



August 12, 1993

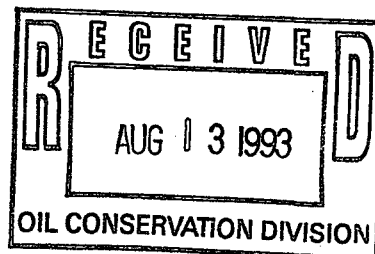
Mr. William J. LeMay, Director  
New Mexico Oil Conservation Division  
PO Box 2088  
Santa Fe, New Mexico 87504

File: CAW-207-986.511

Application for Unorthodox Location  
Carson Federal H #1 Well  
NE/4 Section 4-T29N-R4W  
Basin Dakota Pool  
East Blanco Pictured Cliffs Pool  
Rio Arriba County, New Mexico

**Amoco Production Company**

Southern Rockies Business Unit  
Amoco Building  
1670 Broadway  
Post Office Box 800  
Denver, Colorado 80201  
303-830-4040



Amoco Production Company hereby requests administrative approval for an unorthodox location in the Basin Dakota Pool and East Blanco Pictured Cliffs Pool. Amoco proposes to drill the Carson Federal H #1 Well at a location 1,900' FNL and 790' FEL of Section 4. This location is necessary due to the topographical condition in this area. Since this well is being moved 50' toward the interior of the spacing unit, no offset owners will be adversely affected and the additional cost to directionally drill the well back to an orthodox location is not justified. This spacing unit is in the E/2 Section 4, T29N-R4W. The offset operator will receive a copy of the application by certified mail with a request that they furnish your Santa Fe office with a waiver of objection and return one copy to Amoco.

Sincerely,

J. W. Hawkins

JWH/jmc

cc: Lori Arnold

Frank Chavez, Supervisor  
NMOC District III  
1000 Rio Brazos Rd.  
Aztec, NM 87410

WAIVER

\_\_\_\_\_ hereby waives objection to Amoco's application for unorthodox well location for the Carson Federal H #1 Well in the Basin Dakota Pool and East Blanco Pictured Cliffs Pool as proposed above.

By: \_\_\_\_\_ Date: \_\_\_\_\_

VERIFICATION AND AFFIDAVIT

STATE OF COLORADO     )  
                                  ) ss  
COUNTY OF DENVER     )

J. W. Hawkins, of lawful age, being first duly sworn on his oath, deposes and says:

That he is employed in an engineering capacity by Amoco Production Company in its Denver, Colorado office; that he has been qualified as an expert engineering witness by the New Mexico Oil Conservation Division and his qualifications have been made of record; that Amoco's application for administrative approval for unorthodox location for the Carson Federal H #1 well in the Basin Dakota Pool and the East Blanco Pictured Cliffs Pool, Rio Arriba County, New Mexico was prepared under his direction and supervision; that the matter and things therein set forth are true and correct to the best of his knowledge and beliefs. Copies of the application have been mailed by certified mail to the affected operators.

  
\_\_\_\_\_  
J. W. Hawkins

Subscribed and sworn to before me this 12th day of August, 1993.

  
\_\_\_\_\_  
Notary Public

My Commission expires: 4-7-94

# Amoco Production Company

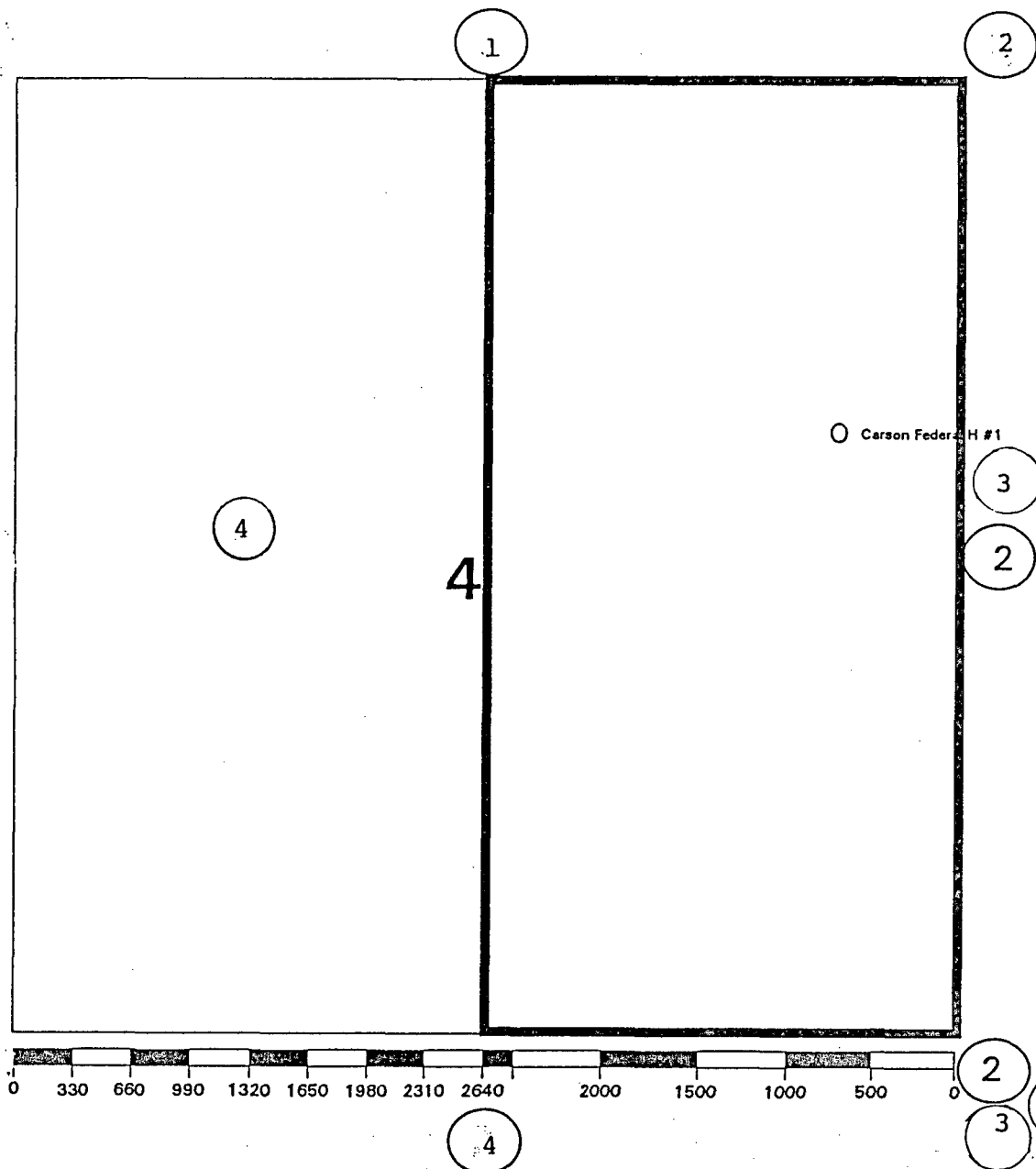
Offset Operator Plat

Carson Federal H #1

Township 29North - Range 4West

1900' FNL, 790' FEL Sec. 4

Basin Dakota and East Blanco Pc ext.

