Form 9-331 C
(May 1963)

NM OIL ...
Drawer DD
Artesia, ... 88210

SUBMIT IN ...PLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-015-23969

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

C / S

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM 0486

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: ----

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

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

7. UNIT AGREEMENT NAME: BIG EDDY UNIT

8. FARM OR LEASE NAME: BIG EDDY UNIT

2. NAME OF OPERATOR: PERRY R. BASS ✓

9. WELL NO.: 87

3. ADDRESS OF OPERATOR: P. O. BOX 2760, MIDLAND, TEXAS 79702

10. FIELD AND POOL, OR WILDCAT: X BASS MORROW GAS

4. LOCATION OF WELL (Report location clearly and in accordance with any State requ... RECEIVED
At surface: 1980' FSL & 1980' FWL, SEC 28, T21S, R28E
At proposed prod. zone: Same as above
OCT 20 1981
O. C. D.
ARTESIA, OFFICE

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC. 28, T21S, R28E

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

12. COUNTY OR PARISH: EDDY — 13. STATE: NEW MEXICO

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 660'

16. NO. OF ACRES IN LEASE:

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.): GL 3182.5'

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
15"	11-3/4"	42#	1100' ±	800 sx circ. to surface
11"	8-5/8"	32#	2900' ±	700 sx circ. to surface
7-7/8"	5-1/2"	17#	TD	1100 sx

Drilling Procedure, BOPE diagrams, anticipated formation tops, and surface use plans are attached.

Gas is dedicated.

RECEIVED
SEP 29 1981
OIL & GAS
U.S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

Posted ID
API + NL Book
10-23-31

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 Stephen Smith TITLE ENGINEERING ASSISTANT DATE September 18, 198

(This space for Federal or State office use)

PERMIT NO. APPROVED (OLS Sgd.) GLORGE H. STEWART APPROVAL DATE

APPROVED BY TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

OCT 15 1981
FOR
JAMES A. GILLHAM
DISTRICT SUPERVISOR

*See Instructions On Reverse Side

1980

3182.5'	Morrow	Bass Morrow Gas	320

x Unit

Stephen Smith

Stephen Smith

Engineering Assistant

Perry R. Bass

September 18, 1981

DRILLING PROCEDURE

Big Eddy Unit #87

Location:

1980' FSL & 1980' FWL, Sec. 28, T21S, R28E

Conductor Casing:

40' ± of 16' conductor casing will be set with a rathole machine and cemented to the surface with ready-mix.

Surface Hole:

A 15" O.H. will be drilled to 1100' ± T/Capitan and 11-3/4" 42#/ft H-40 casing run to total depth. The surface casing will be cemented with 500 sx Halliburton Lite plus 8#/sx NaCl plus ¼#/sx Flocele tailed by 300 sx Class "C" plus 2% $CaCl_2$. Cement must be circulated to the surface.

Total WOC time is 12 hours.

Nippling Up 11-3/4" Casing:

After waiting 4 hours "nippling up" procedures may begin. An 11-3/4" SW 3000# WP x 12" 3000# WP casinghead will be welded in place. A set of hydraulic operated pipe and blind rams will then be installed. (See BEPCO II attached) and tested to 1000 psi with the rig pump.

The results of this test must be reported in the daily driller's log.

Intermediate Hole:

An 11" O.H. will then be drilled to 2900' (T/Delaware Mtn. Group) 8 5/8" casing will be run to total depth and cemented with approximately 450 sks Halliburton Lite plus ¼#/sx flocel, "tailed in" with 250 sx Class "C" with 2% $CaCl_2$ plus ¼#/sx flocel. Cement will be circulated to the surface.

A DV tool will be installed at approximately 1200' (100' into Capitan Reef) and the cement two staged, if lost circulation occurs in the reef.

Total WOC time for this casing string will be 24 hours.

Nippling Up 8-5/8" casing:

After waiting 4 hours "nippling up" procedures may begin. A 12" 3000# WP x 10" 5000# casing spool with 8-5/8" seals and bit guide will be installed.

