

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IS TRIPLICATE*
(Other instructions on
reverse side)

30-015-26243
Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. NM - 2938
b. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME -----
2. NAME OF OPERATOR ARCO Oil and Gas Company		7. UNIT AGREEMENT NAME -----
3. ADDRESS OF OPERATOR P.O. Box 1610, Midland, Texas 79702		8. FARM OR LEASE NAME Gandhi Federal
4. LOCATION OF WELL (Report clearly and in accordance with any State requirements.) At surface 990' FNL & 330' FWL At proposed Prod. zone Approximately the same		9. WELL NO. #1
10. FIELD AND POOL, OR WILDCAT Undesignated Wildcat		11. SEC., T., M., OR BLK. AND SURVEY OR AREA Sec 24, T-18-S, R-31-E
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE 8 miles SE of Loco Hills, New Mexico		12. COUNTY Eddy
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. line, if any) 990'		13. STATE NM
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. 903'		20. ROTARY OR CABLE TOOLS Rotary
19. PROPOSED DEPTH 9900'		21. ELEVATIONS (Show whether GR or KB) 3698.7 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 ^{ft³}
17-1/2"	13-3/8"	54.5#	450'	940 cuft CIRCULATE
11"	8-5/8"	24#	2400'	1100 cuft CIRCULATE
7-7/8"	5-1/2"	17#	9900'	2000 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

PROPOSAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
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 Ken W. Gosnell TITLE Engr. Tech. (915) 688-5672 DATE 10/27/89
(This space for Federal or State Use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE 11-22-89

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.

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

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

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

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

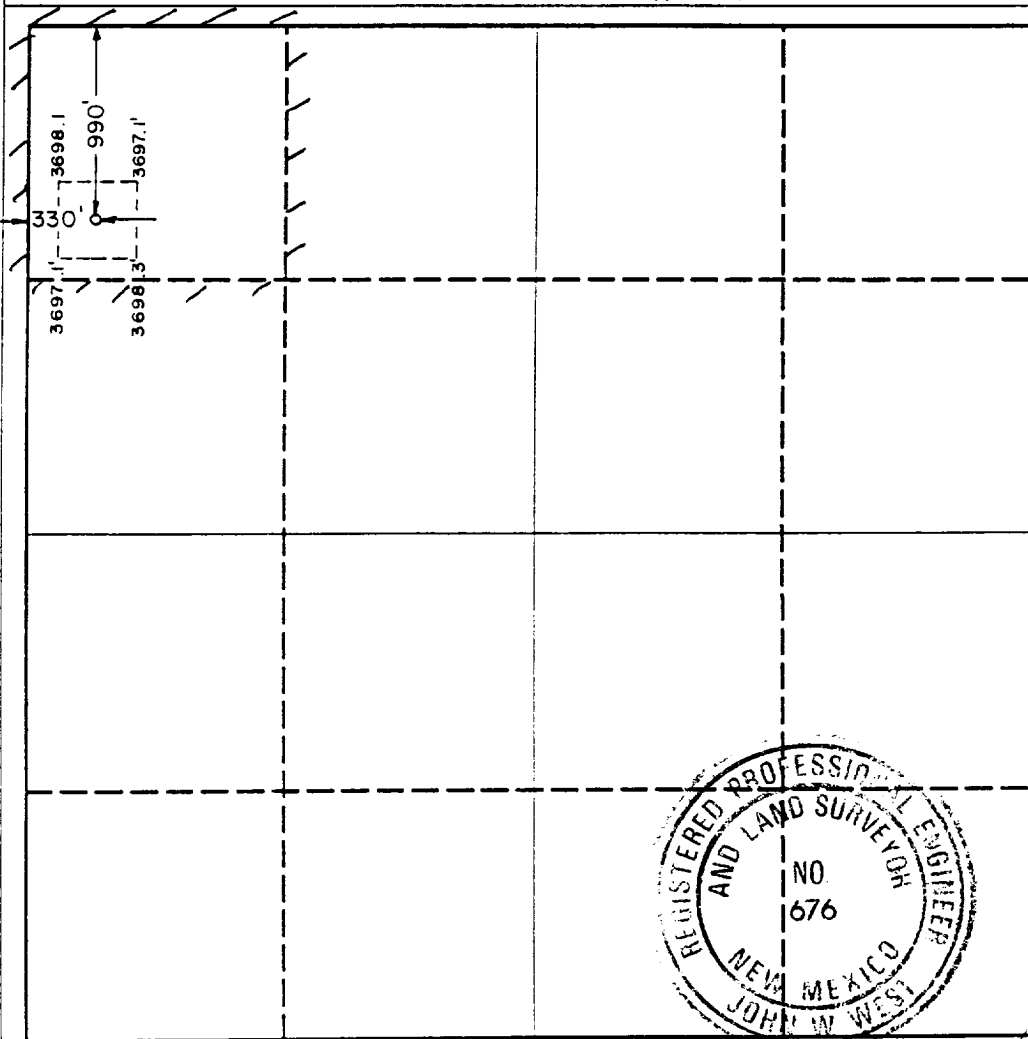
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator ARCO Oil & Gas Company			Lease Gandhi Federal		Well No. 1
Unit Letter D	Section 24	Township 18 South	Range 31 East	County NMPM Eddy	
Actual Footage Location of Well: 990 feet from the North line and 330 feet from the West line					
Ground level Elev. 3698.7'	Producing Formation Bone Springs		Pool Wildcat	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
Ken W. Gosnell
Printed Name
Ken W. Gosnell
Position
Engr. Tech.
Company
ARCO Oil & Gas Co.
Date
10-27-89

