

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTSUBMIT IS TRIPLICATE*
(Other instructions on
reverse side)30-05-26219 OCT 25 '89
Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985 O. C. D.5. LEASE DESIGNATION AND SERIAL NUMBER
ARTESIA, OFFICE

LC - 029389 (a)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Baish Federal

9. WELL NO.

#4

10. FIELD AND POOL, OR WILDCAT

X North Shugart (Bone Springs)

11. SEC., T., M., OR BLK.
AND SURVEY OR AREA

Sec 9, T-18-S, R-31-E

12. COUNTY

Eddy

13. STATE

NM

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

ARCO Oil and Gas Company, a Division of Atlantic Richfield Co. ✓

3. ADDRESS OF OPERATOR

P.O. Box 1610, Midland, Texas 79702

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

At surface 1980' FNL & 1980' FEL

At proposed Prod. zone Approximately the same ut. G

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

8 miles SE of Loco Hills, New Mexico

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

933'

16. NO. OF ACRES IN LEASE

440

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

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

1320'

19. PROPOSED DEPTH

8800'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether GR or KB)

3706' GL

22. APPROX. DATE WORK WILL START

Spud 11/89

23. PROPOSED CASING AND CEMENTING PROGRAM

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | QUANTITY OF CEMENT ¹¹³ |
|--------------|----------------|-----------------|---------------|-----------------------------------|
| 17-1/2" | 13-3/8" | 54.5# | 680' | 940 cuft CIRCULATE |
| 11" | 8-5/8" | 24# | 2165' | 1100 cuft |
| 7-7/8" | 5-1/2" | 17# | 8800' | 1900 cuft |

Pursuant to the "Onshore Oil and Gas Order #1" attachments are as follows:

1. Certified Location Plat
2. Drilling Plan with attachments
3. Surface Use Plan with attachments

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL REGULATIONS
ATTACHED

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

M. E. Zell

TITLE

Area Drilling Engineer

DATE

10/17/89

(This space for Federal or State Use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

Suzanne Forester

TITLE

DATE

10.24.89

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly 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.

RECEIVED
ID1
APR 11 1989
10-27-89

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

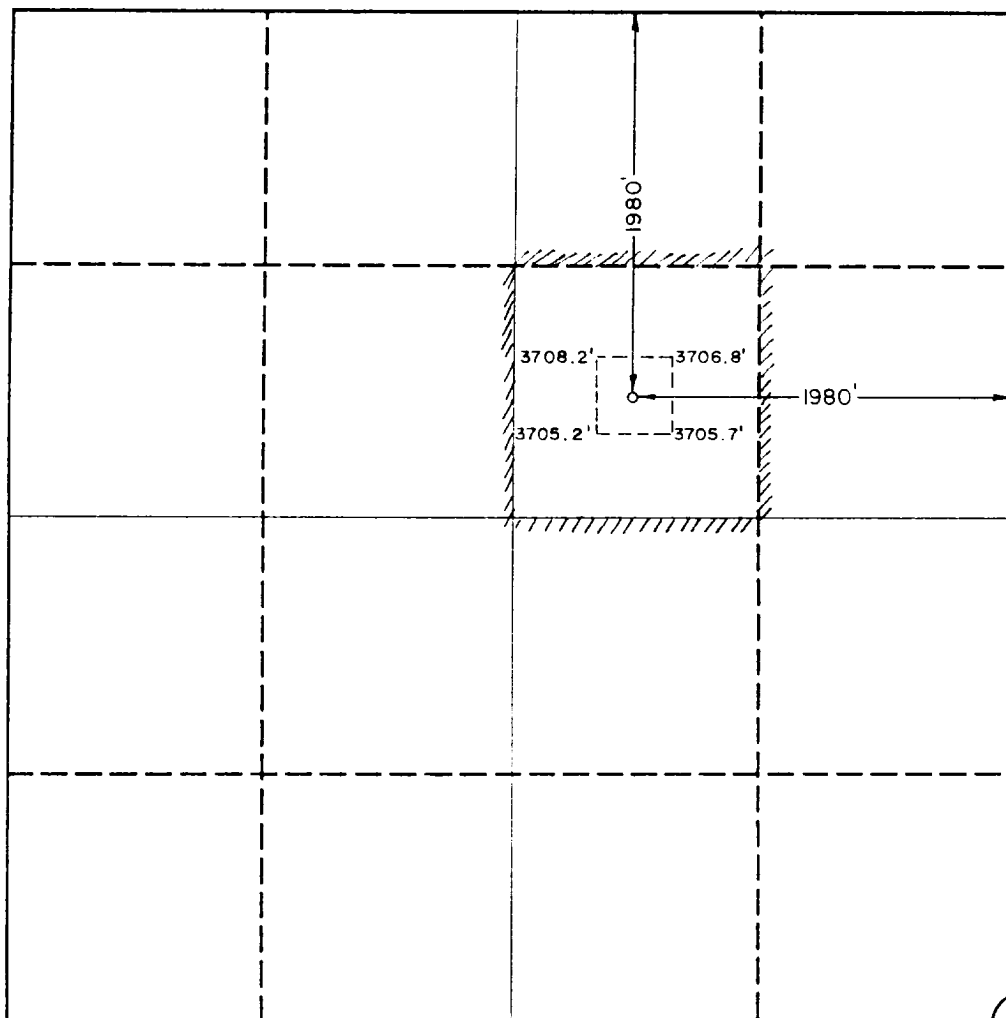
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

