(May 1963) N. M. O. C. C. COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

(Other instructions on reverse side)

Budget Bureau No. 42-R1425.

30-015-22749

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Perry R. Bass

3. ADDRESS OF OPERATOR: P. O. Box 2760, Midland, TX 79702

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FSL & 1780' FWL, Sec 10-22S-28E, Eddy Co., N.M.
At proposed prod. zone

RECEIVED
NOV 27 1978
O. C. C.
ARTESIA, OFFICE

5. LEASE DESIGNATION AND SERIAL NO.: LC 069142 -A
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME: Big Eddy Unit
8. FARM OR LEASE NAME: Big Eddy Unit
9. WELL NO.: 68
10. FIELD AND POOL, OR WILDCAT: Wildcat
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 10 T-22S, R-28E
12. COUNTY OR PARISH: Eddy
13. STATE: New Mexico

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 10 miles East of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 1780'
16. NO. OF ACRES IN LEASE: 2,352.62
17. NO. OF ACRES ASSIGNED TO THIS WELL: 320
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED OR APPLIED FOR, ON THIS LEASE, FT.:
19. PROPOSED DEPTH: 13,000'
20. ROTARY OR CABLE TOOLS: Rotary
21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3114.8' GL
22. APPROX. DATE WORK WILL START*: Upon approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	65	40'	25 sx
15"	11 3/4"	42	400'	290 sx
11"	8 5/8"	24 & 28	2650'	925 sx
7 7/8"	5 1/2"	17	TD	800 sx

Drilling Procedure, BOPE Diagram, Anticipated formation tops and Surface Use Plans are attached.

Gas is dedicated

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 Jane Young TITLE Engineer Assistant DATE 10-24-78

(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE 11-21-78

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

NMOCC COPY

United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Drawer U
Artesia, New Mexico 88210

November 21, 1978

PERRY R. BASS
Big Eddy Unit Well No. 68
1980 FSL 1780 FWL Sec. 10, T22S, R28E
Eddy County Lease No. LC-069142-A
Above Data Required on Well Sign

Perry R. Bass
P. O. Box 2760
Midland, Texas 79702

Gentlemen:

Your APPLICATION FOR PERMIT TO DRILL the above-described well to a depth of 13,000 feet to test the Morrow is hereby approved subject to compliance with the OIL AND GAS OPERATING REGULATIONS (30 CFR 221) and the following conditions:

1. Drilling operations authorized are subject to compliance with the attached General Requirements for Oil and Gas Operations on Federal Leases, dated July 1, 1978.

2. Prior to commencing construction of road, pad, or other associated developments, operator will provide the dirt contractor with a copy of the Surface Use Plan and these Conditions of Approval including the attached General Requirements.

3. Submit a Daily Report of Operations from spud date until the well is completed and the Well Completion Report (form 9-330) is filed. The report should be not less than 8" x 5" in size and each page should identify the well.

4. All permanent above-ground structures and equipment shall be painted in accordance with the attached Painting Guidelines. The color used should simulate sandstone brown (Federal Standard Color No. 595A, color 20318 or 30318).

5. Before drilling below the 8-5/8" casing, the blowout preventer assembly will consist of a minimum of one annular type and two ram type preventers.

6. A kelly cock will be installed and maintained in operable condition.

7. After setting the 8-5/8" casing string and before drilling into the Wolfcamp formation, the blowout preventers and related control equipment shall be pressure tested to rated working pressures by an independent service company. Any equipment failing to test satisfactorily shall be repaired or replaced. This office should be notified in sufficient time for a representative to witness the tests and shall be furnished a copy of the pressure test report.

8. Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be installed and operating before drilling into the Wolfcamp formation and used until production casing is run and cemented. Monitoring equipment shall consist of the following:

   (1) A recording pit level indicator to determine pit volume gains and losses.

   (2) A mud volume measuring device for accurately determining mud volume necessary to fill the hole on trips.

   (3) A flow sensor on the flow-line to warn of any abnormal mud returns from the well.