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 & Seal of
Professional Surveyor

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

DRILLING PLAN

Attach to APD Form 3160-3

Operator: ARCO Oil & Gas Company

Lease & Well No.: Gandhi Federal # 1

Location: Unit Letter D

Section 24, T18S, R31E

Eddy County, New Mexico

Development Well _____ Exploratory Well XX

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 9900'.
6. The estimated tops of important geological markers are as follows:

Top of Salt	690'
Base of Salt	2100'
Yates	2350'
Queen	3490'
San Andres	4200'
Bone Spring	6320'
Bone Spring 2nd Carbonate	8090'
Bone Spring 2nd Sand	8410'
Bone Spring 3rd Carbonate	9080'
Bone Spring 3rd Sand	9320'
Wolfcamp	9820'

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	8090-8410'
Bone Spring 3rd Carbonate	9080-9320'

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-450'	Fresh water Spud mud 8.6 ppg Funnel vis 30-40 sec FL-NC
450-1000'	FW
1000-2400'	Saturated Brine (NaCl) Water 10 ppg Funnel vis 30-40 sec
2400-7200'	Fresh water 8.6 ppg
7200-PTD	Fresh water gel/polymer 8.6-9.3 ppg Funnel vis 30-35 sec WL 10-15 cc

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

Drill Stem Test: C open hole DST expected to be run as warranted by shows and drilling breaks

OH Logs: LDT/CNL	2400' - TD
NGT	2400' - TD
GR - Sonic	2400' - TD
GR-MSFL-DIL	2400' - TD
GR	Surface - TD
Dielectric ML	50 - 100' interval
Borehole Televiewer	50 - 100' interval

Coring: One 60' Bone Spring core anticipated

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 2400' to PTD.
16. H2S detection and survival equipment to be rigged up prior to drilling out intermediate casing at 2400'.

Multi-Point Surface Use and Operations Plan

Operator: ARCO Oil & Gas Company

Lease & Well No.: Gandhi Federal # 1

Location: Unit Letter D

Section 24, T18S, R31E

Eddy County, New Mexico

Development Well ____ Exploratory Well XX

1. Existing Roads:

- a. Exhibit "A" is a portion of a map with highways showing the location of the proposed well as staked. Go East 2.5 miles from Loco Hills on Highway 82. Turn South on County Highway 222 for 4 miles to County Road 249. Turn East on County Road 249 and go 2.8 miles. Continue going East where County Road 249 curves to the South. The Easterly road you are on is a pipe line road and should be followed for 1.3 miles until reaching 2 white 10,000 bbl tanks. Turn to the North and go 1.2 miles to Siete Battery. Turn to the West and go .3 mile until coming to new location road. New location road is 1065' and runs in a Northwesterly direction.
- 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. 1065' 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 d/or Proposed Facilities:

- a. The proposed surface facilities will consist of a pumping unit and flow line to facilities to be built at the wellsite of the Gandhi #1.