| | | | | | |
|--|------------------------------------|-----------------------|------------------------|--------------------------------|---------------|
| Operator ARCO Oil & Gas Company | | | Lease Baish Federal | | Well No. 4 |
| Unit Letter G | Section 9 | Township 18 South | Range 31 East | County NMPM | Eddy |
| Actual Footage Location of Well: 1980 feet from the North line and 1980 feet from the East line | | | | | |
| Ground level Elev. 3706.0 | Producing Formation Bone Spring | Pool North Shugart | | Dedicated Acreage: 40 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

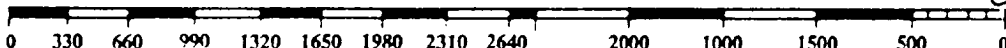
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature
M. E. Ellis
Printed Name
Area Drilling Engineer
Position
ARCO Oil & Gas Co.
Company
Oct 6, 1989
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
September 26, 1989
Signature & Professional Seal
JOHN W. WESLEY
Professional Surveyor
No. 1076
Certificate No. 1076
JOHN W. WESLEY
3239



DRILLING PLAN

Attach to APD Form 3160-3

Operator: ARCO Oil & Gas Company

Lease & Well No.: Baish Federal #4

Location: Unit Letter G
Section 9, T18S, R31E
Eddy County, New Mexico
Development Well XX Exploratory Well _____

1. See Acreage Dedication Plat Form C-102.
2. See Form 3160-3 for elevation above sea level of unprepared location.
3. The geological name of the surface formation is as follows: Querecho Plains Aeolian material with loose sandy loams and commonly harbor calcareous gravels.
4. The type of drilling tools and associated equipment to be utilized will be rotary.
5. The proposed drilling depth will be 8800'.
6. The estimated tops of important geological markers are as follows:

| | |
|---------------------------|-------|
| Top of Salt | 690' |
| Base of Salt | 2100' |
| Yates | 2100' |
| Queen | 3170' |
| Grayburg | 3850' |
| San Andres | 4200' |
| Bone Spring | 5500' |
| Bone Spring 2nd Carbonate | 7700' |
| Bone Spring 2nd Sand | 7900' |

7. The estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:

| | |
|---------------------------|------------|
| Bone Spring 2nd Carbonate | 7800-7900' |
| Bone Spring 2nd Sand | 8280-8550' |
8. The proposed casing program including the size, grade and weight/foot of each string has been indicated on form 3160-3.
9. See form 3160-3 for amount of cement.

10. A diagram of pressure control equipment is attached. Additional information about the pressure control equipment and testing/maintenance is as follows:

13-3/8" casing :

Size: 13-5/8" 3000 psi WP double ram Hydraulic with annular and rotating head.
Pressure Rating: 3000 psi WP, 6000 psi test.
Testing procedure: Pressure test against 13-3/8" casing to 1000 psi prior to drilling out casing.
Testing frequency: Pressure test upon installation. Operational checks daily and on all trips. Kill lines to be flushed after cementing.

8-5/8" casing:

Size: 13-5/8" or 11" 3000 psi WP double ram Hydraulic with annular.
Pressure Rating: 3000 psi WP, 6000 psi test.
Testing procedure: Pressure test all BOPE to rated WP using an independent testing company. Annular to be tested to 1500 psi.
Testing frequency: Pressure test upon installation. Operational checks daily and on all trips.