9. Please note special stipulation No. 13 of the attached surface use stipulations.

Sincerely yours,

(Orig. Sgd.) ALBERT R. STALL

Albert R. Stall
Acting District Engineer

copy to USGS

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

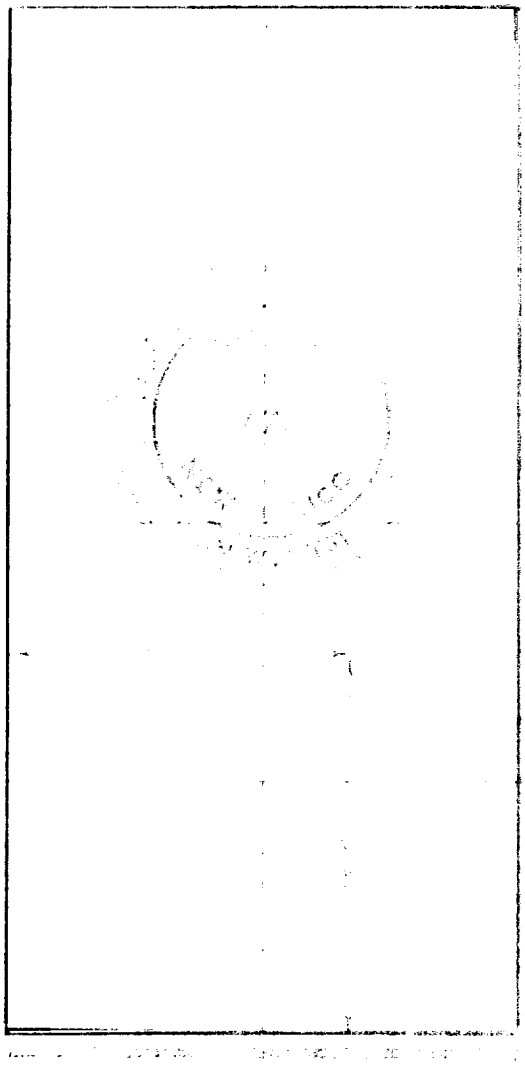
Perry R. Bass

K 10

WILDCAT

320

✓ Unit



Gene A. Young

GENE A. Young

Engineer Assistant

Perry R. Bass

10-24-78

October 12, 1978

DRILLING PROCEDURE

Big Eddy Unit #68

LOCATION: 1980' FSL & 1780' FWL, Sec 10, T-22S, R-28E, Eddy Co., New Mexico

CONDUCTOR PIPE: 16" Conductor will be set at ± 40' with rathole machine and cemented to the bottom of the cellar with ready-mix.

SURFACE CASING: A 15" hole will be drilled to 400' with fresh water gel spud mud, 8.5 ppg, 40-50 viscosity. Loss circulation material will be used if needed. It may be necessary to dry drill. The casing will be 11 3/4", 42#/ft, H-40 ST&C run with guide shoe, insert float and three centralizers. A cement basket may be needed if circulation is not gained before running casing. The casing is to be cemented to surface with 290 sx Class "C" + 2% $CaCl_2$, (1/4#/sx Flocele if needed) 14.8 ppg, 1.32 ft^3/sx, 100% excess.

NIPPLE UP: The casing head will be an 11 3/4" SW x 12", 3000 psi WP Flange. Minimum BOPE is 2 hydraulic operated rams 10", 3000 WP, BEPCO II. (attached) Pressure test stack, choke manifold and surface casing to 1000 psi before drilling plug.

INTERMEDIATE CASING: An 11" hole will be drilled to ± 2650' (T/Delaware) with 10 ppg brine water with a 9+ ph. Viscosity should be maintained between 34-37 sec. with salt gel. Loss circulation may occur around 1000-2650'. If loss circulation occurs, ground paper may be added as needed. Gross losses generally result in dry drilling. A caliper survey should be run to determine the required cement volume.

8 5/8" Casing Design for 2650'

0-40'	40'	28#/ft	S-80	ST&C
40-2580'	2540'	24#/ft	K-55	ST&C
2580-2650'	70'	28#/ft	S-80	ST&C

The casing will be run with dual float equipment and centralizers on bottom 3 joints. The casing will be cemented in two stages as follows:

1. A DV tool set at 800' with 2 centralizers and 2 cement baskets below DV tool.

2. Cement 1st stage with approx. 475 sx Hallco-Lite with 2% $CaCl_2$ + 1/4#/sx Flocele, tailed in with 200 sx Class "C" with 2% $CaCl_2$. WOC 4 hours.

3. Cement 2nd stage with approx. 150 sx Hallco-Lite with 2% $CaCl_2$ + 1/4#/sx Flocele, tailed in with 100 sx Class "C" with 2% $CaCl_2$.

NIPPLE UP: The BOP's should be removed and the 11 3/4" head cut off and removed. An 8 5/8" 5000 psi WP, SW x 10", 5000 psi WP flanged RJT casing spool should be welded on the 8 5/8" cut off. The 8 5/8" above the 11 3/4" cut off should be as short as possible. Cement should stand to the top of the 11 3/4" cut off. A few sacks of cement should be left on the ground to

grout between the 8 5/8" and 11 3/4" if the BOP stack is unstable. Nipple up the BOP's as per BEPCO IV. (attached) BOP's and choke manifold should be hydrostatically tested to 5000 psi. Before drilling cement plug, test 8 5/8" casing to 2000 psi and after drilling cement plug and 5' of new hole test casing seat to 600 psi. (equivalent 11.6 ppg)

PRODUCTION CASING: Drill a 7 7/8" hole from ± 2650' to ± 12,600'. The drilling fluid will be a fresh water lime system (pH 9) from ± 2650' to ± 9550'. (T/Wolfcamp) From ± 9550' to ± 11,300' (T/Atoka) the drilling fluid should be a 10 ppg brine plus 3% KCL with lime system (pH 9). From ± 11,300' to TD (12,600') an 11.4 ppg brine - Drispac 3% KCL system with pH 9, water loss 10 cc or less, and viscosity of 38-40 should be used.