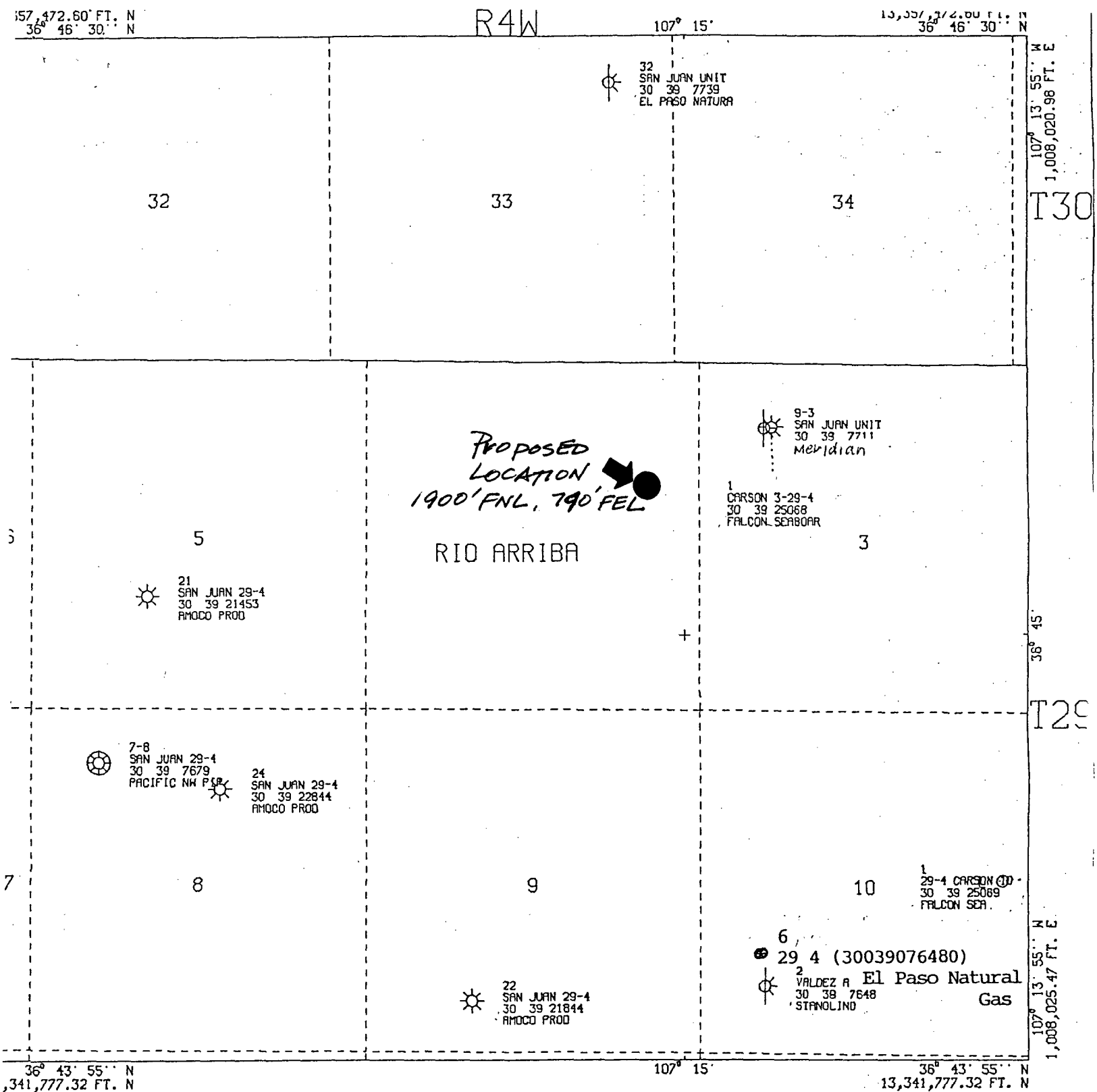


1. El Paso Natural Gas , P. O. Box 4289, Farmington, NM 87499

2. Meridian Oil Prod., P.O. Box 4289, Farmington, NM 87499

3. Falcon Seaboard, Five Post Oak Park #1400, Houston, TX 77027

4. Amoco Production, P. O. Box 800, Denver, CO 80201

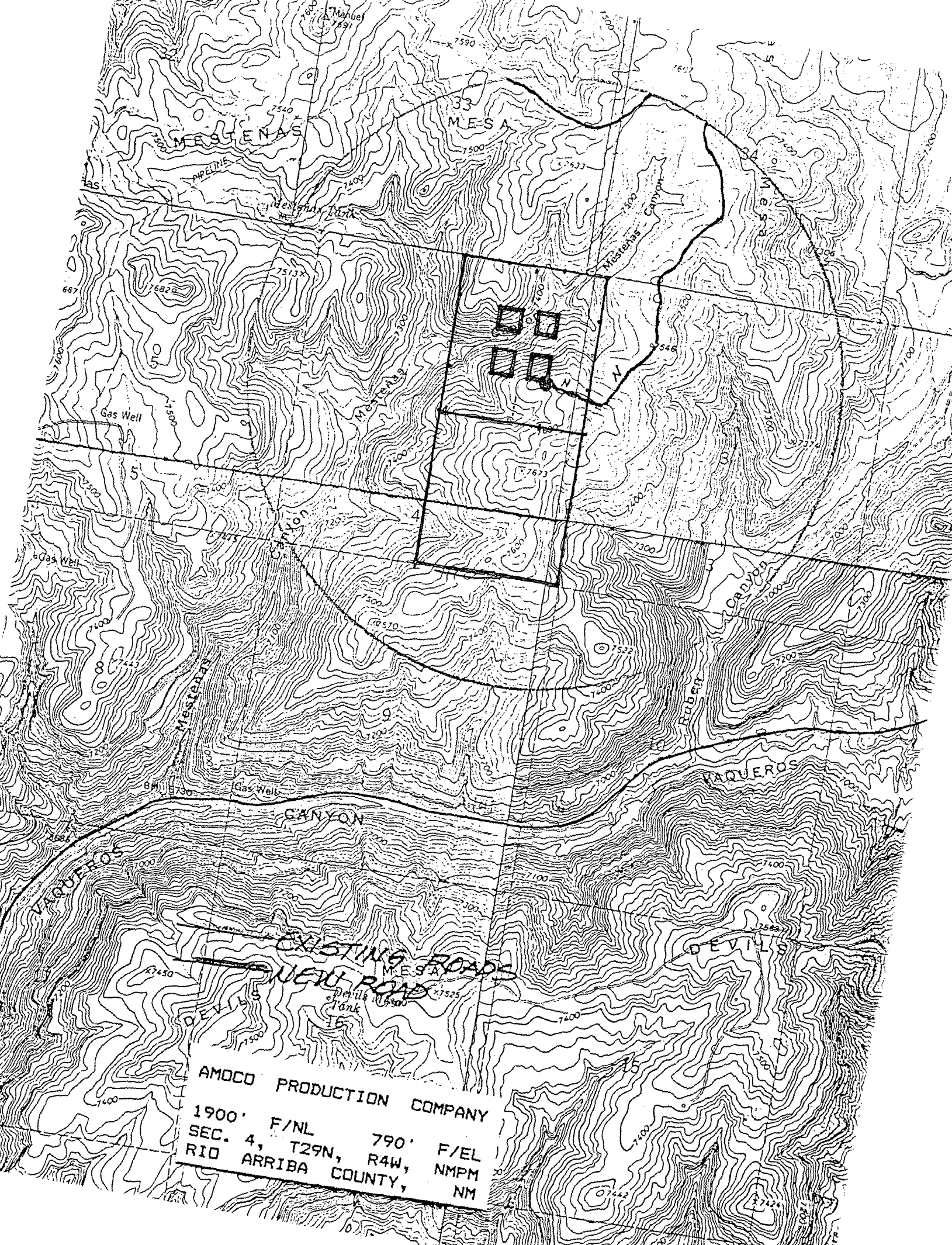


All geological and geophysical data, including the interpretation thereof, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

LYCONIC CENTRAL MERIDIAN - 107° 15' 33'' W LONG  
 THEROID - 6

AMOCO PRODUCTION COMPANY  
 CARSON FEDERAL H 1  
 SEC 4-T29N-R04W  
 SAN JUAN NM  
 SCALE 1 IN. = 2,000 FT. AUG 5, 1993

RUN=93217110058



AMOCO PRODUCTION COMPANY  
1900' F/NL 790' F/EL  
SEC. 4, T29N, R4W, NMPM  
RIO ARRIBA COUNTY, NM

Submit to Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator <b>AMOCO PRODUCTION COMPANY</b>			Lease <b>Reference</b>		Well No. <b>12</b>
Unit Letter <b>H</b>	Section <b>4</b>	Township <b>29 NORTH</b>	Range <b>4 WEST</b>	County <b>NMPM RIO ARRIBA</b>	
Actual Footage Location of Well: <b>1900</b> feet from the <b>NORTH</b> line and <b>790</b> feet from the <b>EAST</b> line					
Ground level Elev. <b>7585</b>	Producing Formation <b>Basin Dakota</b>		Pool <b>Basin Dakota</b>	Dedicated Acreage: <b>5/2</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

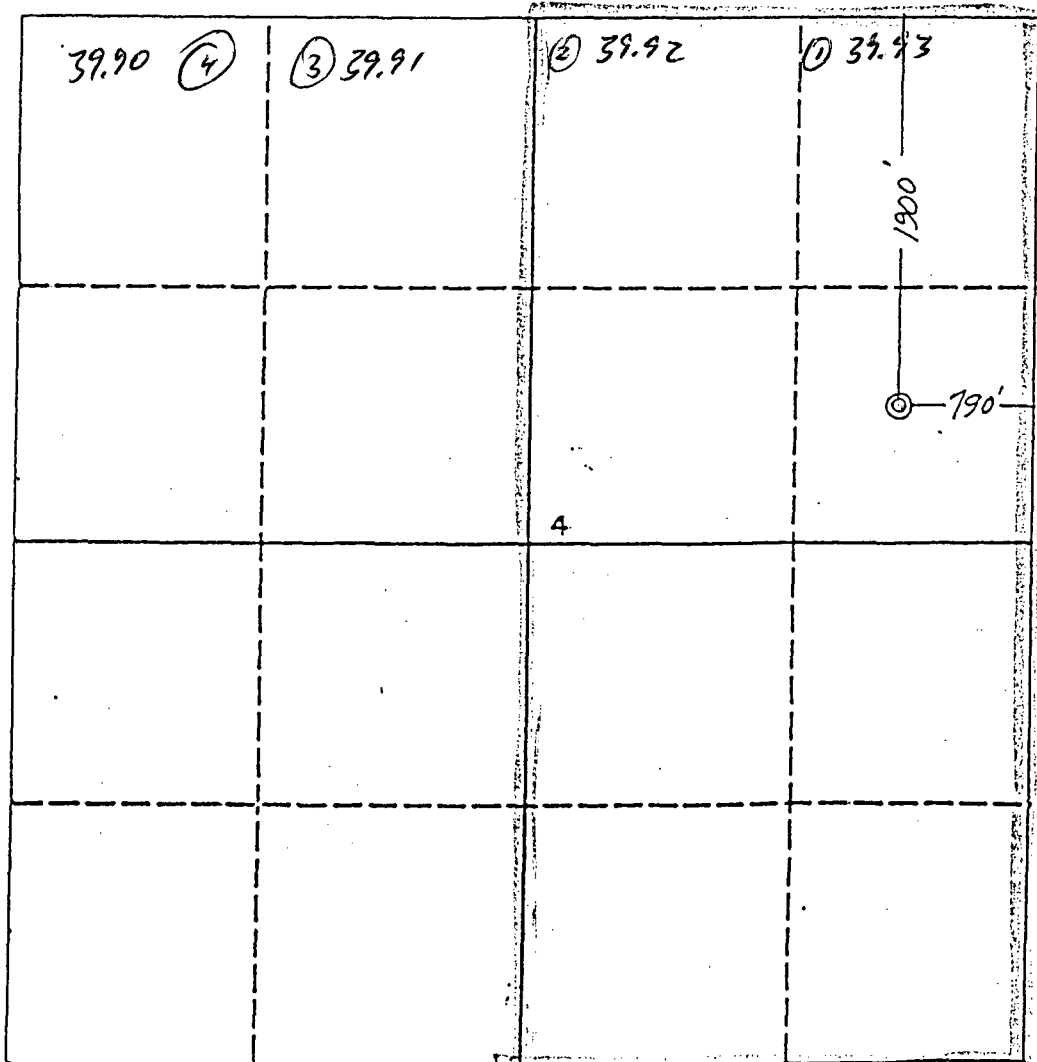
☐ Yes

☐ 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 interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