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, subject to aeolian processes.
- c. Flora & Fauna: The vegetative cover is Mesquite, Shinnery Oak, Plains Yucca, Southwest Rabbit Brush, Broom Snakeweed, Sand Sage, Plains Sunflower, Desert Seepweed, Gland Leaf Dalea, Western Sensitive Briar, Sand Goldenweed, Broom Snakeweed, Brindweed Heliotrope Widow's Tears, Big Bluestem, Sand Bluestem, Hall's Panic, and Sandbur. Grasses are Needle and Thread, Sand Drop Seed, False Buffalo Grass, Sand Blue Stem and Big Blue Stem. 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:
 - Faye Kline
P. O. Box 1503te
Hobbs, NM 88240
(505) 3933-7439

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:
Address:
Office Phone:
Home Phone:

M. W. Gore
P. O. Box 1610, Midland, TX, 79702
915/688-5678
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.

Michael W. Gore A/MEE

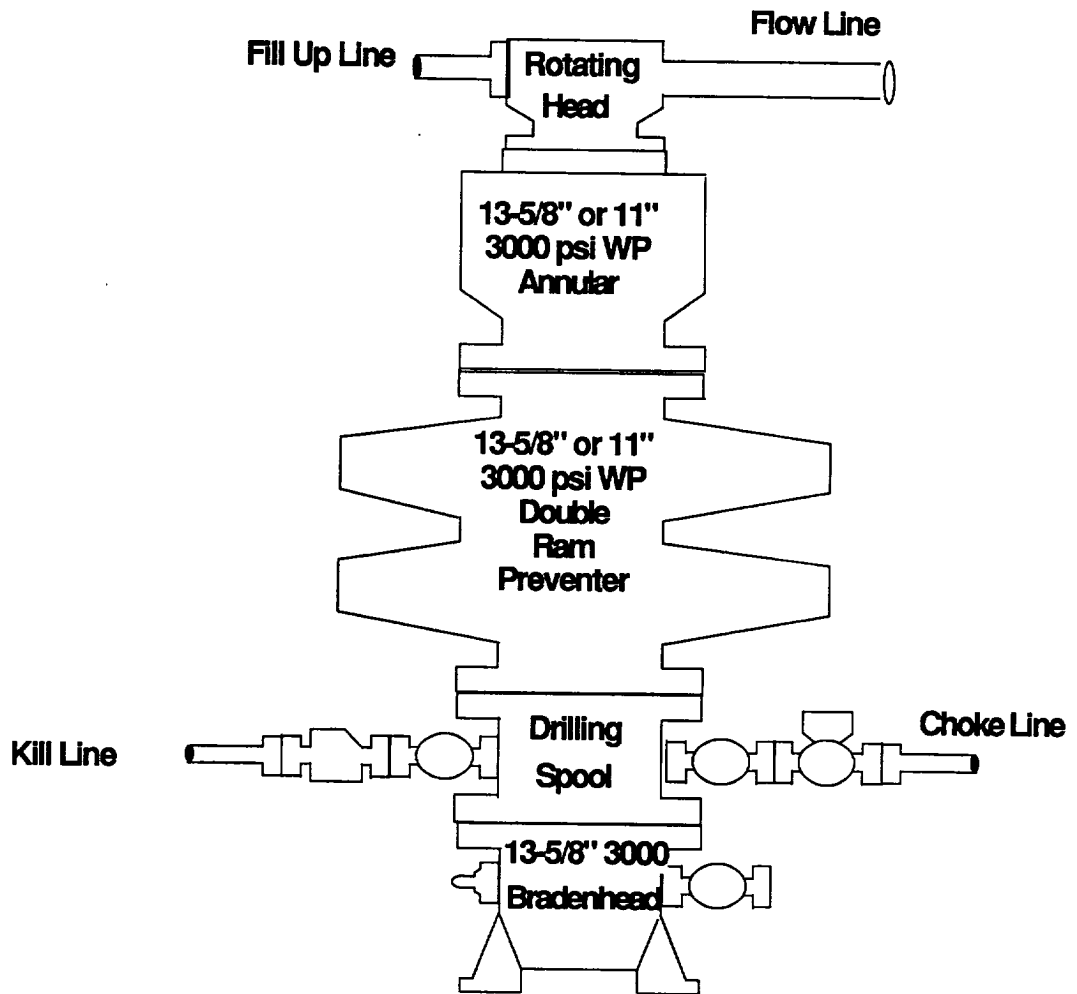
M. E. Ellis Area Drilling Engineer

10-24-89

Date

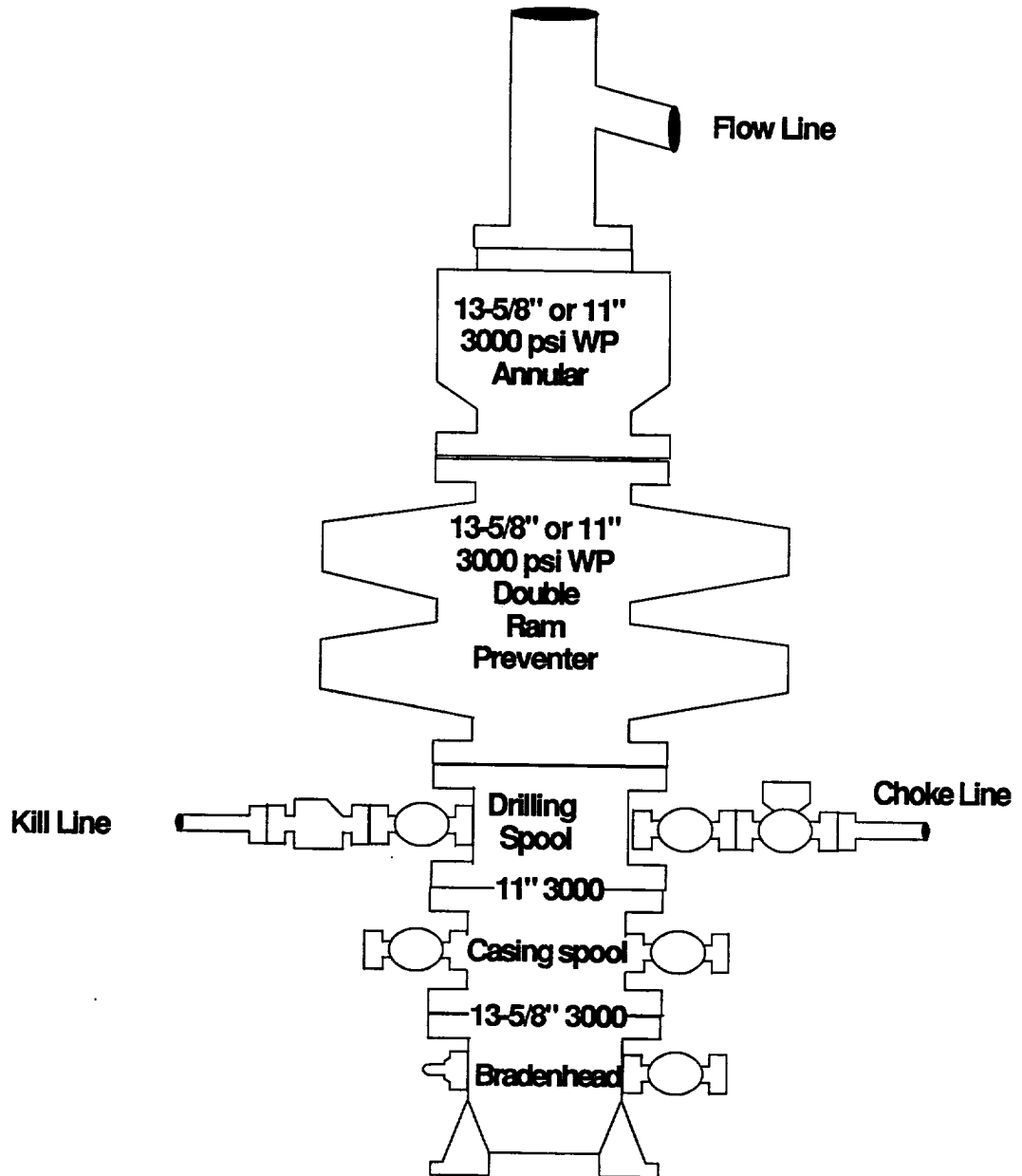
Gandhi #1

13-5/8" or 11" 3000 psi WP stack
On 13-3/8" casing to drill from 450-2400'



Gandhi #1

13-5/8" or 11" 3000 psi WP stack
On 8-5/8" casing to drill from 2400-9900'