A mud gas separator and rotating head should be installed before reaching 9550' (T/Wolfcamp).

EVALUATION: The following logs will be ran at TD: BHC Sonic-Gr and DIL-RXO from 400'-T/Bone Springs ± 6200'. From ± 6200' - TD a CNL-FDC w/Gr and DLL-RXO will be run. A mud logger will be on location from 2650' (T/Delaware) - TD. A consulting geologist will be on location from ± 10,950' (T/Strawn) - TD. It may be necessary to whole core a Ramsey show. Drill stem test will be run in zones of interest. Sidewall cores will be taken throughout the Delaware Sand after logging.

PRODUCTION CASING: 5 1/2" casing will be run with a float shoe and float collar. The casing will be centralized and ruff-coated through potential pay zones. The cement volume should be calculated from a caliper log to return cement 1000' above the top of the Wolfcamp or to about 8550'. The cement volume will be about 800 sx 50-50 Pozmix Class "H" w/2% gel + 0.5% CFR-2 + 0.8% Halad 22 - 6#/sx KCL, 14.6 ppg, 1.32 ft^3/sx, 50% excess.

5 1/2" Production Casing

0-2650'	2650'	17#/ft	N-80	LT&C
2650-5980'	3330'	17#/ft	K-55	LT&C
5980-10,370'	4390	17#/ft	N-80	LT&C
10,370-12,600'	2230'	17#/ft	S-95	LT&C

NIPPLING UP: The tubing head will be 10" 5000 WP x 6" 5000 WP. The rig will be moved off after the tubing head is installed.

TIME: This well is estimated to require 52 days from spud till move off.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Big Eddy Unit #68

1980' FSL & 1780' FWL

Sec 10-22S-28E

Eddy Co., New Mexico

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction, activities, and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to rehabilitate the surface after completion of operations so that an appraisal can be made on environmental effects.

1. Existing roads including location of exit from main highway Exhibit "A" is a portion of a map showing existing road. Existing road is obtained by traveling approx. 2 1/2 miles NE of Carlsbad and turning right at the Sheriff's Posse Roping Arena. The existing road is approx. 5 1/2 miles down this road.

2. Planned access road Exhibit 'A' and "B" are drawings of existing roads. These existing roads that are connected to the water line road will be improved. There will be no more than 10-20' of access road built. These roads will be improved with watered and compacted caliche. There are no gates, culverts or cattleguards anticipated.

3. Location of existing wells Exhibit "A" shows surrounding existing wells.

4. Location of tank battery and flow lines If a commercial well is obtained, production facilities will be located on the well pad. Refer to Exhibit "C".

5. Location and type of water supply Fresh water will be hauled from the City of Carlsbad. Brine water will be hauled brom Brine Water Station 3 1/2 miles east and 2 1/2 miles south of Carlsbad.

6. Source of construction material Exhibit "A" shows approx. location of caliche source.

7. Methods of handling waste disposal:

A. Drill cuttings will be disposed of in the drilling pits.

B. Drilling fluids will be allowed to evaporate in the drilling pits until pits are dry.

C. Water produced during tests will be disposed of in the drilling pits. 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, paper, garbage, and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste materials will be contained to prevent scattering by the wind. Location of trash pit is shown in Exhibit "C".

F. Trash and debris will be buried or removed from the well site within 30 days after finishing drilling and/or completion operations. (Note: All trash left on well site to be removed or buried within 30 days must be contained to prevent scattering.)

8. Ancillary facilities None required

9. Well site layout Exhibit "C" shows the approx dimensions of the well pad and reserve pit as well as the relative location of major rig components, trash pit, etc. Only minor leveling of the well site will be required. No significant cuts or fills will be necessary. The reserve pit will be lined with plastic. The pit and pad area have been staked and flagged.

10. Plans for restoration of surface:

A. Producing well - all pits will be cut, filled, and leveled as soon as practical to original conditions with rehabilitation to commence following removal of drilling and completion equipment.

B. Dry hole - same as above with dry hole marker to be installed and surface reseeded if required. At the same time of final abandonment, USGS and BLM restoration stipulations will be complied with.