*Lori Arnold*

Signature

**LORI ARNOLD**

Printed Name

**BUSINESS ANALYST**

Position

**AMOCO PRODUCTION**

Company

**4/26/93**

Date

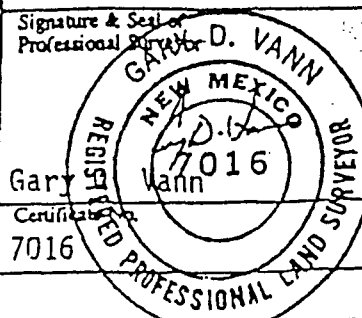
SURVEYOR CERTIFICATION

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

Date Surveyed

**April 12, 1993**

Signature & Seal of  
Professional Surveyor



Gary

Certification

**7016**

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

Submit to Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

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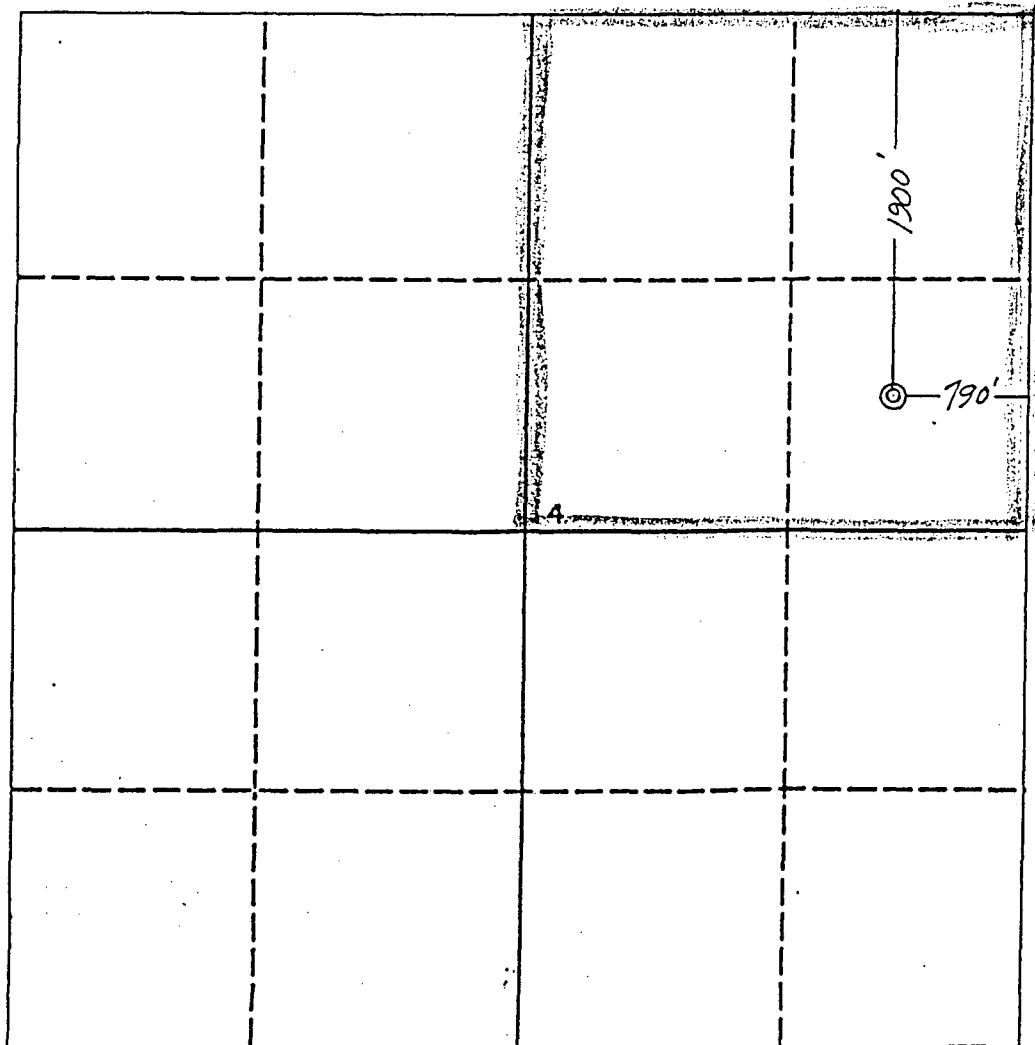
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator <b>AMOCO PRODUCTION COMPANY</b>			Lease Reference		Well No. 12
Unit Letter H	Section 4	Township 29 NORTH	Range 4 WEST	County NMPM	RIO ARRIBA
Actual Footage Location of Well: 1900 feet from the NORTH line and 790 feet from the EAST line					
Ground level Elev. 7585	Producing Formation East Blanco PC Ext.		Pool East Blanco PC Ext.		Dedicated Acreage: 15/4 Acres

- 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 interest of all owners been consolidated by communization, 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 communization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

*Lori Arnold*  
Signature

LORI ARNOLD  
Printed Name

Business Analyst  
Position

amoco Production  
Company

Date

SURVEYOR CERTIFICATION

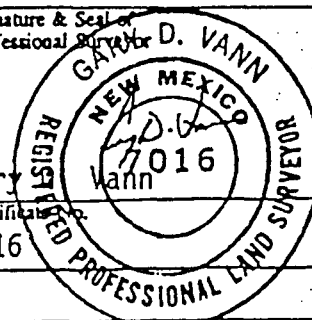
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
April 12, 1993

Signature & Seal of  
Professional Surveyor

*Gary D. Vann*  
7016  
Vann  
7016

Certification No.  
7016



0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

UNITED STATES  
DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

Form approved.  
Budget Bureau No.1004-0136  
Expires: December 31, 1991

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER

SINGLE ZONE ☐

MULTIPLE ZONE ☒

2. NAME OF OPERATOR

Attention:

Amoco Production Company

Lori Arnold

3. ADDRESS AND TELEPHONE NO.

P.O. Box 800, Denver, Colorado 80201

(303) 830-5651

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

At surface

1900 FNL 790 FEL

At proposed prod. zone

5. LEASE DESIGNATION AND SERIAL NO.

SF-079756-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.

Carson Federal /H/ 1

9. API WELL NO.

10. FIELD AND POOL, OR WILDCAT

Basin Dakota/East Blanco PC Ext.

11. SEC., T., R., M., OR BLK.

AND SURVEY OR AREA

Section 4

Township 29N

Range 4W

12. COUNTY OR PARISH

Rio Arriba

13. STATE

New Mexico

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

68.37 miles from Aztec, 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

2235.89

17. NO. OF ACRES ASSIGNED TO THIS WELL

320 E/2 & 160 NE/4

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

19. PROPOSED DEPTH

9197'

20. ROTARY OR CABLE TOOLS

Rotary

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

7585' GR

22. APPROX. DATE WORK WILL START\*

09-01-93

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8" J-55	68#	400'	625cf Cl B W/2% CaCl2 (Cement to surface)
12 1/4"	9 5/8" J-55	36#	4932'	3299 cf Cl B (Cement to surface)
8 3/4"	7" J-55	23#	8601'	982 cf Cl B
6 1/4"	4 1/2" N-80	11.6#	8501'-9197'	143 cf Cl G

Notice of Staking was submitted on 6/29/93 under the name of Reference #12.

Lease Description: T 29N-R 4W  
Sec. 3: All  
Sec. 4: All  
Sec. 5: All  
Sec. 6: W/2

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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 Joy Arnold TITLE Business Analyst DATE 08-06-1993

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

Application approval does not warrant or certify that 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:

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

\*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.



## FEDERAL CEMENTING REQUIREMENTS

1. All permeable zones containing fresh water and other usable water containing 10,000 ppm or less total dissolved solids will be isolated and protected from contamination by cement circulated in place for the protection of permeable zones per the NTL-FRA 90-1 section III A.
2. The hole size will be no smaller than 1 1/2" larger diameter than the casing O.D. across all usable water zones.
3. An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement.
4. An adequate number of casing centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. The adequate number of centralizers to use will be determined by API Spec 100.
5. Centralizers will impart a swirling action around the casing and will be used just below and into the base of the lowest usable water zone.
6. A chronological log will be kept recording the pump and slurry information and will be sent to the BLM with the subsequent sundry.

RW #12

Amoco proposes to drill the well to further develop the Dakota reservoir.

The well will be drilled to the surface casing point using native mud.

The well will then be drilled to the intermediate casing point with a non-dispersed mud system.

The protective hole will be drilled with air to the top of the Greenhorn where protective casing will be set.

The production hole will be drilled with a non-dispersed mud system to TD.

Surface Casing:

Quantity (ft)	Size (in)	Weight (ppf)	Description	Cement program
400	13.375	68	J-55, ST&C	625 cf Class B, 2% CaCl <sub>2</sub> + 0.25 #/sx Flocele. 1.18 cf/sx, 15.6 ppg

Hole size 17.5", 125% excess, circulate cement to surface.

Intermediate Casing:

Quantity (ft)	Size (in)	Weight (ppf)	Description	Cement program
4932	9.625	36	J-55, LT&C	* 2 stage

\* 1st Stg Tail: 721 cf Class B, 0.4% CFR-3, 0.4% Halad 344, 5 #/sx Gilsonite,  
+ 0.25 #/sx Flocele.  
1.29 cf/sx, 15.11 ppg.

Top of Fruitland Coal 3986 ft  
Stage tool depth 3886 ft, 100' above top of Fruitland Coal.

\* 2nd Stg Lead: 2549 cf Class B, 65:35:6, 7 #/sx salt, 0.375 #/sx Flocele, 5% Calseal,  
2% Microbond.  
1.8 cf/sx, 13.0 ppg.

\* 2nd Stg Tail: 129 cf Class B, 0.4% CFR-3, 0.4% Halad 344, 5 #/sx Gilsonite,  
+ 0.25 #/sx Flocele.  
1.29 cf/sx, 15.6 ppg.

Hole size 12.25", 120% excess, circulate cement to surface.

Protective Casing:

Quantity (ft)	Size (in)	Weight (ppf)	Description	Cement program
8601	7	23	J-55, LT&C	* 2 stage

\* 1st Stg Tail: 682 cf Class B, 50/50 poz, 2% gel, 0.4% Halad 413, 0.1% SCR 100,  
5 #/sx Gilsonite, 5% Microbond HT, 0.4% VersaSet, 0.25 #/sx Flocele.  
1.35 cf/sx, 13.4 ppg.

Top Picture Cliffs 4437 ft Est Top Cmt 4337  
Top of Mesa Verde 6266 ft  
Stage tool depth 5766 ft, 500' above top of Mesa Verde.

\* 2nd Stg Tail: 300 cf Class B, 50/50 poz, 2% gel, 0.4% Halad 413,  
5 #/sx Gilsonite, 5% Microbond HT, 0.4% VersaSet, 0.25 #/sx Flocele.  
1.35 cf/sx, 13.4 ppg.