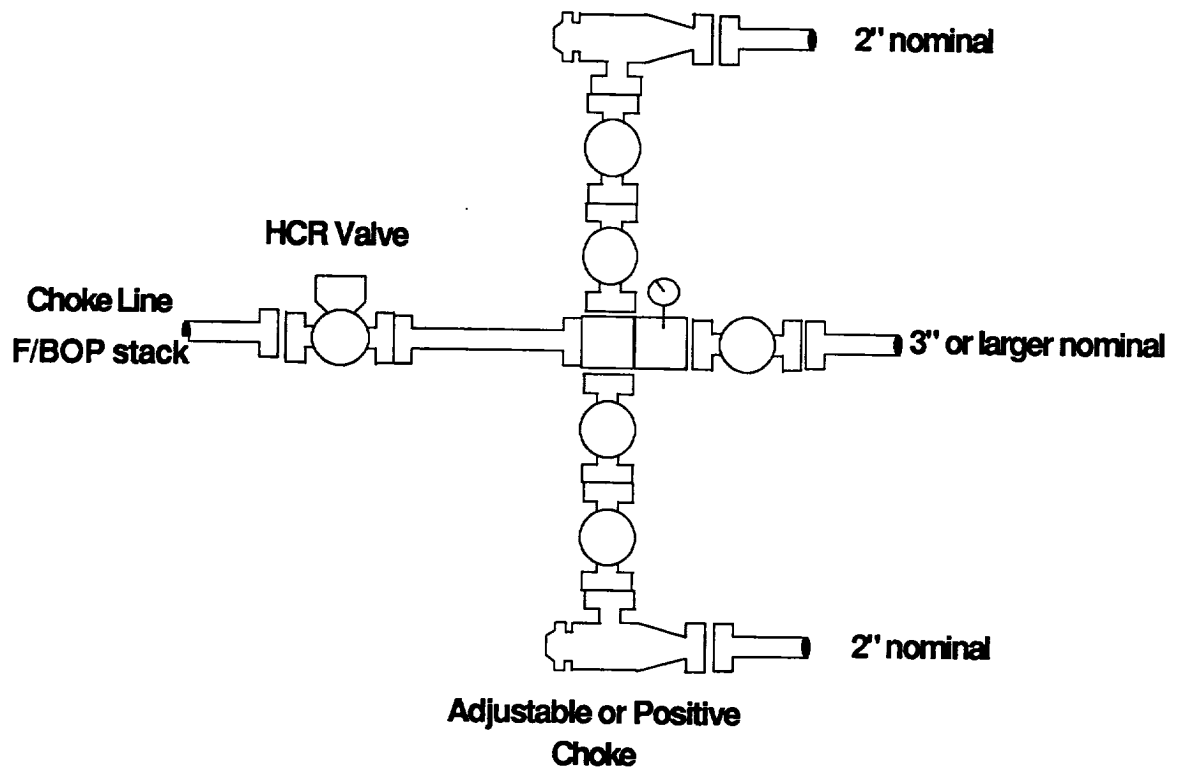


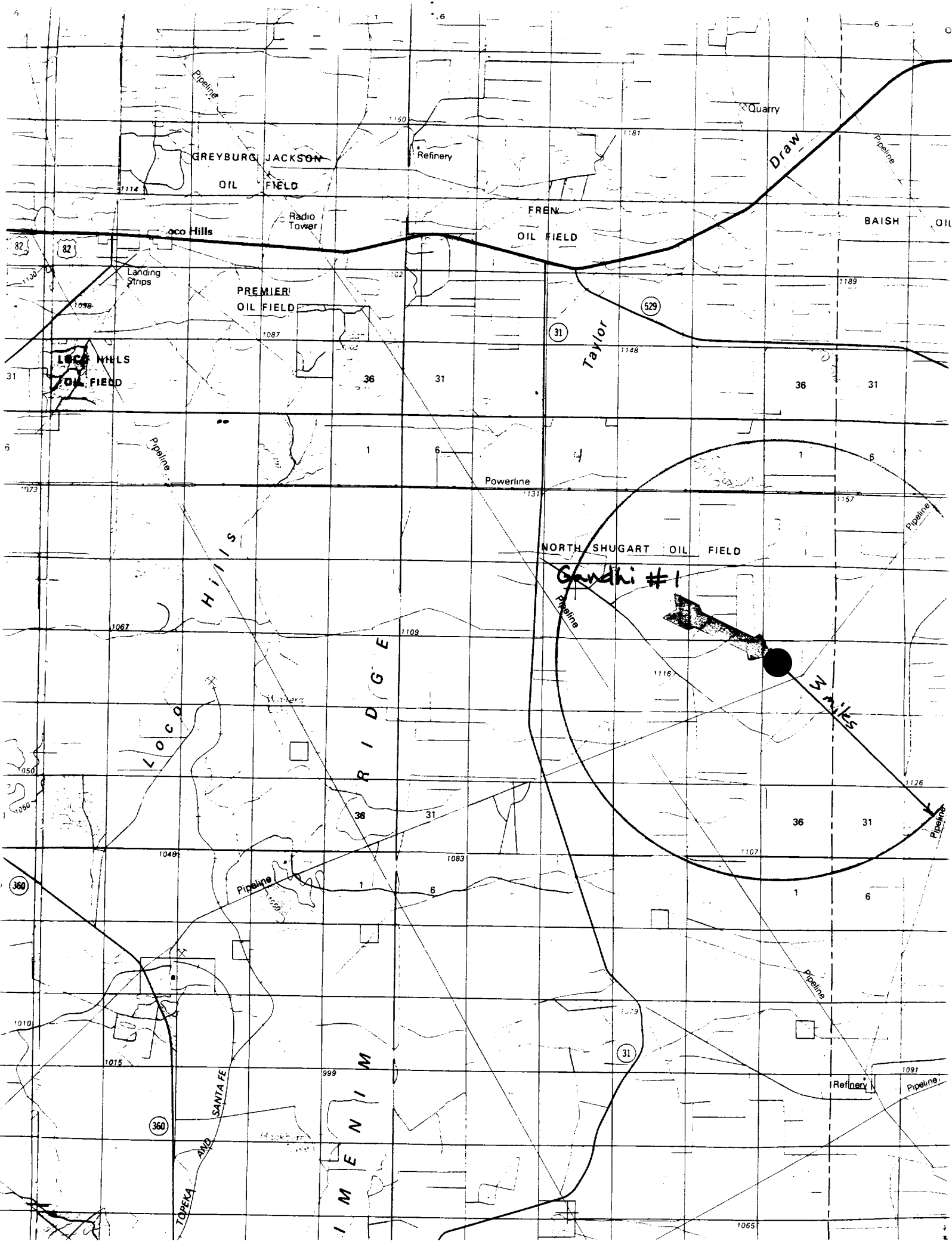
Gandhi #1