11. The type and characteristics of the proposed drilling fluids are as follows:

| | |
|------------|-------------------------------------|
| Surf-680' | Fresh water Spud mud 8.6 ppg |
| 680-2165' | Saturated Brine (NaCl) Water 10 ppg |
| 2165-7000' | Fresh water 8.6 ppg |
| 7000-PTD | Fresh water gel/polymer 8.6-9.3 ppg |

12. The testing logging and coring program is as follows:

Drill Stem Test: None

OH Logs: GR-DLL-MSFL TD-2200'
GR-CNL-LDT-Cal TD-2200'

Coring: None

13. There are no abnormal temperatures or pressures anticipated.
14. The anticipated starting date (Construction) will be November 20, 1989 pending all appropriate permits and ROW's. The estimated completion date is approximately January 19, 1990.
15. The auxiliary equipment to be used will consist of the following:
- Kelly Cocks and sub to be on floor with full opening valve to be used when needed.
 - A mud logging unit is to be used from 7000' to PTD.
16. H2S detection and survival equipment to be rigged up prior to drilling out intermediate casing at 2165'.

Multi-Point Surface Use and Operations Plan

Operator: ARCO Oil & Gas Company

Lease & Well No.: Baish Federal #4

Location: Unit Letter G
Section 9, T18S, R31E
Eddy County, New Mexico
Development Well XX Exploratory Well _____

1. Existing Roads:

- a. Exhibit "A" is a portion of a map with highways showing the location of the proposed well as staked. Go West from Hobbs, New Mexico on Carlsbad Highway #180 to Highway #529. Turn right (West) on Highway #529 and proceed to the intersection of Highway's #529 and #82. Turn left on Highway #82 and proceed West for approximately 0.2 miles to Eddy County Road #222. Turn left on CR #222 & proceed South 3.2 miles to highway intersection. Turn left & proceed East Northeast 0.75 miles. Turn right & proceed South 0.55 miles to location.
- b. Exhibit "A" also shows all existing roads within a three (3) mile radius of the wellsite and the planned access road.

2. Planned Access Roads:

- a. 1062' of new road 12' wide will be required.
- b. Turnouts: None
- c. Culverts: None
- d. Cuts & fills: None
- e. Gates & Cattleguards: None

3. Location of Existing Wells:

- a. Existing wells within a two mile radius are shown in exhibit "B".

4. Location of Existing and/or Proposed Facilities:

- a. The proposed surface facilities will consist of a pumping unit and flow line to the existing facilities located on the wellsite of the Baish Federal #2.

5. Location and Type of Water Supply:

- a. Fresh and brine water will be purchased. The fresh water will be purchased from Double Eagle Pipeline and the City of Carlsbad, New Mexico. A fresh water line located near the lease will be tapped and piped to water tanks on the drill pad. The brine water will be purchased from an independent contractor in Loco Hills, New Mexico.

6. Source of Construction Materials:

- a. Road and well pad construction materials will be furnished by a contractor, and any caliche permits or royalties to be paid will be the responsibility of the contractor. The contractor is not selected as of this date. Caliche will be purchased from a federally approved caliche pit located in the NE/4 of the NW/4 of Sec 15, T18S, R31E, Eddy County, New Mexico. If the pit location and ownership are changed, ARCO will notify the BLM by letter.

7. Methods of Handling Waste Disposal:

- a. Drill cuttings will be disposed in the reserve pit.
- b. Drilling fluids will be disposed of by: Hauling the free liquids off of the reserve pit and disposing in a permitted SWD. Remaining fluids will be allowed to evaporate in the drilling pit until the pit is dry. Netting will be placed over the reserve pit during the evaporation period to prevent the entry of any birds.
- c. Water produced during tests will be disposed of in the drilling pit. Oil produced during tests will be stored in test tanks until sold.
- d. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- e. Trash, waste paper, garbage and junk will be contained in a covered dumpster to prevent scattering by the wind and hauled to a municipal sanitary landfill. The location of the dumpster is shown in exhibit "C".
- f. All trash and debris will be buried or removed from the wellsite within 30 days after the conclusion of drilling and/or completion operations.

8. Ancillary Facilities:

- a. None.