11. Other information:

A. Terrain Relatively flat

B. Soil Sandy

C. Vegetation Sparse, primarily mesquite with very little grass.

D. Surface use Grazing

E. Surface water None

F. Water wells There is a windmill approx. 2 miles west of the location.

G. Residences and buildings There is a water line station approx. 2 miles NW of location.

H. Surface ownership The well site and road are on Federal Land

I. Well signs posted at each drilling site.

J. Open pits - all pits containing liquid or mud will be fenced.

K. Archaeological resources None observed

12. Operator's representative
(Field personnel responsible for compliance with development plan for surface use)

DRILLING
Mike Cure
Box 2760
Midland, Texas 79702
915-684-5723

PRODUCTION
Al Gallas
Box 1043
Kermit, Texas 79745
915-563-0656
(or) Mike Cure
Box 2760
Midland, Texas 79702
915-684-5723

13. Certification:

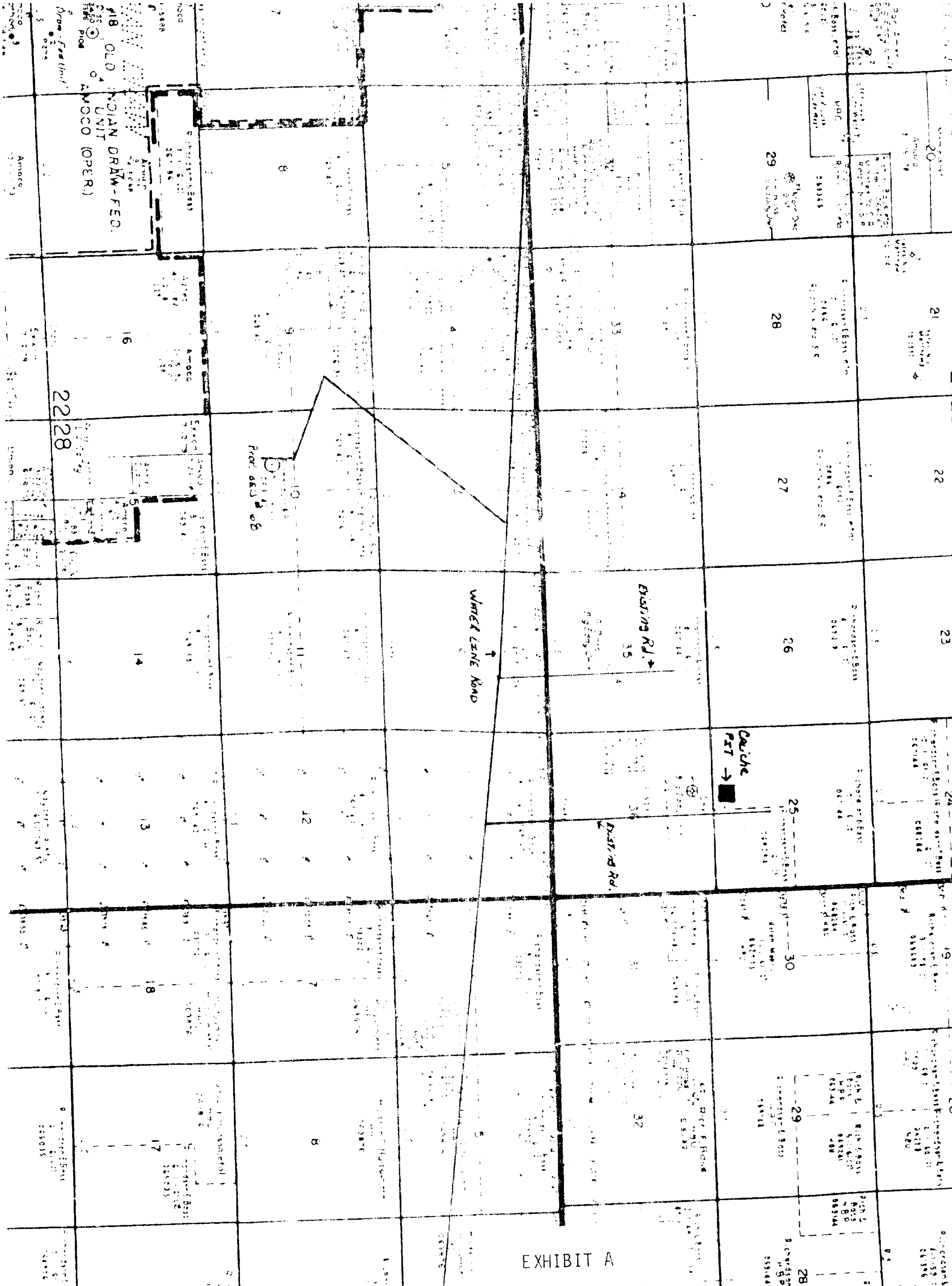
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Bass Enterprises Production Company and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

