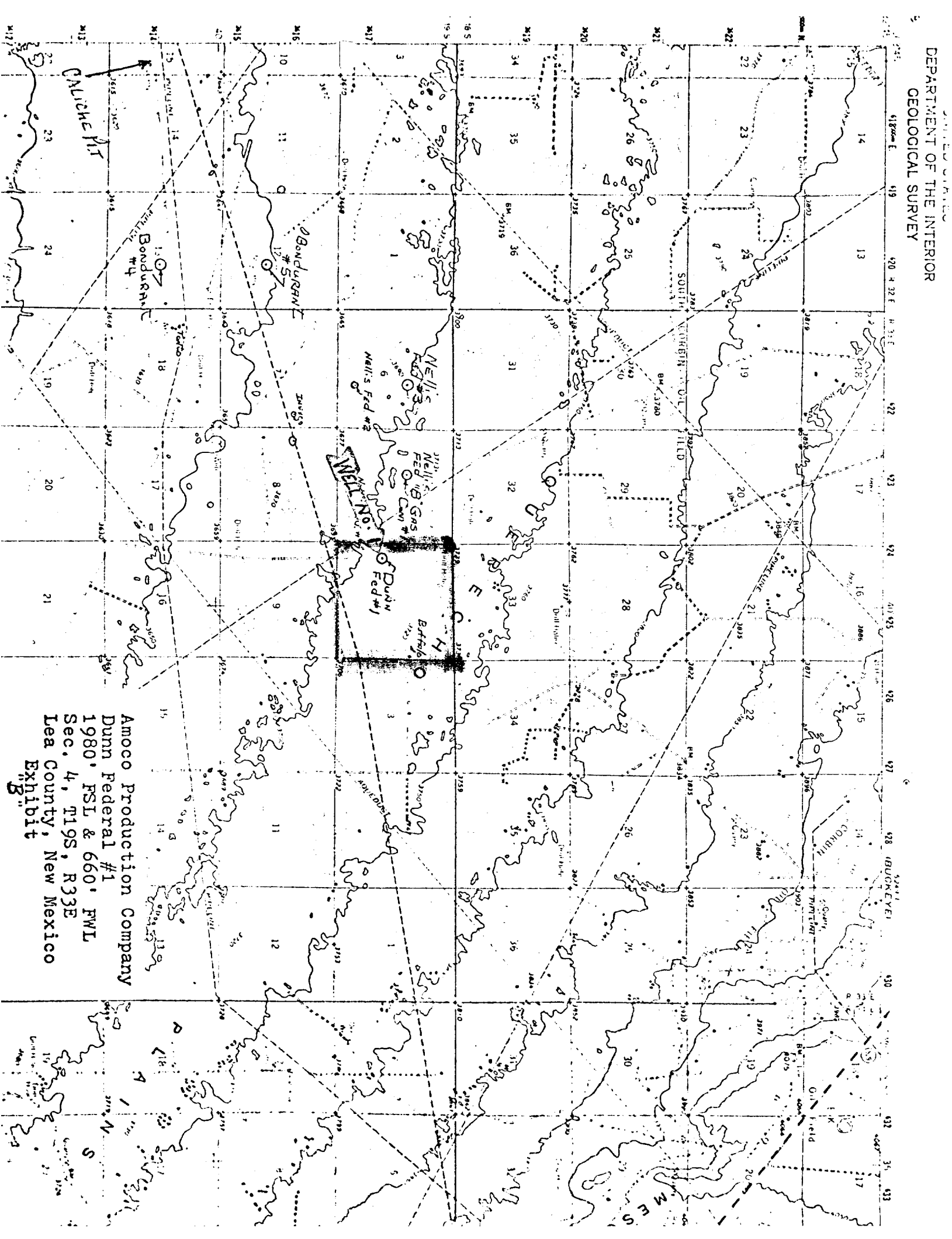
Levelland, TX 79336

Office Phone: 806-894-3163



Amoco Production Company
Dunn Federal #1
1980' FSL & 660' FWL
Sec. 4, T19S, R33E
Lea County, New Mexico
Exhibit
"A"

DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Amoco Production Company
Dunn Federal #1
1980' FSL & 660' FWL
Sec. 4, T19S, R33E
Lea County, New Mexico
Exhibit B

N.M.078148

L.C.069276
ENFIELD
Iverson

L.C.069276
4810'

N.M.0997

L.C.064944
4530

L.C.069276

L.C.069276

N.M.0652727

N.M.01177-A

L.C.064153

5298 N.M.0252727

13620 4377

SOWN NG.

D.1 SENT NG.
PAN-AMER.
4540

4530

5298 N.M.0252727

36

31

32

33

34

35

STATE

STATE

N.M.01177-A

TEXAS CO.
N.M.01177-A

N.M.01177-A

L.C.069276

CARPER
4795'

6

Ludewick
4295'

NM 13835

CARPER
4305'

DENTON & IRWIN
PAN AM.
4540

PAN AMERICAN

PAN AM.