Hole size 8.75", 60% excess, circulate cement to surface.

Production Liner:

Quantity (ft)	Size (in)	Weight (ppf)	Description	Cement program
696	4.5	11.6	N-80, LT&C	* single stage

\* 1st Stg Tail: 143 cf Class G, 35% SSA 1, 1.0% CFR 3, 0.5% Halad 24,  
0.25 #/sx Flocele.  
1.56 cf/sx, 15.6 ppg.

Estimated Total Depth 9197 ft  
Estimated Top of Liner 8501 ft 100' overlap into intermediate casing.

Hole size 6.25", 60% excess, tie cement back.

BY: FRANK SEIDEL/BARRY PEISER

08/05/93

= input depths from form 46 in shaded areas to calculate cement volumes.

H:\GROUP\SRBU\NMEXDK\CMTFORM.WK3

Lease: Carson Federal /H/  
County: Rio Arriba, New Mexico  
Formerly Reference Well #12Well No. 1  
Location: 1900' FNL x 790' FEL, Sec. 4, T29N, R4W

Field: Basin Dakota

OBJECTIVE: Evaluate and develop Pictured Cliff, Mesa Verde and Dakota reserves.

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER		
TYPE OF TOOLS	DEPTH OF DRILLING	7,585 Est. GL Elev.		7,601 Est. KB Elev.
Rotary	0 - TD	Marker	Depth (ft)	SS Elev. (ft)
<b>LOG PROGRAM</b>		Ojo Alamo	3,760	3,841
Type	Depth Interval	Fruitland	3,986	3,615
DIL-CAL-NGT-GR	SFC to TD	Pictured Cliffs *	4,437	3,164
FDC-CNL	SFC to TD	Lewis Shale	4,782	2,819
MICROLOG	TD + 1000'	Cliff House	6,266	1,335
MRI	*ICP to Top Fruitland (6" tool)	Menefee	6,385	1,216
	**TD to PCP (4.5" tool)	Point Lookout	6,587	1,014
		Mancos Shale	7,022	579
		Greenhorn	8,601	(1,000)
		Dakota #	8,777	(1,176)
<b>REMARKS:</b>		TOTAL DEPTH:	9,197	(1,596)
Magnetic Resonance Image (MRI), pulls at 7'/min. (409) 836 - 2955 (Numar, Brenham District).		# Probable completion interval		
*Contact Roger Gierhart (303/830-5053) for authorization.		* Possible pay.		
**Contact Harry TerBest (303/830-6038) for authorization.		<b>OJO ALAMO IS POSSIBLE USEABLE WATER.</b>		
SPECIAL TESTS		DRILL CUTTING SAMPLES		DRILLING TIME
TYPE	DEPTH INTERVAL, ETC	FREQUENCY	DEPTH	FREQUENCY DEPTH
None		20'	6980' - TD	Geolograph 0 - TD
<b>Remarks:</b>		Remarks:		
Remarks:		Mudlogging Program:		
		Mudlogger to monitor chromatograph 100' above Cliff House to TD.		
		Full one man mudlogging services for Dakota Mud Up to TD.		

**MUD PROGRAM:**

Approx Interval	Type Mud	Weight, #/gal	Vis, sec/qt	W/L, cc's/30 min
0' - 400'	SPUD	8.5 - 9.0	Sufficient to clean hole and maintain hole conditions for logs.	
400' - INT CSG	LSND	8.8 - 11.0		
INT CSG - T. Dakota	AIR	-		
T. Dakota - TD	LSND	9.5 - 10		

**REMARKS:**

\* Use minimum mud weight to control formation pressures.

**CASING PROGRAM:**

Casing String	Estimated Depth (ft)	Casing Size	Hole Size	Landing Point, Cement, Etc
Conductor				
Surface	400	13-3/8"	17-1/2"	1,2
Intermediate	4,932	9-5/8"	12-1/4"	1,2,3
Protective	8,601	7"	8-3/4"	2,4
Production	9,197	4-1/2"	6-1/4"	2,5

**Remarks:**

1. Circulate cement to surface.
2. Southern Rockies Drilling Team to design cement programs.
3. Casing set 100' - 150' into Lewis Shale.
4. Casing set at top of Greenhorn Limestone.
5. Casing set 50' into Morrison.

**GENERAL REMARKS:**

Southern Rockies Dakota Engineer to design completion program.

Form 46 Reviewed by:

Logging program reviewed by:

PREPARED BY:

F. Seidel/R. Gierhart/H. TerBest

Form 46 7-84bw

APPROVED:

For Production Dept

APPROVED:

For Exploration Dept

SAN JUAN BASIN  
DAKOTA FORMATION  
PRESSURE CONTROL EQUIPMENT

Background

The objective Dakota formation maximum surface pressure is anticipated to be 1400 PSI, based on completion testing. Pressure control equipment working pressure minimum requirements are therefore 2000 PSI. Equipment to be used will conform to API RP-53 (Figure 2.C.2) for a 2000 PSI system per Federal Onshore Order No. 2. Due to available conventional equipment within the area, 3000 PSI rated pressure control equipment will typically be utilized in a double ram type arrangement. Regional drilling rigs to be utilized have substructure height limitations which exclude use of annular preventers; therefore a rotating head will be installed above these rams. This pressure control equipment will be utilized for conventional drilling below surface to total depth. No abnormal temperature, pressure or H<sub>2</sub>S anticipated.

Prior to drilling below intermediate casing, a modified two (2) double ram pressure control equipment system will be installed. This system is designed for Dakota formation interval drilling with air and water. A service unit will typically be used to drill this interval, and the wellbore will be completed as an uncased open hole if commercial productivity is established. If not, the wellbore will be cased and cemented with a 4 1/2" contingency liner. Based upon maximum surface pressure criteria, 2000 PSI equipment is required. However, as stated above, 3000 PSI working pressure equipment will typically be utilized. The No. 3 pipe ram in Exhibit 2 will be 4 3/4" if 4 3/4" drill collars are run in the bottom hole assembly.

Equipment Specification

Interval

BOP Equipment

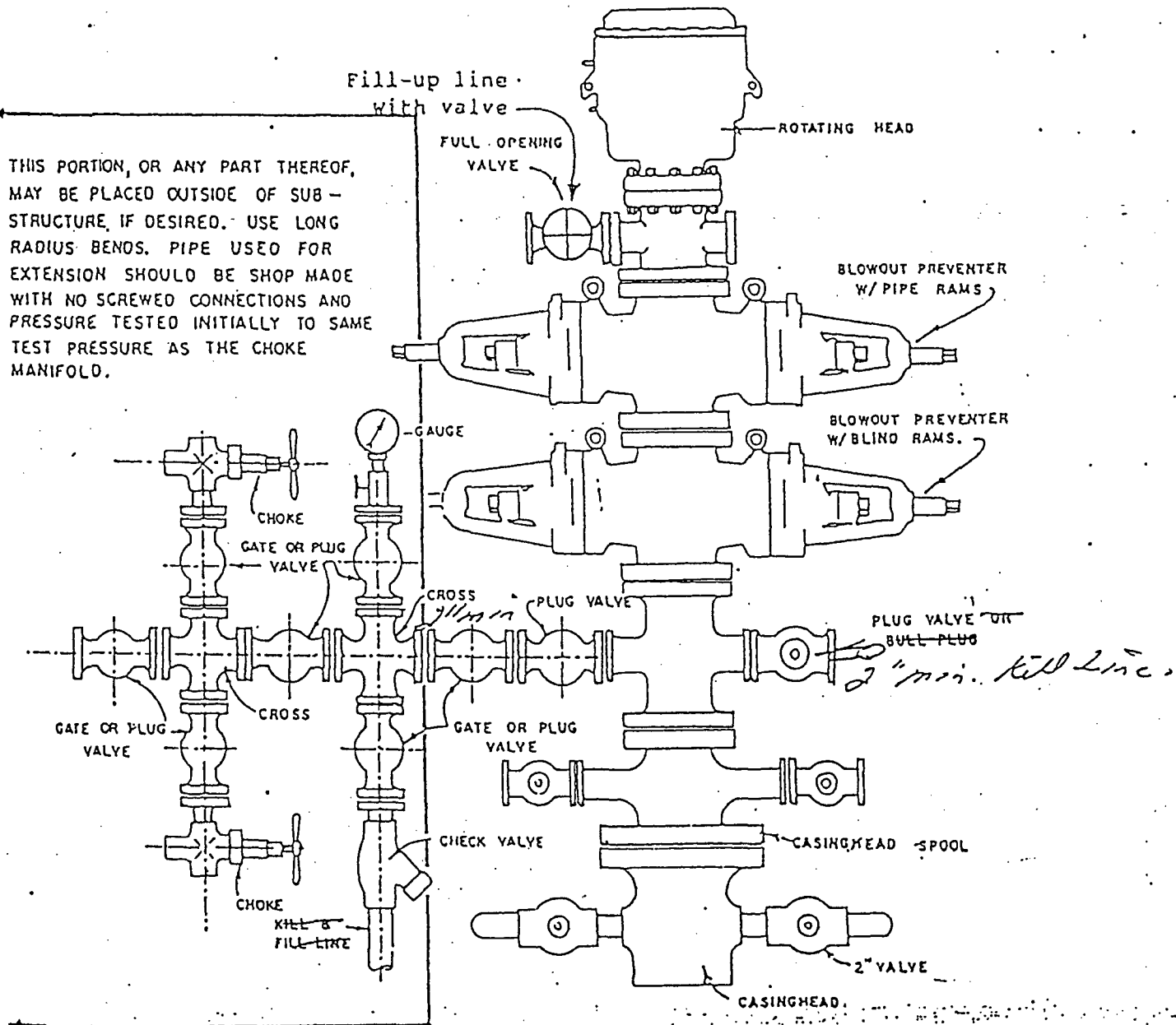
Below Surface Casing  
to  
Total Depth

12" nominal, 3000 PSI double ram preventer with  
with rotating head

All ram type preventers and related control equipment will be hydraulically tested to 250 PSI (low pressure) and 2000 PSI (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include kelly cock, floor safety valved and choke manifold which will also be tested to equivalent pressure.

Please direct any questions to Frank Seidel at (303) 830-4832 in our Denver office.