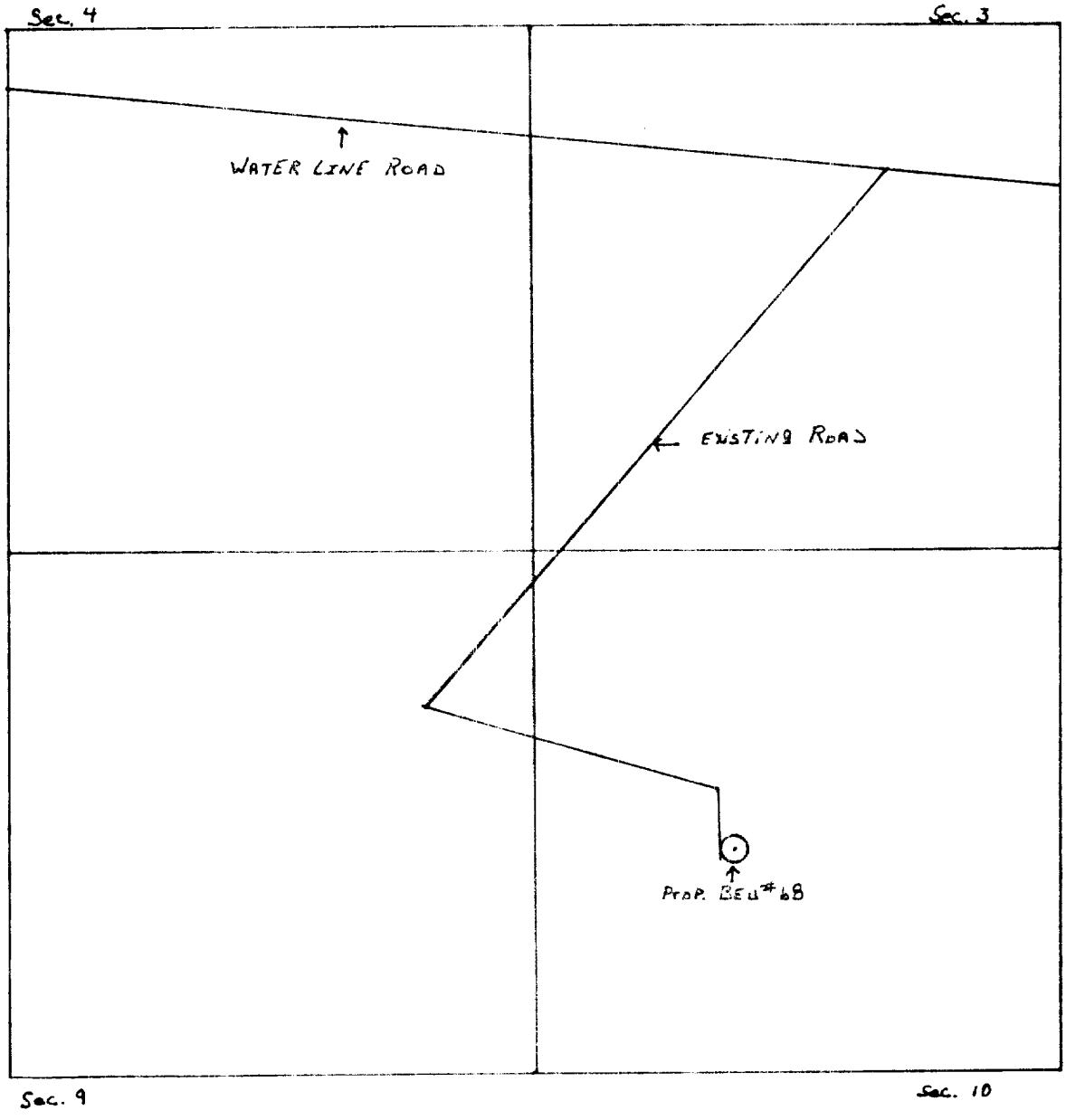
10-25-78
(Date)

Gene Young
(Name)

Engineering Assistant
(Title)

GAY/ak


OLD INDIAN DRAW-FED. UNIT
AMOCO (OPER.)
WATER LINE ROAD
Existing Rd.
Existing Rd.
Caliche PIT
CHICO
EXHIBIT A