A BOP stack consisting of hydril, pipe rams and blind rams will be installed as per BEPCO Drawing IV (attached). This BOP stack will be hydrostatically tested to 5000 psi (hydril 1500#) by Yellow Jacket. The USGS will be notified in sufficient time to witness the testing of the 8-5/8" BOP stack. A copy of the test results will also be furnished to the USGS.

The results of this test will be recorded in the daily driller's log.

Production Hole:

a 7-7/8" O.H. will then be drilled to T.D. (12600' ±). A PVT recorder, flow-show sensor and rotating head will be installed before drilling the Wolfcamp. (T/Wolfcamp @ 9000'±)

5½" casing will be run to T.D. This casing string will be cemented with approximately 900 sx Class "H" plus 5# KCl/sx plus 0.3% CFR-2, plus 0.6% Halad 22. The cement volume should be sufficient to bring the cement top 1000' above the Wolfcamp.

Time:

This well is estimated to take 49 days from spud to T.D.

Gary Gerhard

CASING DESIGN

BIG EDDY UNIT #87

SURFACE CASING

SEGMENT	SIZE	GRADE	THREAD	WEIGHT	TOP	BOTTOM	LENGTH
1	11-3/4	H-40	ST&C	42#	0±	1100'±	1100'±

INTERMEDIATE CASING

SEGMENT	SIZE	GRADE	THREAD	WEIGHT	TOP	BOTTOM	LENGTH
1	8-5/8"	K-55	ST&C	32#	0	2900'±	2900'±

PRODUCTION CASING

SEGMENT	SIZE	GRADE	THREAD	WEIGHT	TOP	BOTTOM	LENGTH
1	5-1/2"	S-95	LT&C	17#	9830'±	12,600'±	2770'±
2	5-1/2"	N-80	LT&C	17#	0	9,830'±	9830'±

Stephen Smith

Stephen Smith

SS/lb

BIG EDDY UNIT #87

ANTICIPATED FORMATION TOPS (GL 3182')

Rustler	250'	(+2932')
Base Rustler	400'	(+2782')
T/Capitan Reef	1100'	(+2082')
T/Dela. Sand	2900'	(+282')
T/Bone Springs	5500'	(-2318')
T/Wolfcamp	9000'	(-5818')
T/Strawn	10,700'	(-7518')
T/Atoka	11,200'	(-8018')
T/Middle Morrow	11,500'	(-8318')
T/Lower Morrow	11,800'	(-8618')
T/Barnett	12,200'	(-9018')

Stephen Smith

Stephen Smith

BIG EDDY UNIT NO. 87

MUD PROGRAM

FROM	TO	TYPE MUD	WEIGHT	VISCOSITY	% OIL	WATER LOSS
0'	1100' ±	FW Gel	8.4 - 9.0	34 - 40	0	NC
1100' ±	9000' ±	FW	8.4 - 8.6	28 - 30	0	NC
9000' ±	11,200' ±	BW Gel	9.9 - 10.2	28 - 35	0	10cc or less
11,200' ±	TD	BW Polymer	11.4 - 11.6	35 - 40	0	10cc or less

Stephen Smith

Stephen Smith

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

RIG EDDY UNIT #87

1980' FSL & 1980' FWL

Sec 28, T-21-S, R-28-E

Eddy County, 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 Existing road is obtained by traveling approximately 5 miles northeast of Carlsbad on Highway 62-180. Turn due east for 1/2 mile, then southwest for 2 miles. Location is approximately 3500' due east. See Exhibit "A".

2. Planned access road Exhibit "A" is a map showing the planned access road. This road will be 12' wide and 3500' long. The road will be constructed of water compacted caliche with no turnouts, cattleguards, gates or culverts.

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

4. Location of tank battery and flow lines

If a commerical well is obtained, production facilities will be located on the well pad. Refer to Exhibit "B".

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

6. Source of construction material Exhibit "A" shows approximate 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 "B".