9. Wellsite Layout:

- a. Exhibit "C" shows the relative location and dimensions of the well pad, mud pits, reserve pit, trash pit and the location of major rig components.
- b. No significant cuts or fills will be required.
- c. The reserve pit will be plastic lined.
- d. The pad and pit areas have been staked and flagged.

10. Plans for Restoration of the Surface:

- a. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. Pits will be filled and the location cleaned of all trash and junk in order to leave the wellsite in an aesthetically pleasing condition as possible.
- b. Any unguarded pits containing fluids will be fenced until they are filled.

- c. After abandonment of the well, surface restoration will be in accordance with BLM rules and requirements and will be accomplished as expediently as possible.

11. Other Information:

- a. Topography: Stabilized sand dunes less than one meter high in the Querecho plains.
- b. Soil: Loose non-calcareous , sandy loams & loamy sands.
- c. Flora & Fauna: The vegetative cover is Mesquite, Shinnery Oak, Plains Yucca, Southwest Rabbit Brush, Broom Snakeweed, Russina Thistle, Desert Seep Weed. Grasses are Needle and Thread, Mesa Drop Seed, Sandy Muhly, Poverty Three-awn, Plains Bristle Grass, Sand Blue Stem and Plains Love Grass. The fauna consists of rabbits, coyotes, hawks, reptiles, quail, song birds, rodents and snakes.
- d. Ponds & Streams: None.
- e. Residences & Structures: None.
- f. Land Use: Grazing and hunting in season, oil & gas production.
- g. Surface ownership: Wellsite is on the Bureau of Land Management surface with a grazing permit to:
 - Caviness Cattle Company
East Star Route
Maljamar, New Mexico 88264

12. Operators Representative:

The field representatives responsible for assuring compliance with the approved surface use operations plan is as follows:

| | |
|---------------|------------------------------------|
| Name: | J. E. Shields |
| Address: | P. O. Box 1610, Midland, TX, 79702 |
| Office Phone: | 915/688-5674 |
| Home Phone: | 915/381-0233 |

| | |
|---------------|------------------------------------|
| Name: | M. W. Gore |
| Address: | P. O. Box 1610, Midland, TX, 79702 |
| Office Phone: | 915/688-5678 |
| Home Phone: | 915/699-6203 |

13. **Certification:**

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 and the statements made in this plan are to the best of my knowledge are true and correct: and that the work associated with the operations herein will be performed by ARCO Oil & Gas, a Division of The Atlantic Richfield Company and its contractors & subcontractors, in conformity with this plan and the terms and conditions under which it is approved.