T-22-S R-28-E

EXHIBIT B

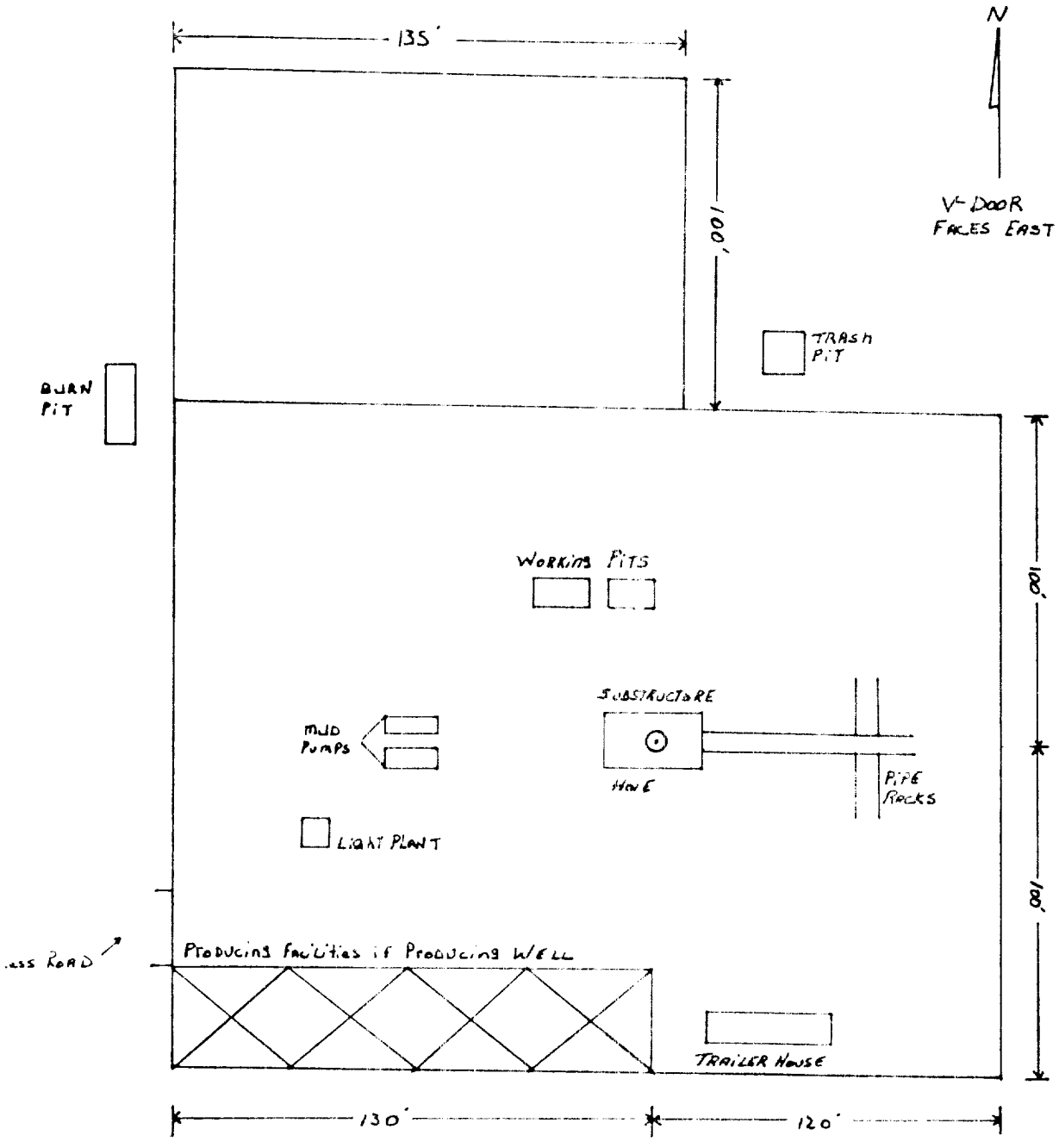
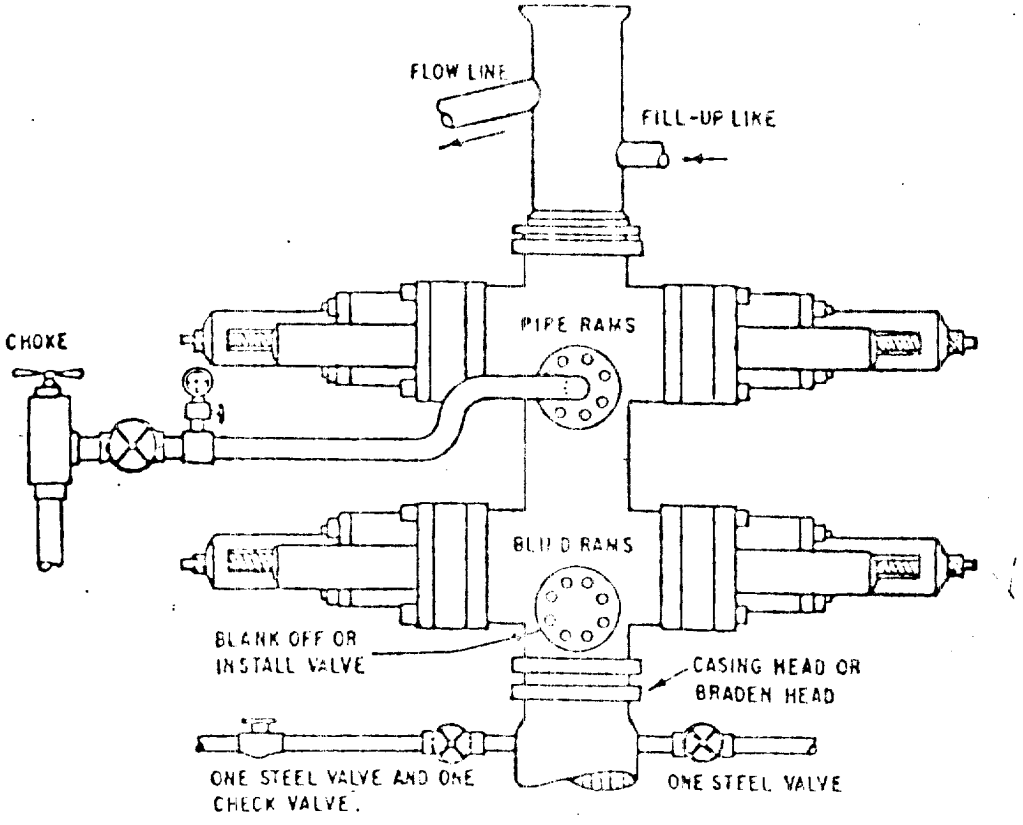