1. Upper kelly cock valve, with handle will be utilized.
2. There will be safety valves and subs to fit all drill strings in use.



BLOWOUT PREVENTER HOOKUP

## NEW MEXICO MULTIPOINT REQUIREMENTS

### 1. Existing Roads

- A. The proposed location is staked as shown on the Certified Plat.
- B. Route and distance from nearest town is identified on the form 3160-3, item #14 (also, see Exhibit A).
- C. Access road(s) to location are identified on Exhibits A and B.
- D. Not applicable unless exploratory well.
- E. All existing roads within one-mile radius of the well site are shown on Exhibit B.
- F. Improvement and/or maintenance of existing roads may be done as deemed necessary for Amoco's operations, or as required by the surface management agency.

### 2. Access Roads

- A. Width 18'
- B. Maximum grades 8%
- C. Turnouts none
- D. Drainage will be used as required.
- E. Size and location of culverts, if needed, will be determined at the onsite inspection or during construction.
- F. Surfacing materials may be applied to the proposed road and/or location if conditions merit it.
- G. Gates and/or cattle guards will be installed at fence crossings if deemed necessary by the land owner or the surface management agency.
- H. The proposed new access road is center-line flagged, if applicable.

### 3. Location of Existing Wells

A-H. All existing wells, to the best of our knowledge, are identified on Exhibit C. (9 section plat).

### 4. Location of Existing and/or Proposed Facilities

- A. All existing facilities owned or controlled by Amoco are shown on Exhibits D and E.
- B. If this proposed well is productive, Amoco will own or have control of these facilities on location: storage tanks, wellhead, production unit, and if applicable, a pump jack and/or compressor. Also there will be buried production lines from the wellhead to the production unit and/or storage tanks. Amoco will submit a Sundry Notice when off-pad plans are finalized.
- C. Rehabilitation, whether the well is productive or not, will be made on all unused areas in accordance with surface owner or manager approval.

- C. Rehabilitation, whether the well is productive or not, will be made on all unused areas in accordance with surface owner or manager approval.

5. Location and Type of Water Supply

Water will be obtained from a privately permitted water source secured through a contract water hauling company. It will be hauled in vacuum trucks via the access road (Exhibit A). The appropriate permits for this activity have been obtained by the water transporter.

6. Source of Construction Materials

- A.-D. No off-site materials will be needed to build the proposed location or access road.

7. Methods of Handling Waste Disposal

- A. Cuttings, drilling fluids, and produced fluids will be contained in the reserve pit and be allowed to evaporate. The reserve pit will be fenced on three sides and the 4th side will be fenced upon removal of the rig. The pits will be allowed to sit for 90 days and then pulled as required by NTL-2B. Produced water will be disposed of at an approved injection well or an evaporation site. Sanitary facilities and a steel mesh portable trash container will remain on location throughout drilling operations and will then be removed to a designated disposal area. The well site will be properly cleaned up upon removal of the rig.

8. Ancillary Facilities

- A. To the best of our knowledge, no ancillary facilities will be needed at this time.

9. Well Site Layout

- A.-C. Cross-sections, etc. - See Exhibit D. - Exact location of rig related equipment will be determined when Amoco contracts a drilling rig; however, all this equipment will be contained on location. The location diagram reflects actual area of well pad. Total disturbed area will vary due to cut and fill slopes.
- D. Reserve pit(s)    Unlined \_\_\_\_\_  
                             Lined \_\_\_\_\_ (8-10 mil reinforced plastic, size sufficient to cover pit area and fit underneath a rig tank.)

10. Plans for Restoration of Surface

- A. Restoration of the surface will be conducted after the reserve pit has dried. The pit will then be cleaned up and back filled and the entire disturbed area will be re-contoured. The topsoil stockpile will then be uniformly placed over this area and reseeding of the site will be carried out as instructed by the appropriate management agency. Methods to protect against erosion will be employed. After final abandonment, additional restoration efforts will be applied.

11. Surface Ownership

- A. The surface owner is BLM.

12. Other Information

A. General Description

1. Archeological clearance, topography, soil character, and flora and fauna are detailed in the archeologist's report forwarded by an approved contract archeologist to the appropriate management agency.
2. Land uses include recreation, grazing and oil and gas development.

13. Operator's Representative and Certification

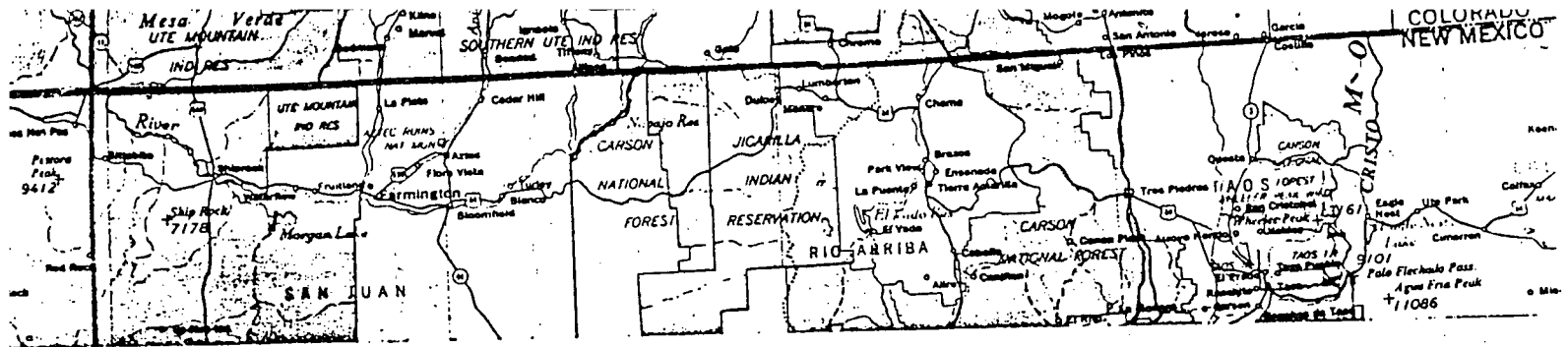
Amoco Production Company  
John R. Pantaleo  
Drilling Superintendent  
P.O. Box 800  
Denver, Colorado 80201  
(303) 830-4822

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 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 sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

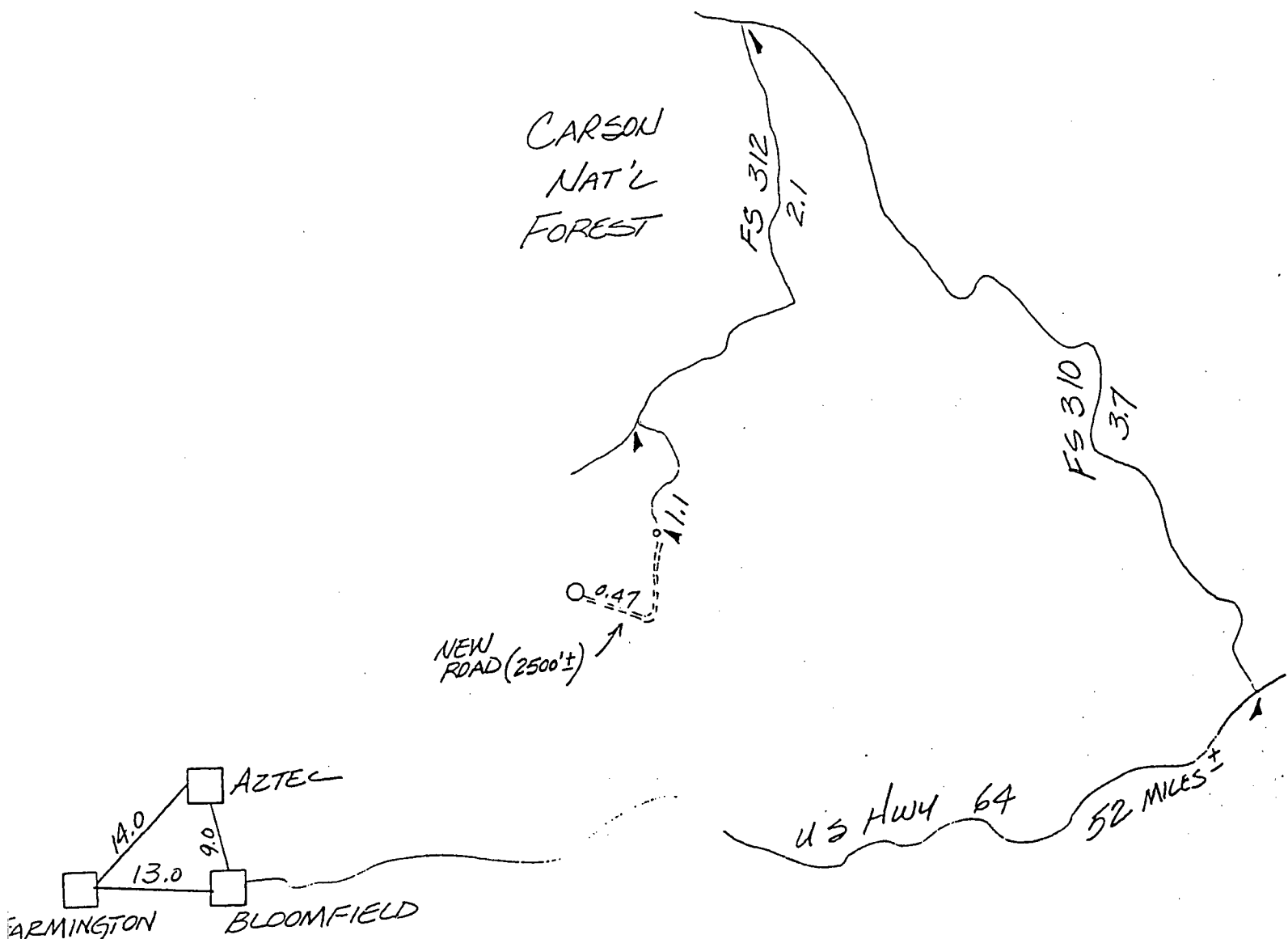
Date: 6/4/93

J.R. Pantaleo  
J.R. Pantaleo, Drilling Supt.