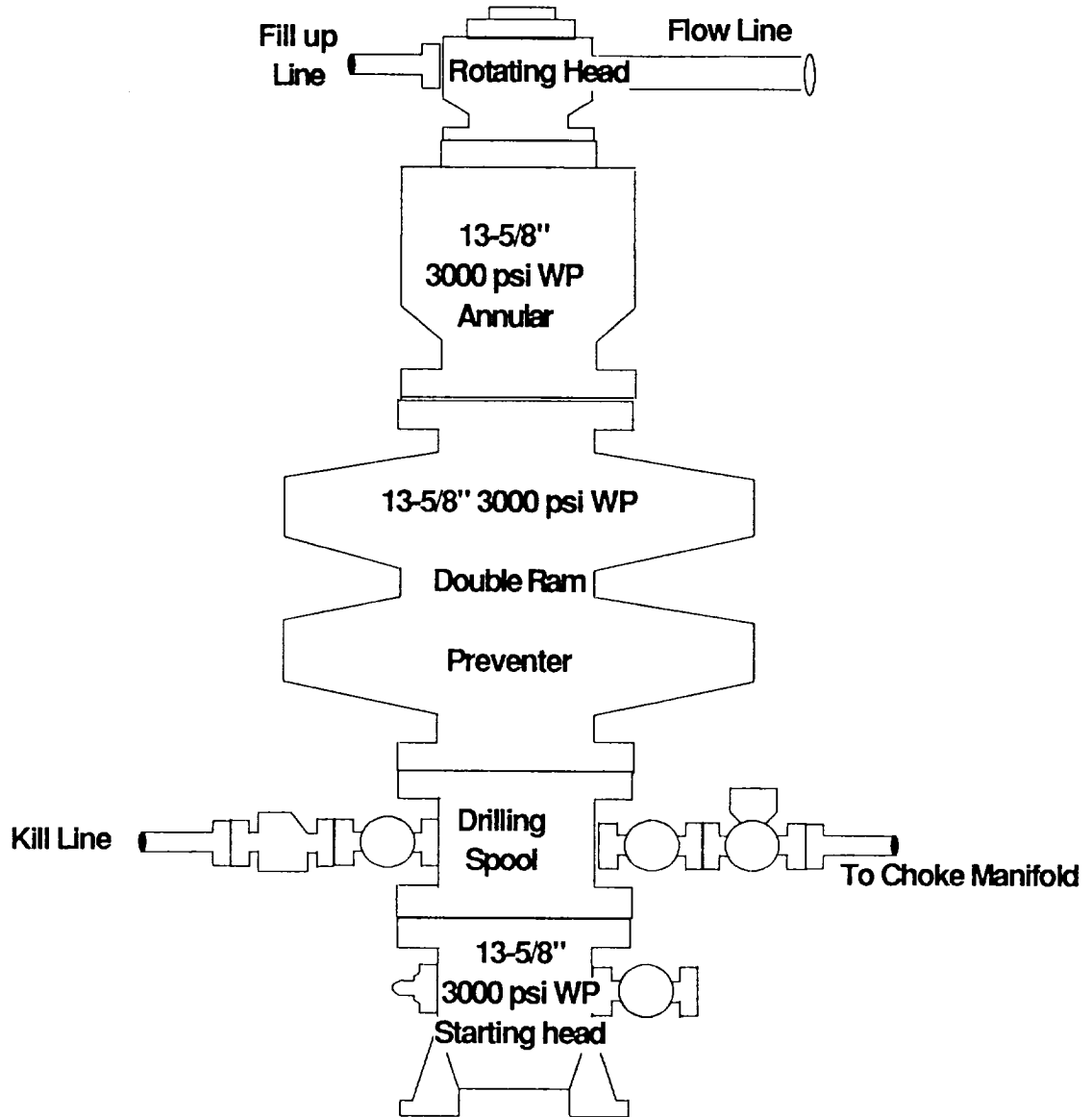
M. E. Ellis Area Drilling Engineer

Date

Baish Federal #4

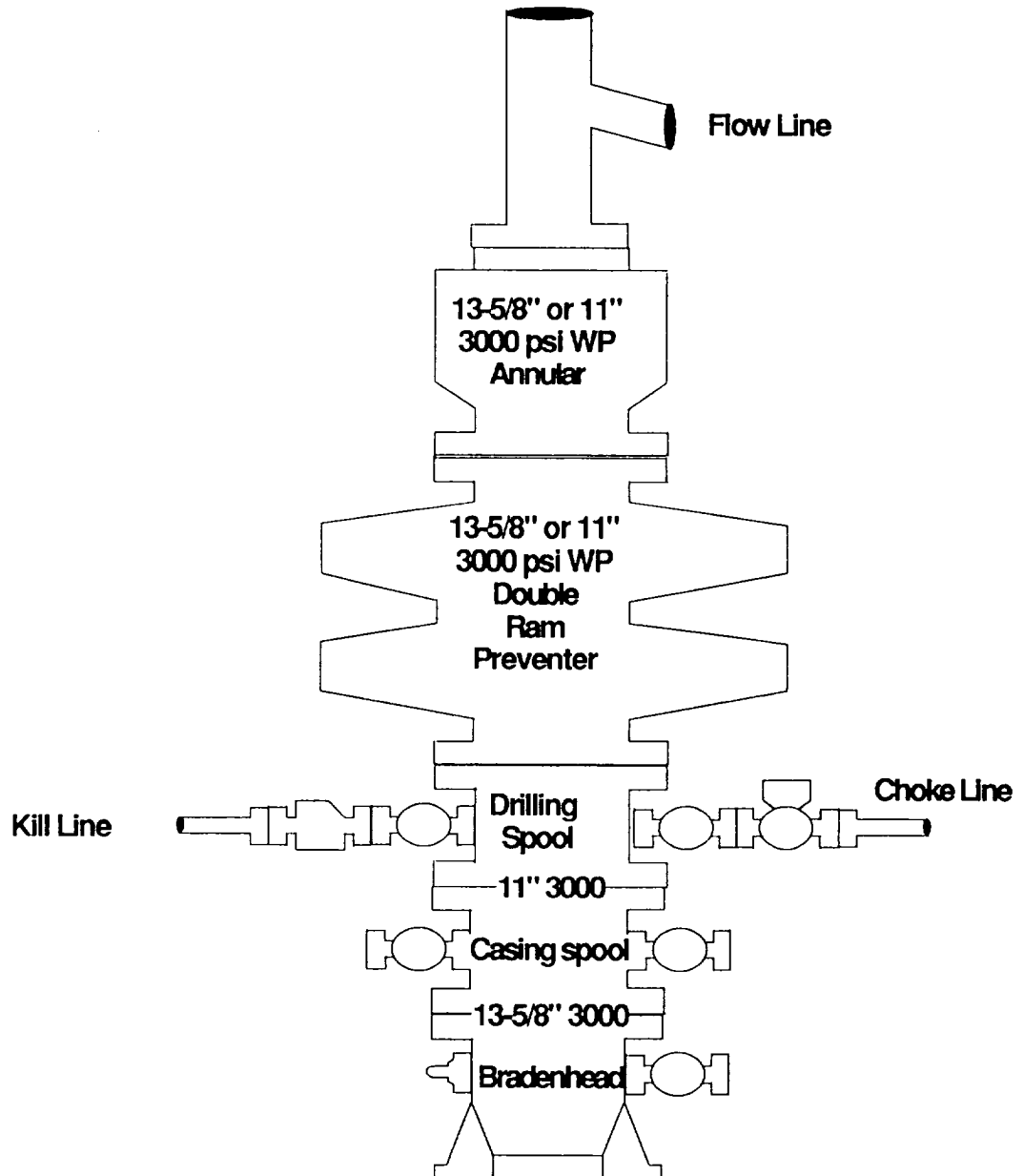
13-5/8" 3000 psi WP Stack

On 13-3/8" Casing to drill from 680-2165'



Baish Federal #4

13-5/8" or 11" 3000 psi WP stack
On 8-5/8" casing to drill from 2165-8800'