135'
N
V-DOOR FACES EAST
100'
TRASH PIT
BURN PIT
WORKING PITS
100'
SUBSTRUCTURE
MUD PUMPS
HOLE
PIPE RACKS
LIGHT PLANT
ACCESS ROAD
PRODUCING FACILITIES IF PRODUCING WELL
TRAILER HOUSE
100'
130'
120'

EXHIBIT C

BIG EDDY #68

Anticipated Formation Tops

T/Salt	400'	(+2750')
B/Salt	2350'	(+ 800')
T/Delaware Mtn.	2650'	(+ 500')
T/Bone Springs	6200'	(-3050')
T/Wolfcamp	9550'	(-6400')
T/Strawn	10950'	(-7800')
T/Atoka	11300'	(-8150')
T/M. Morrow	12000'	(-8850')
T/L. Morrow	12300'	(-9150')
T/Barnett	12550'	(-9400')
TD	12600'	(-9450')



THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

A. ONE DOUBLE GATE BLOWOUT PREVENTER WITH LOWER RAMS BLIND AND UPPER RAMS FOR PIPE, ALL HYDRAULICALLY CONTROLLED. OPENING ON PREVENTERS BETWEEN RAMS.

B. OPENING TO BE FLANGED, STUDDED OR CLAMPED AND AT LEAST TWO INCHES DIAMETER.

C. ALL CONNECTIONS FROM OPERATING MANIFOLD TO PREVENTERS TO BE ALL STEEL HOSE OR TUBE A MINIMUM OF ONE INCH IN DIAMETER.

D. THE AVAILABLE CLOSING PRESSURE SHALL BE AT LEAST 15% IN EXCESS OF THAT REQUIRED WITH SUFFICIENT VOLUME TO OPERATE THE PREVENTERS.