   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 "B" shows the approximate dimensions of the well pad and reserve pit, as well as the relative location of major rig components, trash pits, etc. Only one minor levelling 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 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 water well approximately 1 mile east of location.

G. Residences and buildings None within one mile of location.

H. Surface ownership The well site and access 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 Gallar
Box 1043
Kermit, Texas 79745
915-563-0656
(or) Alan Roberts
Box 2760
Midland, Texas 79702
915-684-5723

13. Certification:

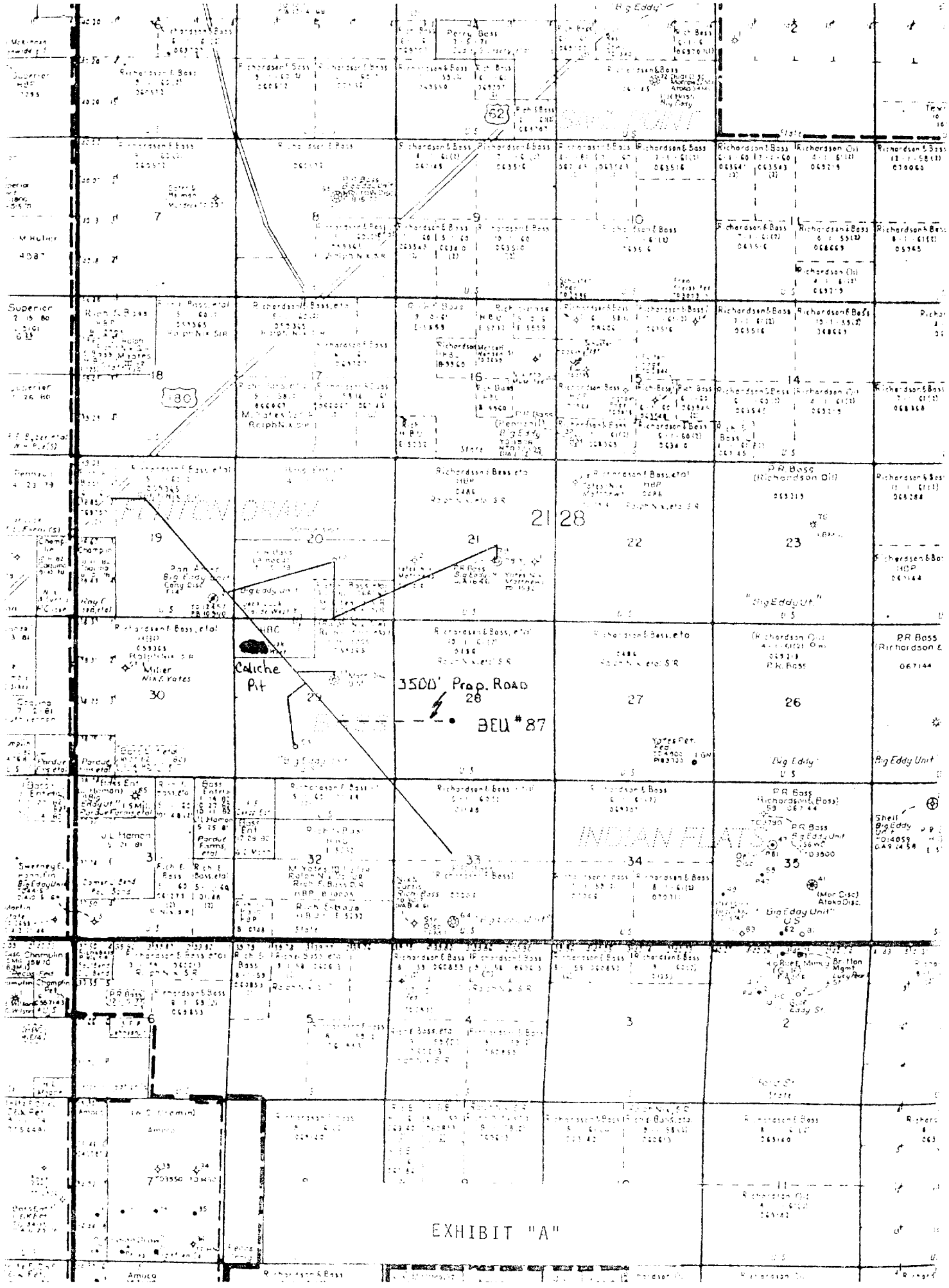
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated 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.