Baish Federal #4

Choke Manifold

3000 psi WP (or greater)
To be installed on 13-3/8" casing
and 8-5/8" casing

Adjustable Choke

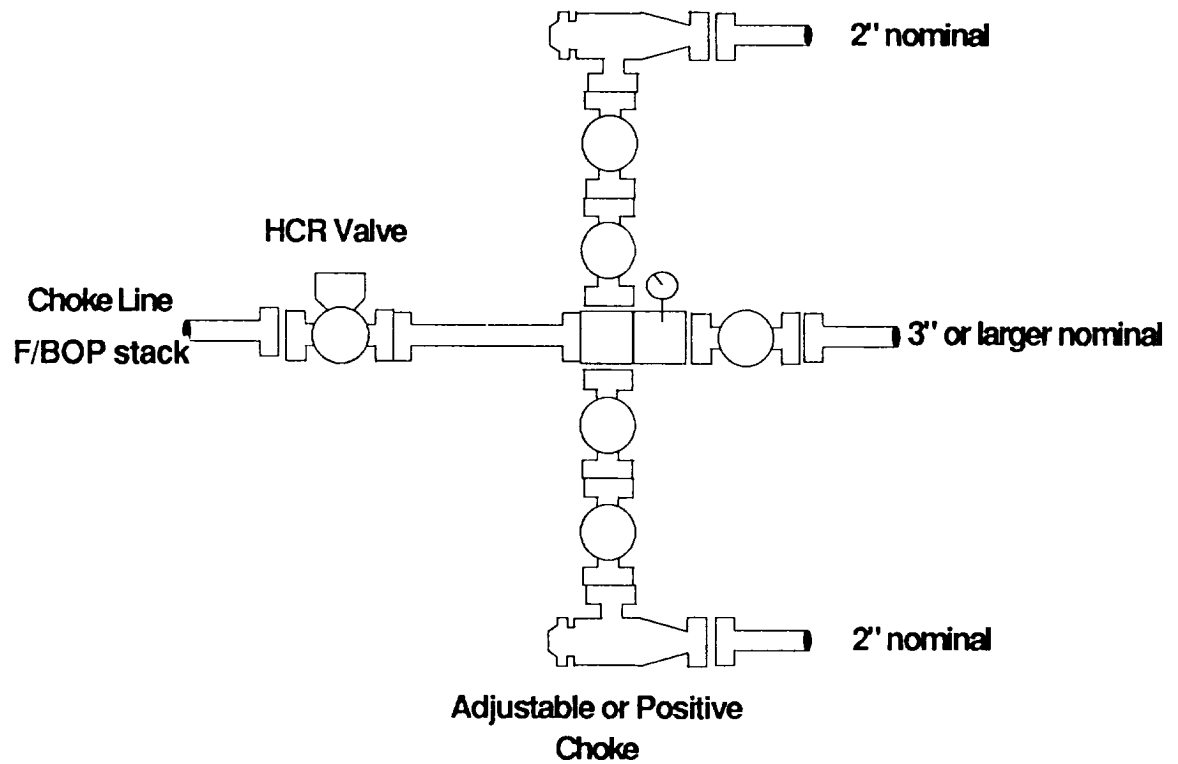
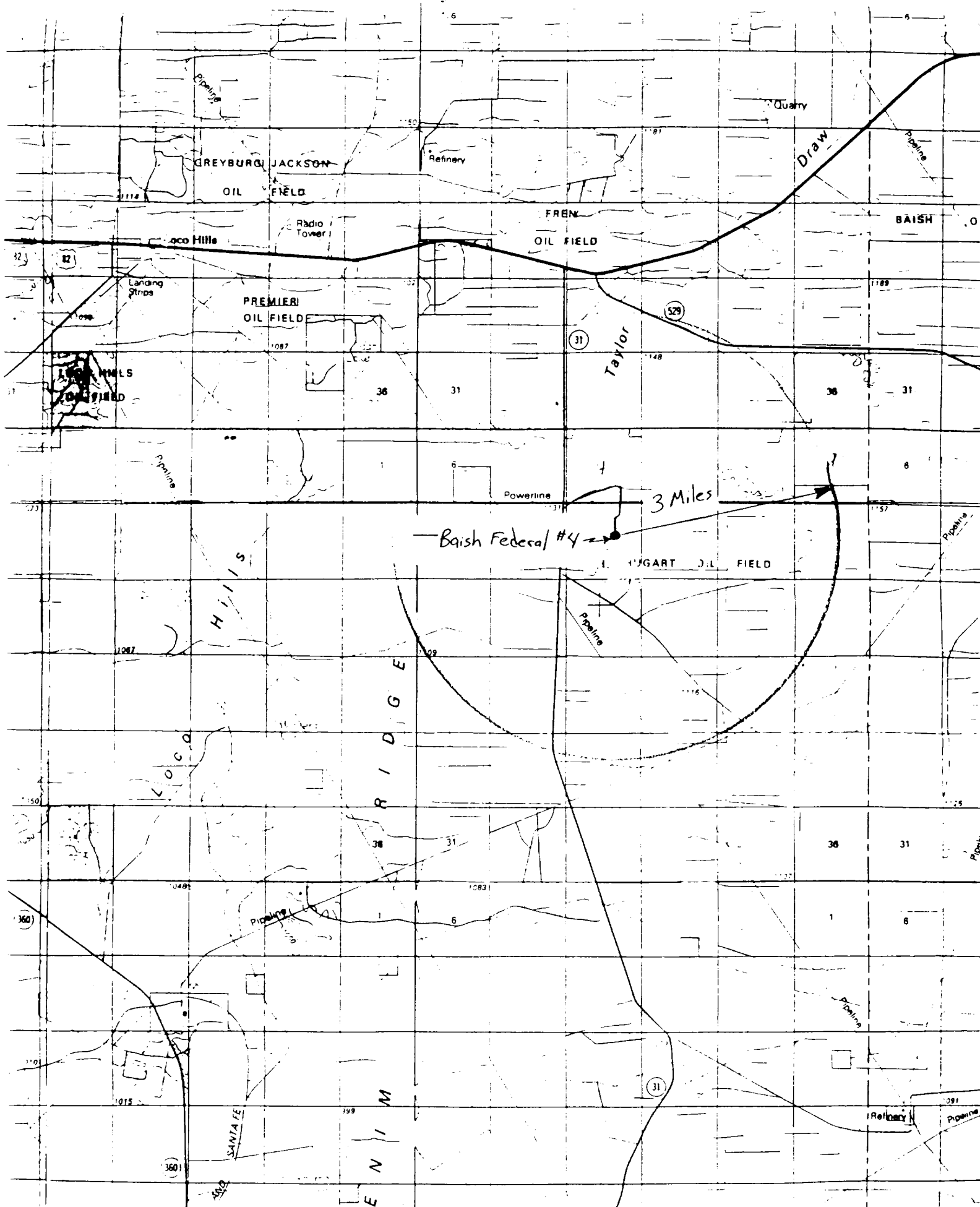