000' F/NL 790' F/EL  
 C. 4, T29N, R4W, NMPM  
 RIO ARRIBA COUNTY, NM  
 MILE POINT: 211.37 miles from Montrose, CO  
 MILE POINT: 68.37 miles from Aztec, NM  
 MILE POINT: 72.37 miles from Farmington, NM.



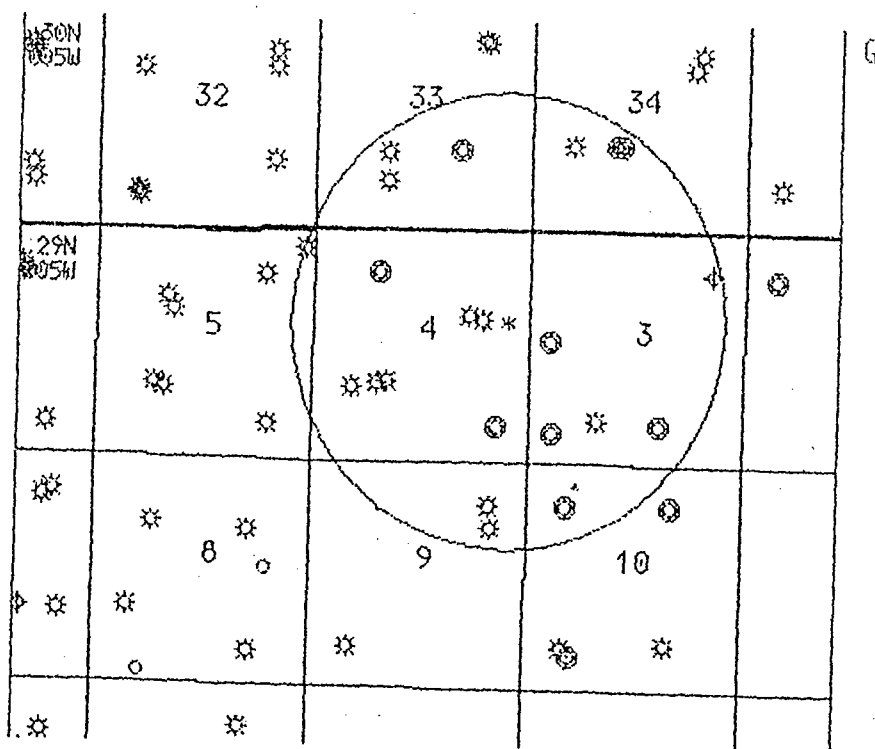


EXISTING ROADS  
NEW ROAD

AMOCO PRODUCTION COMPANY

1900' F/NL 790' F/EL  
SEC. 4, T29N, R4W, NMPM  
RIO ARRIBA COUNTY, NM

Operator <b>AMOCO PRODUCTION COMPANY</b>			Lease <b>Reference</b>		Well No. <b>12</b>
Unit Letter <b>H</b>	Section <b>4</b>	Township <b>29 NORTH</b>	Range <b>4 WEST</b>	County <b>RIO ARRIBA</b>	
Actual Footage Location of Well: <b>1900</b> feet from the <b>NORTH</b> line and <b>790</b> feet from the <b>EAST</b> line					
Ground level Elev. <b>7585</b>	Producing Formation <b>Basin Dakota</b>		Pool <b>Basin Dakota</b>		Dedicated Acreage: <b>5/2</b> Acres
	Producing Formation <b>East Blanco PC Ext.</b>		Pool <b>East Blanco PC Ext.</b>		Dedicated Acreage: <b>NE 1/4</b> Acres

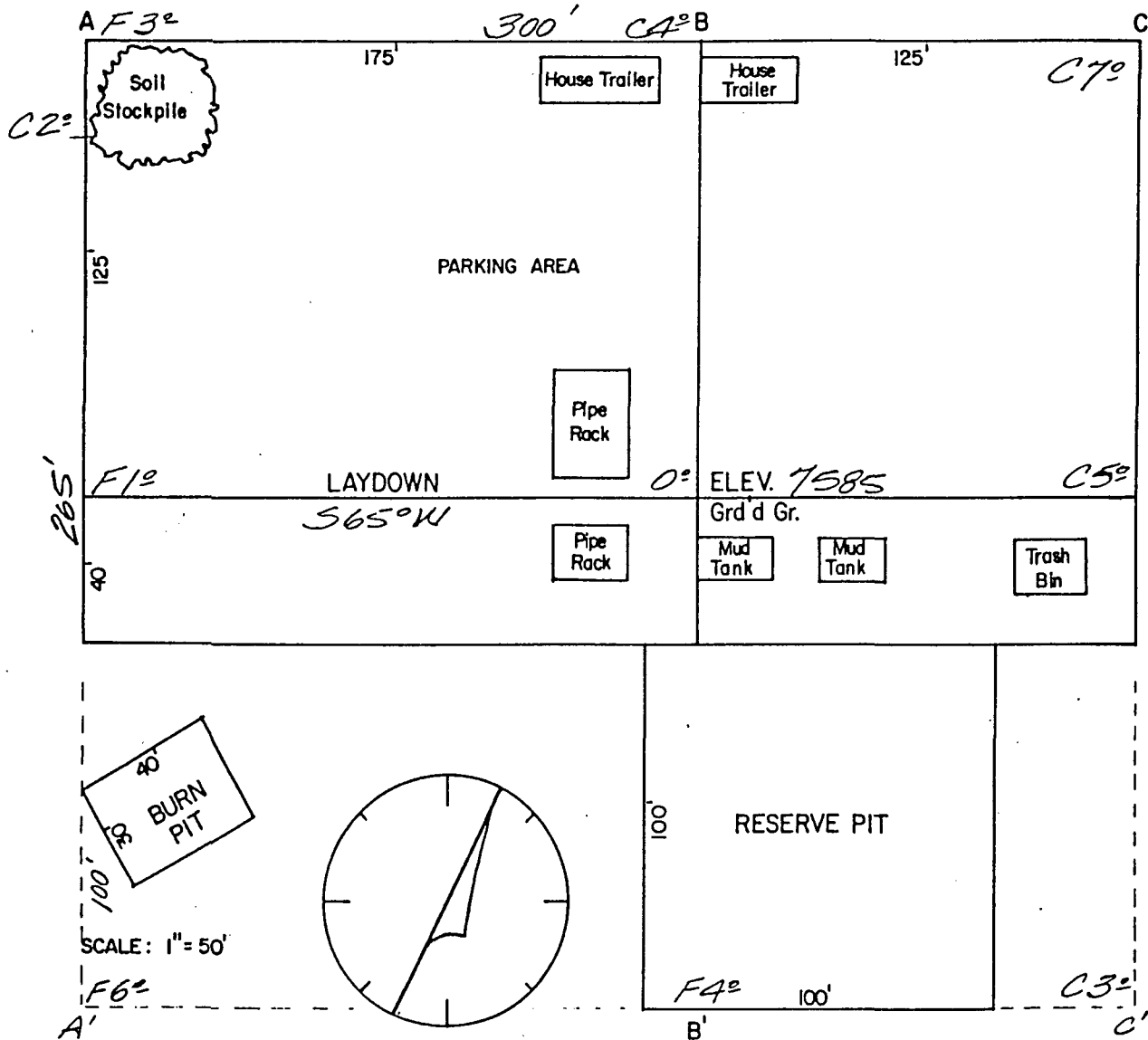


# PROFILE FOR

AMOCO PRODUCTION COMPANY

EXHIBIT "D"

1900' F/NL 790' F/EL  
SEC. 4, T29N, R4W, NMPM  
RIO ARRIBA COUNTY, NM



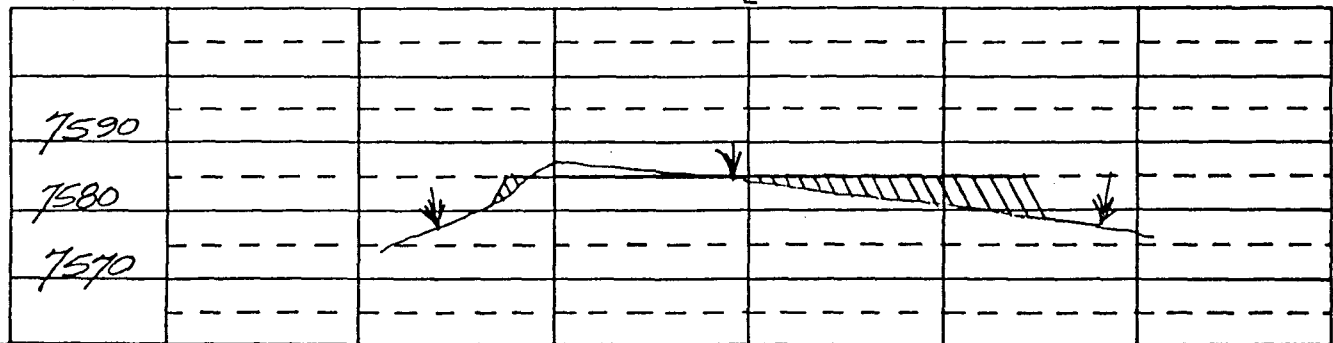
# AMOCO PRODUCTION COMPANY

1900' F/NL 790' F/EL  
 SEC. 4, T29N, R4W, NMPM  
 RIO ARRIBA COUNTY, NM

SCALE: 1" = 100' Horiz.  
 1" = 30' Vert.