September 18, 1981
(Date)

Stephen Smith
(Name) Stephen Smith

Engineering Assistant
(Title)

CEB:gp


Caliche Pit
3500' Prop. Road
BEU #87
"Big Eddy Unit"
EXHIBIT "A"

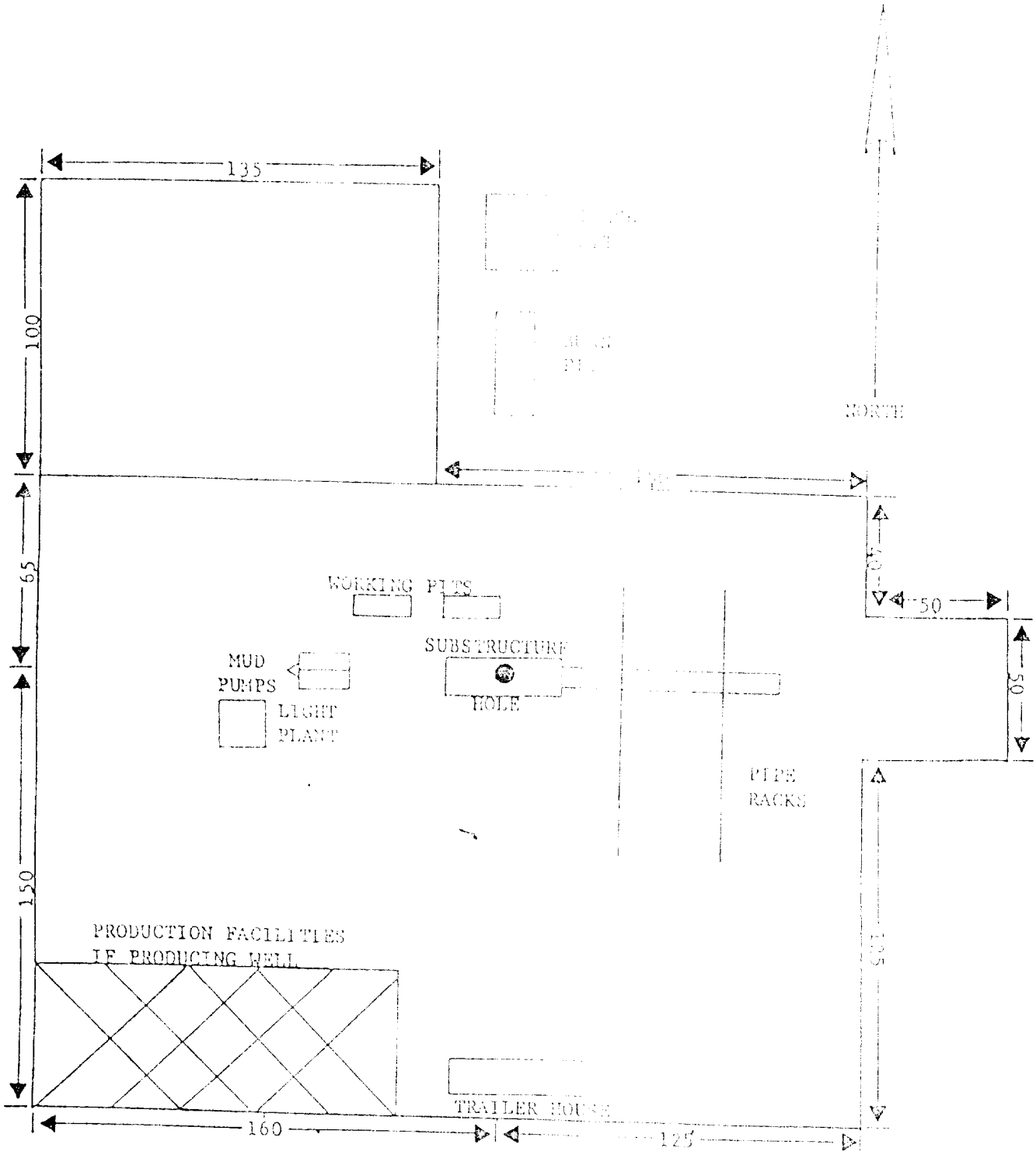
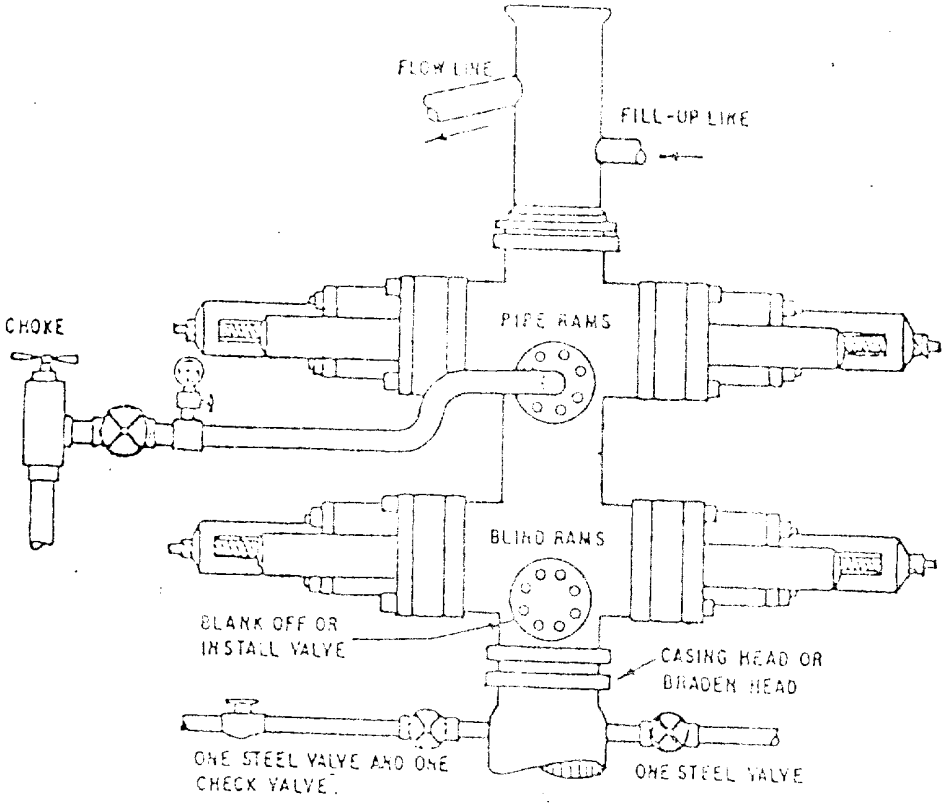