Exhibit A



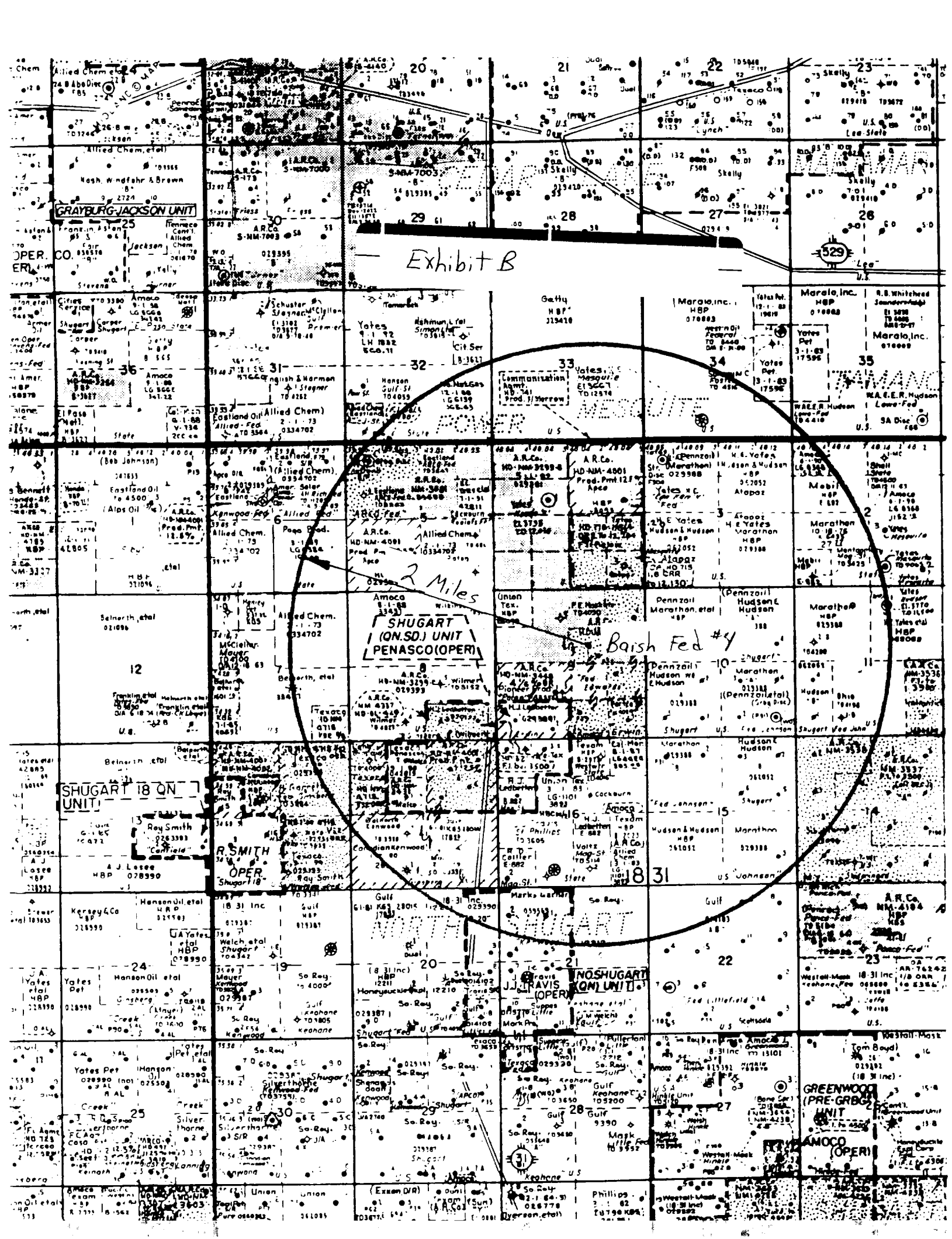


Exhibit B

2 Miles

Barish Fed #4

SHUGART (ONSD) UNIT
PENASCO (OPER)

SHUGART 18 ON UNIT

SHUGART (ONSD) UNIT

GREENWOOD (PRE-GRB) UNIT
ANOCO (OPER)

TYPICAL LOCATION LAYOUT FOR WELL 6000' OR GREATER IN DEPTH Eddy and Lea County, New Mexico