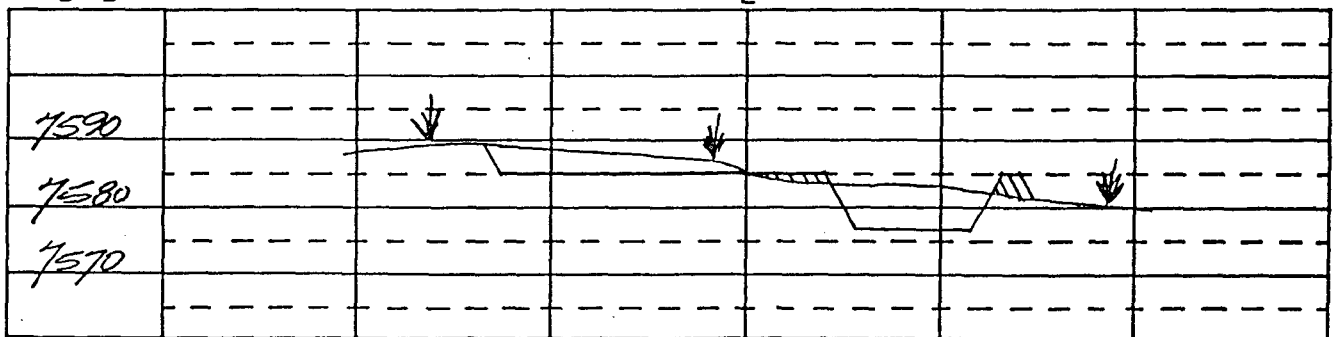
A-A'

E



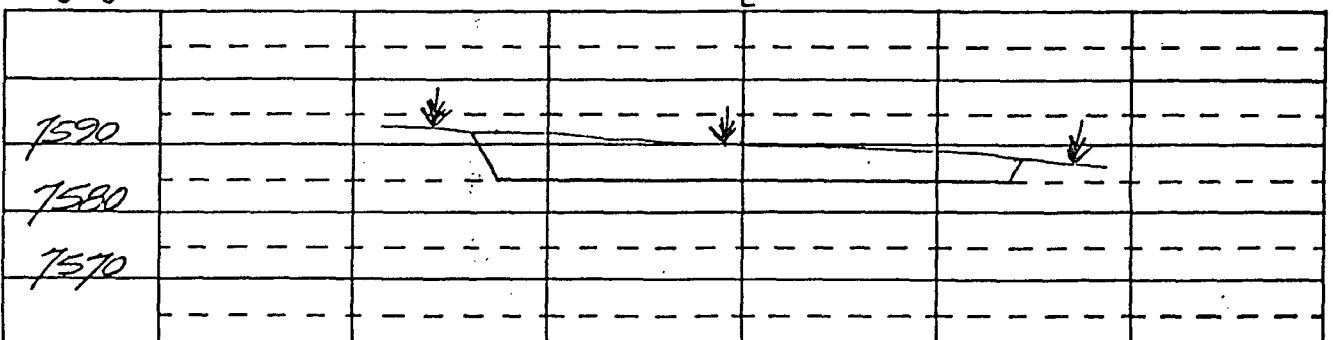
B-B'

E



C-C'

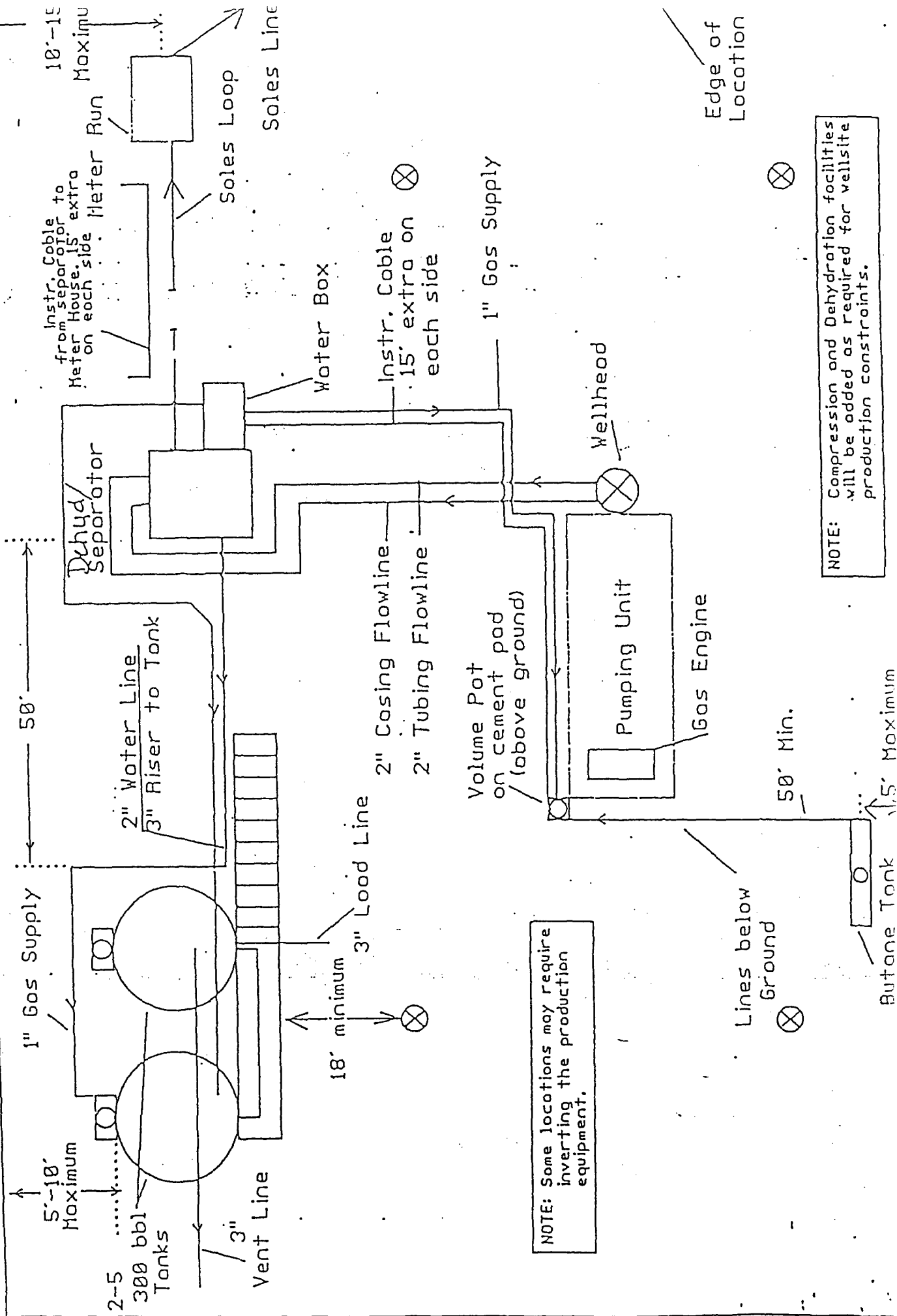
E



AMOCO

LOCATION

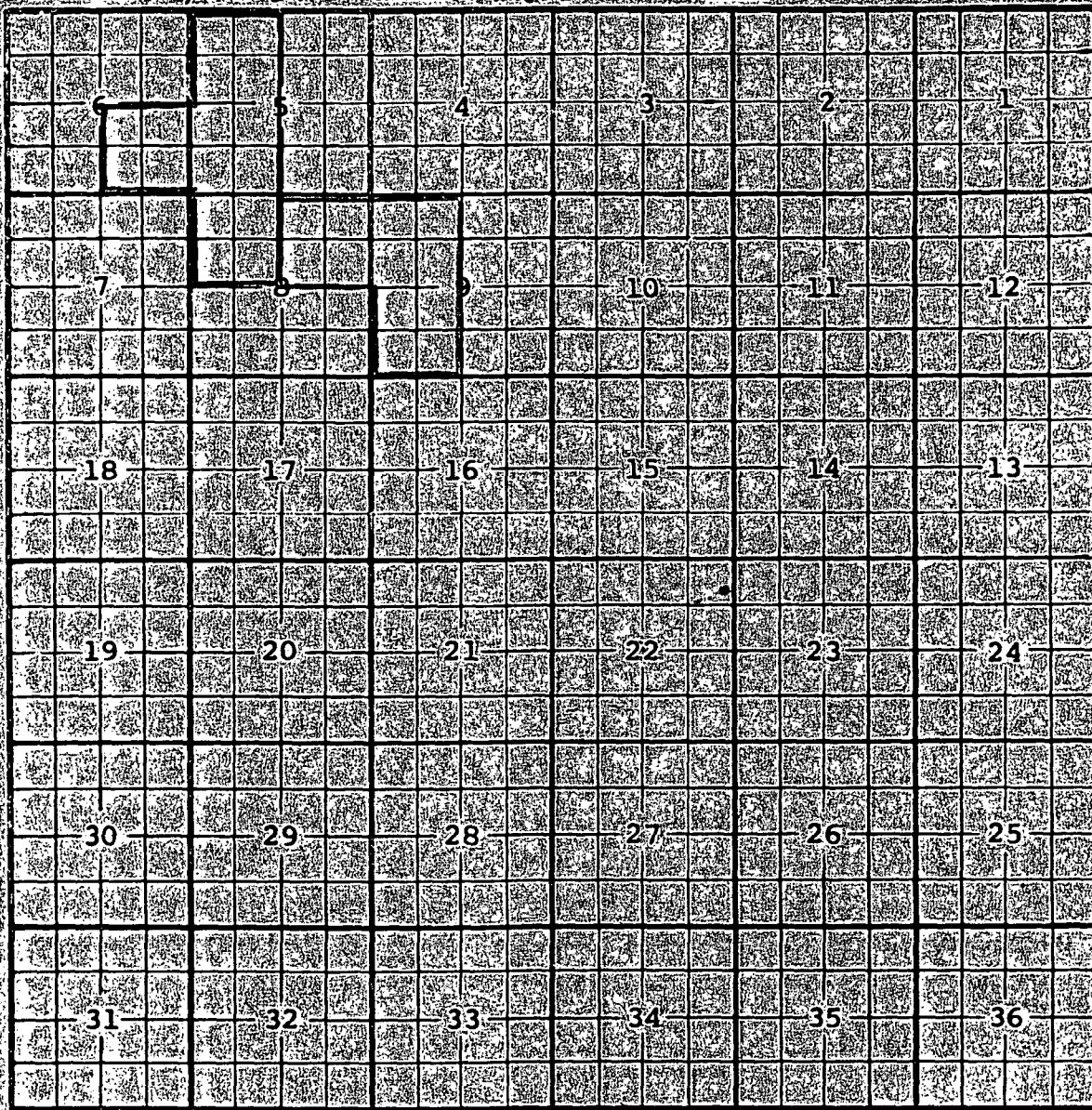
EXHIBIT E





POOL *Fast Blanco - Pictured Cliffs*

**NMFM**



Ext.  $\frac{W}{4}$  Sec. 5,  $\frac{SE}{4}$  Sec. 6,  $\frac{NW}{4}$  Sec. 8 (R. 4292, S. 1-72) Ext.  $\frac{NE}{4}$  Sec. 8,  $\frac{W}{2}$  Sec. 9 (R. 6180, S. 11-1-79)

The image shows a highly textured, monochromatic surface, likely the cover or endpaper of an old book. The texture is characterized by a dense, irregular pattern of light and dark speckles, giving it a mottled or marbled appearance. Horizontal lines or ridges run across the entire width of the image, suggesting a ribbed or laminated structure. The overall tone is a mix of light gray, off-white, and dark gray, with some areas appearing slightly more worn or discolored than others, consistent with aged paper or leather.