135
100
65
150
160
125
50
50
50
NORTH
WORKING PITS
SUBSTRUCTURE
HOLE
MUD
PUMPS
LIGHT
PLANT
PIPE
RACKS
PRODUCTION FACILITIES
IF PRODUCING WELL
TRAILER HOUSE

EXHIBIT "B"



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.

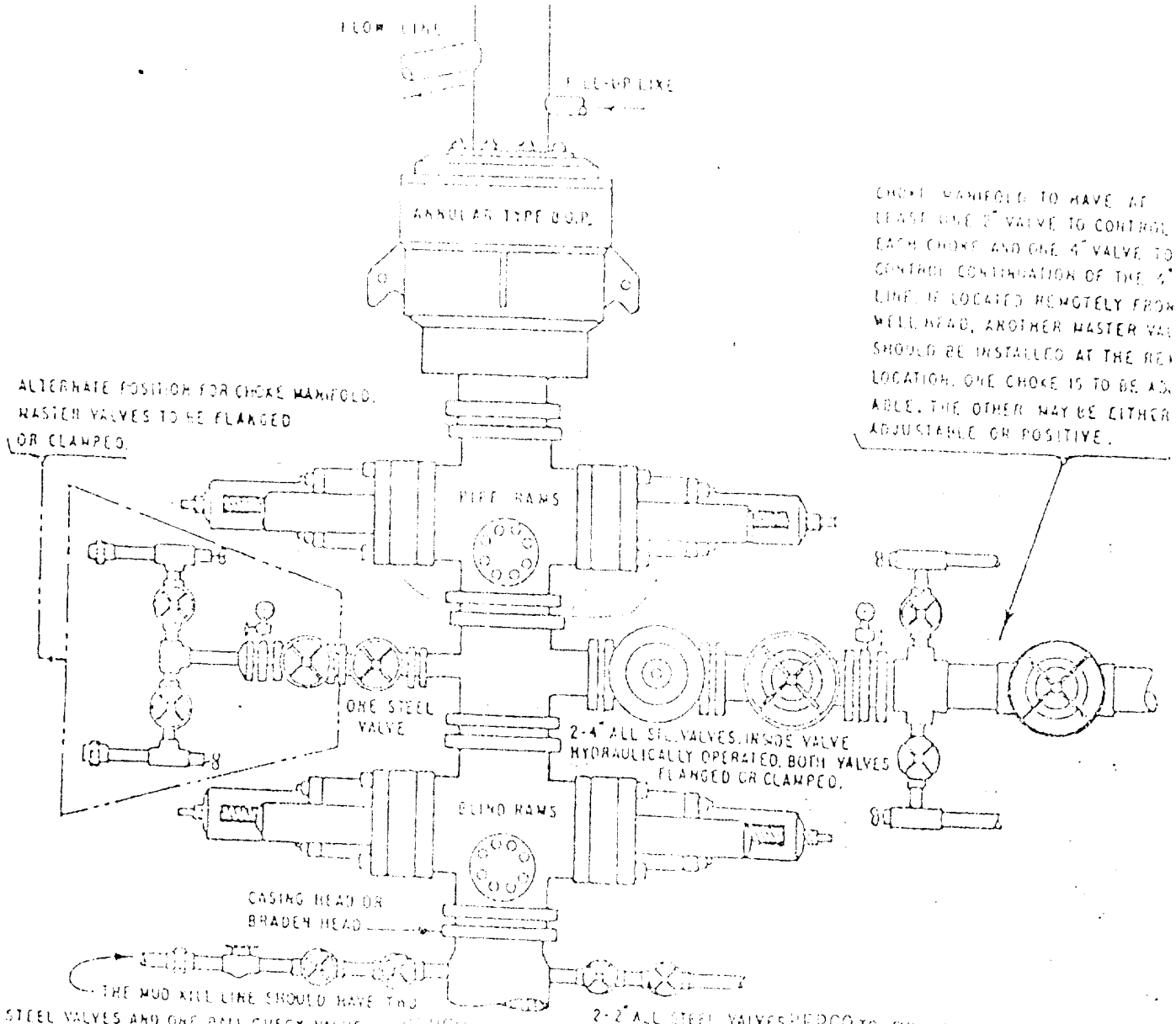
F. MANUAL CONTROLS TO BE INSTALLED BEFORE DRILLING CEMENT PLUG.

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 15% IN EXCESS OF THAT REQUIRED WITH SUFFICIENT VOLUME TO OPERATE THE B

E. ALL CONNECTIONS TO AND FROM PREVENTER 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. KELLY COCK TO BE INSTALLED ON KELLY.

H. INSIDE BLOWOUT PREVENTER TO BE AVAILABLE ON RIG FLOOR.

I. DUAL OPERATING CONTROLS ONE LOCATED BY DRILLERS POSITION AND THE OTHER LOCATED A SAFE DISTANCE FROM THE RIG FLOOR.

BEPCO IV

THREE CLOSURE HYDRAULIC BLOWOUT PREVENTERS