Neill's
Fed. #3

Neill's Fed. "B"
Gas Cont. #1

WELL No. 13
L.C.060549

L.C.064153

STATE

N.M.077002

N.M.077002

DAND
Fed. #1

L.C.064153

STATE

102 NM12568-A

4463

N.M.077002

N.M.025-A

10

N.M.01178-A

99560-A

NM2843-A

NM2843

N.M.077002

L.C.060549

NM 025-C

10

N.M.01178-A

1.01235-D

4463

3692

N.M.21172

NM 14794

NM 14794

NM 10780

L.C.060549

N.M.01178-A

NM2843

NM2843-A

N.M.077002

NM 10780

NM 10780

NM 16357

N.M.01178-A

WEST TONTO DEEP

UNIT

N.M.01178-A

PAN AMERICAN
HUDSON
3332

3330

N.M.077004

NM 10780

NM 10780

NM 16357

N.M.01178-A

3305
PAN AM

3305

3305

3305

N.M.077004

NM 10780

NM 10780

NM 16357

N.M.01178-A

1.01235-D

3305

3305

3305

N.M.077004

NM 10780

NM 10780

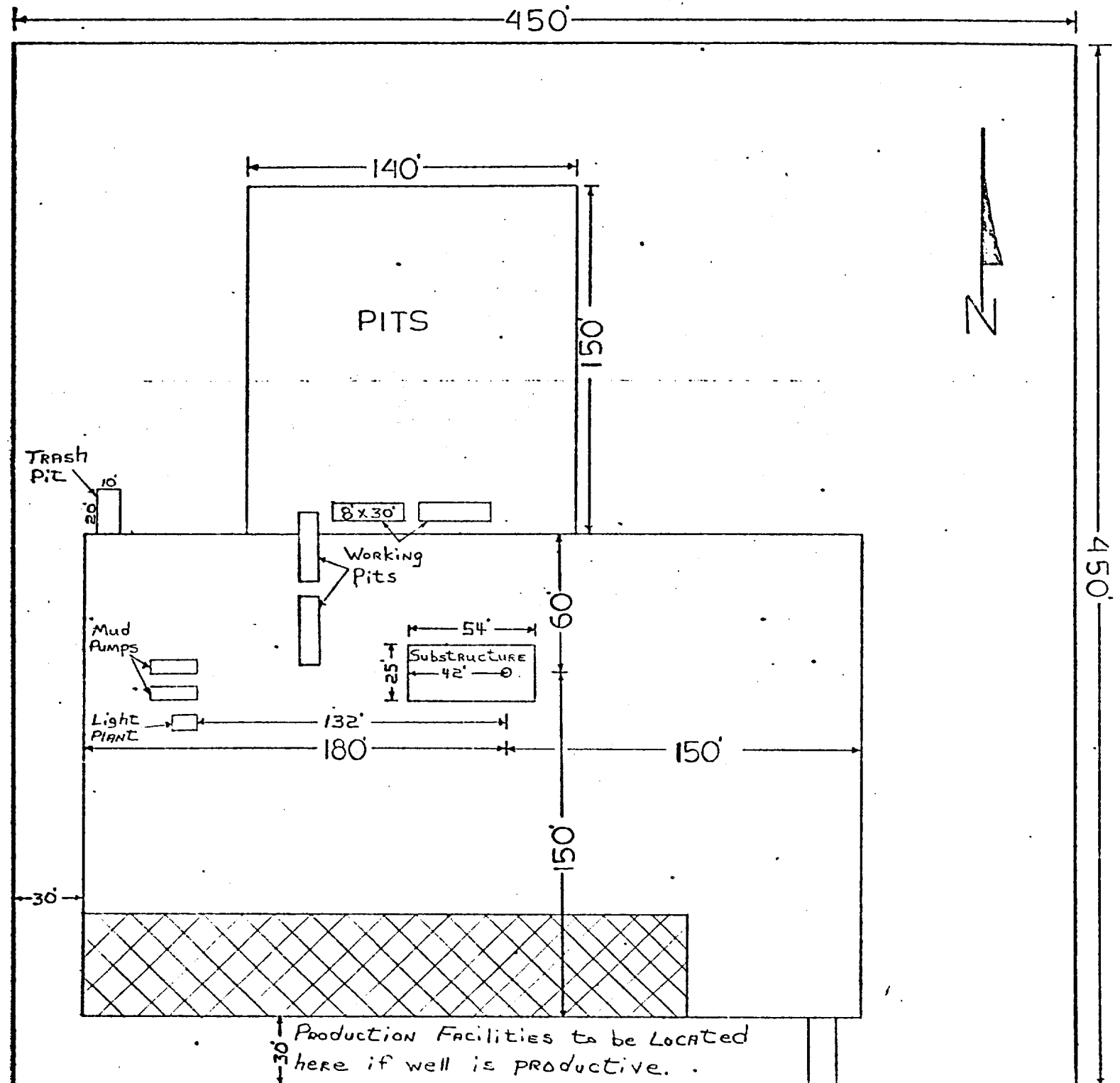
NM 16357

N.M.01178-A

Amoco Production Company
Dunn Federal #1
1980' FSL & 660' FWL
Sec. 4, T19S, R33E
Lea County, New Mexico
Exhibit "C"