**Amoco Production Company**

Southern Rockies Business Unit  
Amoco Building  
1670 Broadway  
Post Office Box 800  
Denver, Colorado 80201  
303-830-4040

August 12, 1993

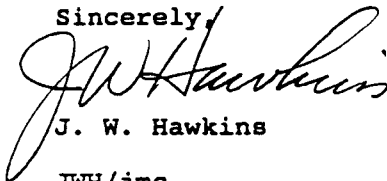
Mr. William J. LeMay, Director  
New Mexico Oil Conservation Division  
PO Box 2088  
Santa Fe, New Mexico 87504

File: CAW-207-986.511

Application for Unorthodox Location  
Carson Federal H #1 Well  
NE/4 Section 4-T29N-R4W  
Basin Dakota Pool  
East Blanco Pictured Cliffs Pool  
Rio Arriba County, New Mexico

Amoco Production Company hereby requests administrative approval for an unorthodox location in the Basin Dakota Pool and East Blanco Pictured Cliffs Pool. Amoco proposes to drill the Carson Federal H #1 Well at a location 1,900' FNL and 790' FEL of Section 4. This location is necessary due to the topographical condition in this area. Since this well is being moved 50' toward the interior of the spacing unit, no offset owners will be adversely affected and the additional cost to directionally drill the well back to an orthodox location is not justified. This spacing unit is in the E/2 Section 4, T29N-R4W. The offset operator will receive a copy of the application by certified mail with a request that they furnish your Santa Fe office with a waiver of objection and return one copy to Amoco.

Sincerely,



J. W. Hawkins

JWH/jmc

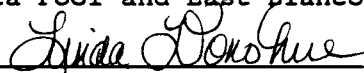
cc: Lori Arnold

Frank Chavez, Supervisor  
NMOCD District III  
1000 Rio Brazos Rd.  
Aztec, NM 87410

WAIVER

Meridian Oil Inc. hereby waives objection to Amoco's application for unorthodox well location for the Carson Federal H #1 Well in the Basin Dakota Pool and East Blanco Pictured Cliffs Pool as proposed above.

By:



Senior Landman

Date: 8-26-93







August 12, 1993

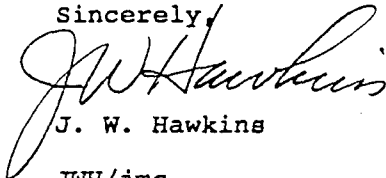
Mr. William J. LeMay, Director  
New Mexico Oil Conservation Division  
PO Box 2088  
Santa Fe, New Mexico 87504

File: CAW-207-986.511

Application for Unorthodox Location  
Carson Federal H #1 Well  
NE/4 Section 4-T29N-R4W  
Basin Dakota Pool  
East Blanco Pictured Cliffs Pool  
Rio Arriba County, New Mexico

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Sincerely,

  
J. W. Hawkins

JWH/jmc

cc: Lori Arnold

Frank Chavez, Supervisor  
NMOCD District III  
1000 Rio Brazos Rd.  
Aztec, NM 87410

WAIVER

FALCON SEABOARD hereby waives objection to Amoco's application for unorthodox well location for the Carson Federal H #1 Well in the Basin Dakota Pool and East Blanco Pictured Cliffs Pool as proposed above.

By: Monica O. Alvarado Date: 8/24/93

**Amoco Production Company**

Southern Rockies Business Unit  
Amoco Building  
1670 Broadway  
Post Office Box 800  
Denver, Colorado 80201  
303-830-4040

**FALCON SEABOARD  
PRODUCTION DEPT.**

**AUG 16 1993**

<i>[Signature]</i>		
<i>JMS</i>		
<i>REB</i>		

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
JICARILLA RANGER DISTRICT  
GOVERNADOR ROUTE  
BLANCO, NEW MEXICO 87412

SITE-SPECIFIC ENVIRONMENTAL ANALYSIS  
CONCERNING AN  
APPLICATION FOR PERMIT TO DRILL

PROPOSED ACTION: New Well (X)

SURFACE OWNERSHIP: USDA - Forest Service Lease No. \_\_\_\_\_

OPERATOR: AMOCO PRODUCTION COMPANY INC. \_\_\_\_\_

WELL NAME AND NUMBER: AMOCO #12 (SUBJECT TO CHANGE) \_\_\_\_\_

LOCATION: Township 29 N; Range 4 W; Section 4  
Footage 1900'FNL ; 790'FEL

COUNTY: Rio Arriba STATE: New Mexico POOL: DAKOTA \_\_\_\_\_

PROPOSED DEPTH: +/-8500' FORMATION: BASIN DAKOTA

LOCATION AND NATURAL SETTING

TOPOGRAPHY & DRAINAGE: MESA TOP ABOVE RUBEN CANYON \_\_\_\_\_

DISTANCE TO NEAREST:

Town GOVERNADOR +/- 12 MILES

Residence DEAN RANCH +/- 1 MILE

Gas Well +/- 1/2 MILE \_\_\_\_\_

SPECIFIC INFORMATION:

Archeological Clearance PENDING \_\_\_\_\_

TES species:

Mexican Spotted Owl: Survey Completed XX Survey Required \_\_\_\_\_  
Location not near suitable habitat \_\_\_\_\_

Apache Northern Goshawk: Survey Completed \_\_\_\_\_ Survey Required XX  
Location not near suitable habitat \_\_\_\_\_

Paint Color GREEN

Seed Mixture USFS #1 XXXX USFS Special \_\_\_\_\_

## EFFECTS OF THE PROPOSED ACTION

### SURFACE DISTURBANCE:

Access Road Length +/-4500' Width 14'  
Pad Size 300'X 265' Estimated Cut/fill CUT 7' FILL 6'  
Overall impact on general area MINIMAL

### ALTERNATIVES TO THE PROPOSED ACTION:

Would moving the location to another site reduce the environmental impact? NO, BY MOVING THE LOCATION MORE ENVIRONMENTAL IMPACTS WOULD ARISE. THE ACCESS ROAD TO THIS LOCATION WILL UTILIZE AN EXISTING TWO TRACK ROAD THAT ALMOST REACHES THE PROPOSED LOCATION.

Were other locations considered? Why was this location chosen?

THIS LOCATION WAS CHOSE FOR THE REASONS ABOVE. THE ORIGINAL LOCATION WAS MOVED TO HERE TO AVOID A HEAVY SIDE HILL CUT ON THE PROPOSED LOCATION. ALSO THE PROPOSED LOCATION WOULD HAVE OVERLOOKED A HEAVLY USED WILDLIFE WINTERING AREA IF BUILT WHERE FIRST PROPOSED.

What is estimated future development in the area?

AN EXISTING COALSEAM WELL IS CONSTRUCTED WITHIN A 1/2 MILE OF THIS LOCATION. OTHER FORMATIONS COULD BE PRODUCED WITHIN THIS AREA. IF THEY ARE, THIS PAD COULD BE USED FOR DRILLING OTHER FORMATIONS.

### ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED:

Estimated total area to be converted by this activity: +/- 2 1/2 ACRE

Area will be converted from PINYON JUNIPER to BROUSE AND GRASSES

Vegetation species removed will be: P/J, GRASSES AND SOME BROUSE SPECIE  
ON SITE INSPECTION:

Date JULY 22 1993

Representatives: Company BEN BENFIELD

Forest Service CAM HOOLEY JIM TENSFIELD

### SPECIAL CONDITIONS NEEDED FOR PROPOSED LOCATION:

- (1) AMOCO WILL HAUL FIREWOOD TO FS ROAD 312, TREE LENGTH, FOR PUBLIC USE.
- (2) PONDEROSA PINES WILL BE PUSHED AND LEFT FOR WILDLIFE.
- (3) AMOCO WILL CLOSE EXISTING TWO TRACK ROAD (FLAGGED BY FOREST OFFICER)
- (4) AMOCO WILL CONSTRUCT A WILDLIFE WARER (FLAGGED BY FOREST OFFICER).
- (5) LOCKED GATE IN PLACE GET WITH FALCON SEABOARD ABOUT CLOSURE DEVICE.

*Philip R. Settle*



OIL CONSERVATION DIVISION  
RECEIVED

AUG 9 1993

August 24, 1993

State of New Mexico  
Oil Conservation Division  
P. O. Box 2088  
Santa Fe, NM 87504-2088

Re: Amoco Production Company's  
Application for Unorthodox Location  
Carson Federal H #1 Well  
NE/4 Section 4-T29N-R4W  
Basin Dakota Pool  
East Blanco Pictured Cliffs Pool  
Rio Arriba County, New Mexico

Gentlemen:

Pursuant to Amoco's request, enclosed please find Falcon Seaboard Oil Company's Waiver of Objection for the above referenced location.

Yours very truly,

FALCON SEABOARD OIL COMPANY

Kathy Dishman  
Production Assistant

/kd  
Enclosures

xc: Amoco Production Company w/attachments



STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION  
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE

AM 12 01

1000 RIO BRAZOS ROAD  
AZTEC, NEW MEXICO 87410  
(505) 334-6178

Date: 9-7-93

*Attn: Mike Hogan*

Oil Conservation Division  
P.O. Box 2088  
Santa Fe, NM 87504-2088

RE: Proposed MC  
Proposed NSL X  
Proposed WFX  
Proposed NSP

Proposed DHC  
Proposed SWD  
Proposed PMX  
Proposed DD

Gentlemen:

I have examined the application received on 8-16-93  
for the Amoco OPERATOR Reference #12  
LEASE & WELL NO.

H-4-29W-04W and my recommendations are as follows:  
UL-S-T-R

Approve

Yours truly,

*Ernie Borch*

Ernie

10/6/93

I've never seen this  
application. Could you send  
your copy. Thanks  
*M. Hogan*