E. ALL CONNECTIONS TO AND FROM PREVENTERS TO HAVE A PRESSURE RATING EQUIVALENT TO THAT OF THE B.O.P.'s.

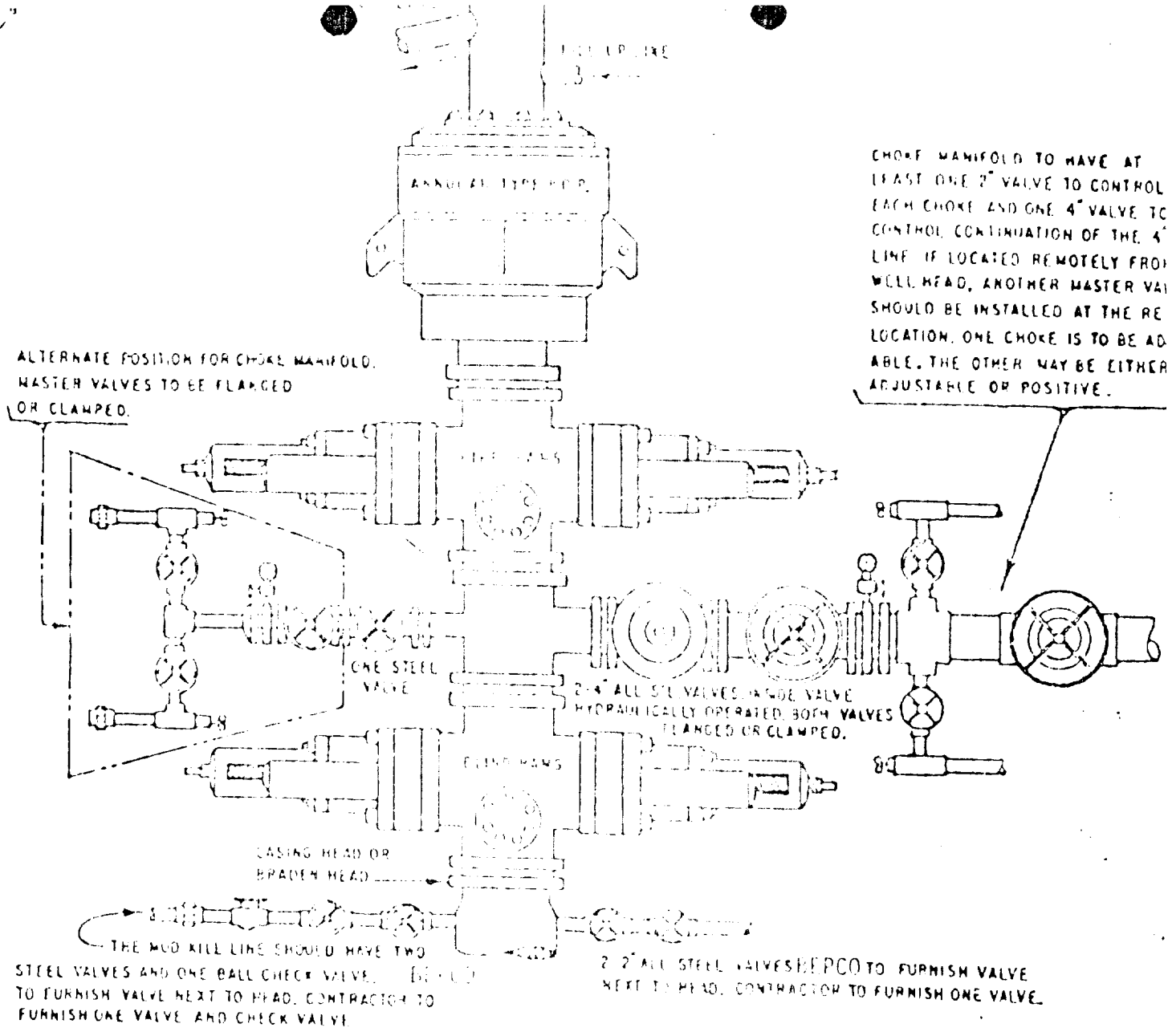
F. MANUAL CONTROLS TO BE INSTALLED BEFORE DRILLING CEMENT PLUG.

G. VALVE TO CONTROL FLOW THROUGH DRILL PIPE TO BE LOCATED ON RIG FLOOR.

H. CHOKE MAY BE EITHER POSITIVE OR ADJUSTABLE. Choke spool may be used between rams.

BEPCO II

ONE HYDRAULIC DUAL BLOWOUT PREVENTER



THE FOLLOWING CONSTITUTE MINIMUM BLOWOUT PREVENTER REQUIREMENTS

A. CONDITIONS MAY BE MET BY AN ANNULAR TYPE BLOWOUT PREVENTER ON TOP AND A CHOKE SPOOL BELOW AND EITHER
   (1) TWO RAM TYPE BLOWOUT PREVENTERS BELOW THE SPOOL, THE LOWER UNIT CONTAINING BLIND RAMS AND THE UPPER UNIT CONTAINI
   PIPE RAMS, OR
   (2) A DUAL BLOWOUT PREVENTER BELOW THE SPOOL WITH BLIND RAMS ON BOTTOM AND PIPE RAMS ON TOP.

B. OPENING ON CHOKE SPOOL TO BE FLANGED, STUDDED OR CLAMPED.

C. ALL CONNECTIONS FROM OPERATING MANIFOLDS TO PREVENTERS TO BE ALL STEEL HOSE OR TUBE A MINIMUM OF ONE INCH IN DIAMETER.

D. THE AVAILABLE CLOSING PRESSURE SHALL BE AT LEAST 1500 IN EXCESS OF THAT REQUIRED WITH SUFFICIENT VOLUME TO OPERATE THE B

E. ALL CONNECTIONS TO AND FROM PREVENTER TO HAVE A WORKING PRESSURE EQUIVALENT TO THAT OF THE B.O.P.'s.

F. MANUAL CONTROLS TO BE INSTALLED BEFORE REMOTE CONTROL SYSTEM IS C

G. KELLY COCK TO BE INSTALLED ON KELLY

H. INSIDE BLOWOUT PREVENTER TO BE AVAILABLE ON RIG FLOOR

I. DUAL OPERATING CONTROLS ONE LOCATED AT DRILLER'S POSITION AND THE OTHER LOCATED A SAFE DISTANCE FROM THE RIG FLOOR.

BEPCO 17

THREE CLOSURE HYDRAULIC BLOWOUT PREVENTERS