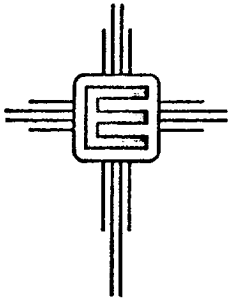
DRILL SITE DIMENSIONS

8,000' TO 14,000'



AMOCO PRODUCTION COMPANY
 DUNN FEDERAL Well No. 1
 SEC. 4, T-19-S R-33-E
 Lea Co., N.M.

EXHIBIT "D"



2 May 1978

Mr. Bob Couch
Amoco Production Company
P. O. Drawer A
Levelland, TX 79336

Dear Mr. Couch:

Enclosed please find the Agency for Conservation Archaeology's clearance report for Amoco Production Company. No archaeological sites, or isolated manifestations, were recorded during ACA's reconnaissance.

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

mct

Enclosure

Archaeological Clearance Report

Amoco Production Company

Bondurant Federal #5
Nellis Federal #3
Nellis Federal "B" Gas Com. #1
Dunn Federal #1

by

Scott C. Schermer

Submitted

by

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

2 May 1978

INTRODUCTION

An archaeological reconnaissance was completed recently by the Agency for Conservation Archaeology (ACA), Eastern New Mexico University, Portales, for Amoco Production Company in Lea County, New Mexico. Investigated areas will be impacted by well locations and associated accesses. This project was administered for Amoco by Mr. Bob Couch, field representative, and for ACA by Dr. J. Loring Haskell, Director - Principal Investigator. The investigation was headed by Scott C. Schermer and was undertaken on 28 April 1978 under excellent weather conditions. This reconnaissance was performed under Federal Antiquities Permit 78-NM-015.

SURVEY TECHNIQUE

Each location was walked in a series of parallel 15 ft wide, overlapping, zigzag transects from north to south and thence south to north. In addition, a strip of land measuring 20 ft on each side was investigated as well. Associated access roads were walked in a close interval, 25 ft wide, zigzag pattern. These techniques combined permitted a maximum of visual examination.

Bondurant Federal #5

LOCATION

This location measures 400 X 400 ft and is situated 1980 ft from the south line and 1980 ft from the east line of the:

SE $\frac{1}{4}$, Section 12, T19S, R32E, NMPM, Lea County, NM (BLM)

More specifically, it lies in the:

NW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 12, T19S, R32E, NMPM, Lea County, NM (BLM)

CULTURAL RESOURCES

No archaeological sites, or isolated manifestations, were recorded during ACA's reconnaissance.

RECOMMENDATIONS

ACA recommends clearance for Nellis Federal "B" Gas Com. #1 and suggests that construction proceed without modification of existing plans.

Dunn Federal Well #1

LOCATION

This location measures 400 X 400 ft and is situated 1980 ft from the south line and 660 ft from the west line of the:

SW $\frac{1}{4}$, Section 4, T19S, R33E, NMPM, Lea County, NM (BLM)

More specifically, it is situated in the:

NW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 4, T19S, R33E, NMPM, Lea County, NM (BLM)

Dunn Federal #1's associated access measures 12 X 1320 ft and will pass through the:

SW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 4, T19S, R33E, NMPM, Lea County, NM (BLM)

NW $\frac{1}{4}$ SW $\frac{1}{4}$, Section 4, T19S, R33E, NMPM, Lea County, NM (BLM)

Map Reference: USGS Laguna Gatuna Quadrangle, 15 minute series, 1962.

TERRAIN

As a whole, the investigated area is characterized by stabilized dunes and associated deflation basins. Dunes average 1-1.5 m in height. Deflation basins occasionally contain pebble-sized caliche inclusions in soil individuals. Taxonomically, soils are distinguished by the sand and clay separates and belong to the Haplargid-Torripsamment Association.

FLORISTICS

The floral community is dominated by Artemisia filifolia, Yucca glauca, Quercus havardii, Gutierrezia sarothrae, Perezia nana, Senecio longilobus, Bouteloua sp., Stipa neomexicana, Sporobolus sp. and Distichlis stricta.

CULTURAL RESOURCES

ACA recorded no archaeological sites, or isolated manifestations, during this reconnaissance.

RECOMMENDATIONS

ACA recommends clearance for this location and associated access road and suggests that construction proceed without modification of existing plans.