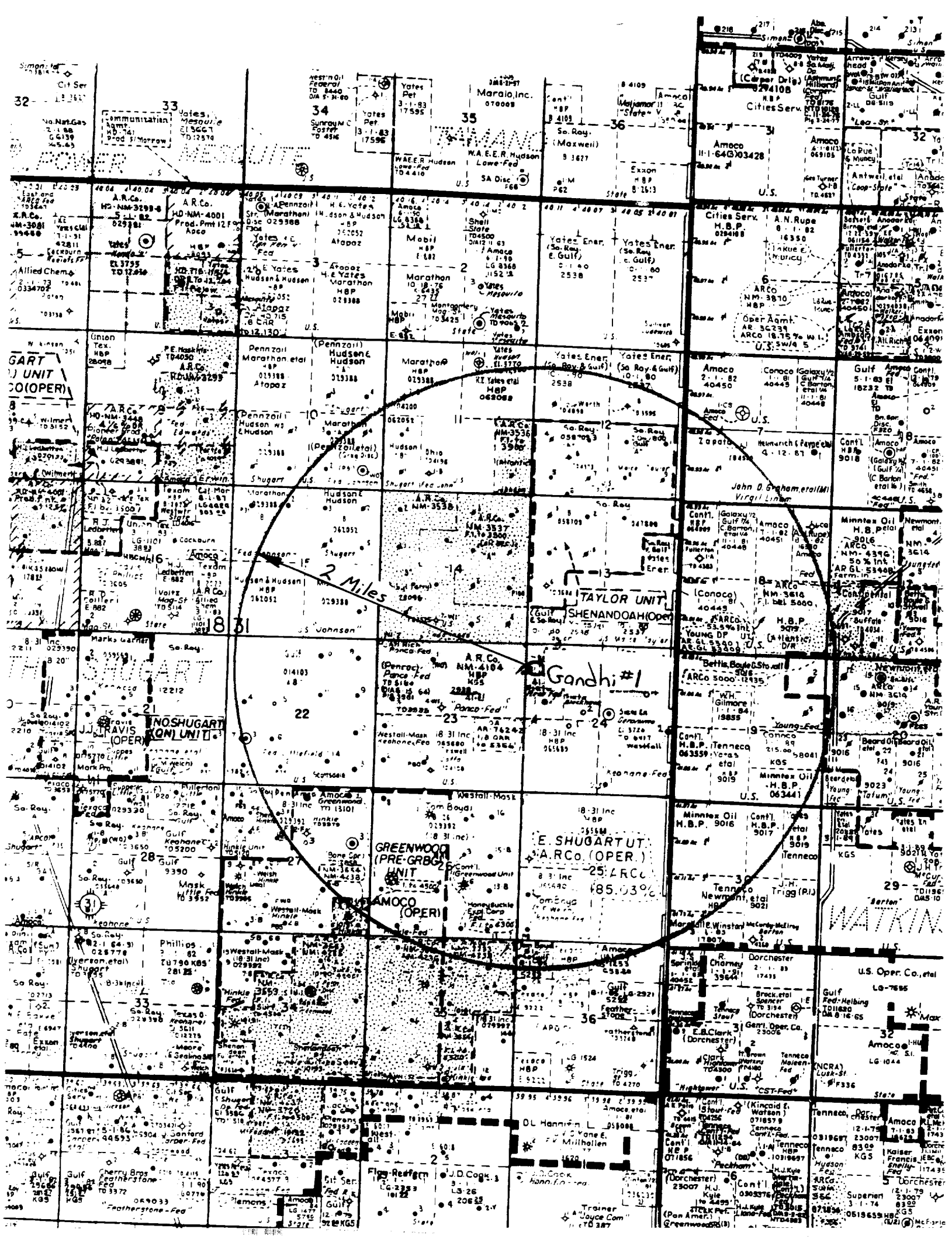
Choke Manifold

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

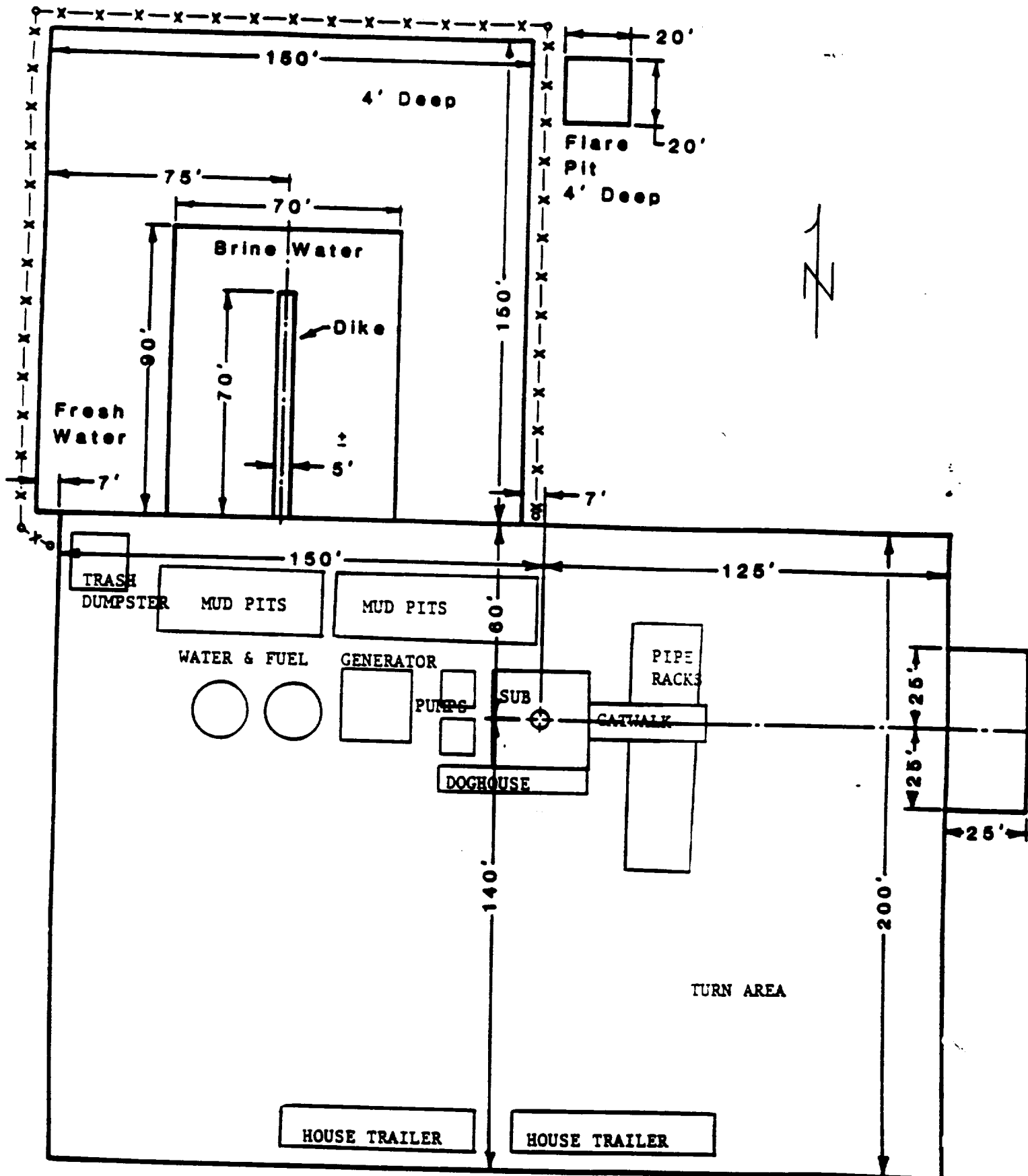
Adjustable Choke







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



NOTE: LOCATION MAY BE EXTENDED TO ACCOMODATE PRODUCTION FACILITIES.