OPER. OGRID NO. 13925
PROPERTY NO. 20068
POOL CODE 83280
EFF. DATE 12/19/96
API NO. 30-025-33728

Rcvd 11-19-96

Form 3160-3
(July 1992)

UNIT
DEPARTMEN
BUREAU OF L

FORM APPROVED
OMB NO. 1004-0136
Expires February 28, 1995

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO: NM-57285

1a. TYPE OF WORK: Drill [X] Deepen [ ]

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

b. TYPE OF WELL: Oil Well [ ] Gas Well [X] Other — Single Zone [ ] Multiple Zone [ ]

7. UNIT AGREEMENT NAME: N/A

2. NAME OF OPERATOR: Mallon Oil Company

8. FARM OR LEASE NAME, WELL NO.: Mallon 33 Federal

3. ADDRESS AND TELEPHONE NO.
P.O. Box 3256
Carlsbad, NM 88220 (505) 885-4596

9. API WELL NO.: 2

10. FIELD AND POOL, OR WILDCAT: Quail Ridge, Morrow

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 660' FNL and 1980' FWL (NE NW) Unit C
At proposed prod. zone: 660' FNL and 1980' FWL (NE NW) Unit C

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 33, T19S-R34E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE *: 34 miles east of Hobbs, New Mexico

12. COUNTY OR PARISH: Lea County | 13. STATE: 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	17. NO. OF ACRES ASSIGNED TO THIS WELL
660'	560	320

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	19. PROPOSED DEPTH	20. ROTARY OR CABLE TOOLS
2640'	13,800'	Rotary

21. ELEVATIONS (SHOW WHETHER DF, RT, GR, Etc.): 3685 GR
22. APPROX.DATE WORK WILL START

23. PROPOSED CASING AND CEMENTING PROGRAM

CAPITAN CONTROLLED WATER BASIN

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	20"	42#	40'	Ready mix to surface
17-1/2"	13-3/8"	48#	500'	270 sx or circ to surface
12-1/4"	9-5/8"	36# & 40#	5000'	800 sx Poz, 200 sx "C"
7-7/8"	5-1/2"	17#	13,800'	930 sx "C" modified 100 sx Class C

Mallon Oil Company proposes to drill to a depth sufficient to test the Morrow formation for gas. If productive, 5-1/2" casing will be cemented at TD. If non-productive, the well will be plugged and abandoned in a manner consistent with Federal regulations. Specific programs as per on-shore Oil and Gas Order No. 1 are outlined in the following attachments:

Drilling Program

Exhibit 1: Blow Out Preventor Equipment/Plan
Exhibit A: Location and Elevation Plat
Exhibit B: Existing Roads/Planned Access Roads
Exhibit C: One Mile Radius Map
Exhibit D: Drilling Site Layout
Exhibit E: Production Facilities
Exhibit F: Hydrogen Sulfide Drilling Plan

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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: Duane C. Winkler TITLE: Production Superintendent DATE 11/18/96
Duane C. Winkler

(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 (ORIG. SGD.) TONY L. FERGUSON TITLE ADM. MINERALS DATE 12/13/96

***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.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-33728	83280	Quail Ridge Morrow

Property Code	Property Name	Well Number
20068	MALLON 33 FEDERAL	2

OGRID No.	Operator Name	Elevation
13925	MALLON OIL COMPANY	3685

Surface Location

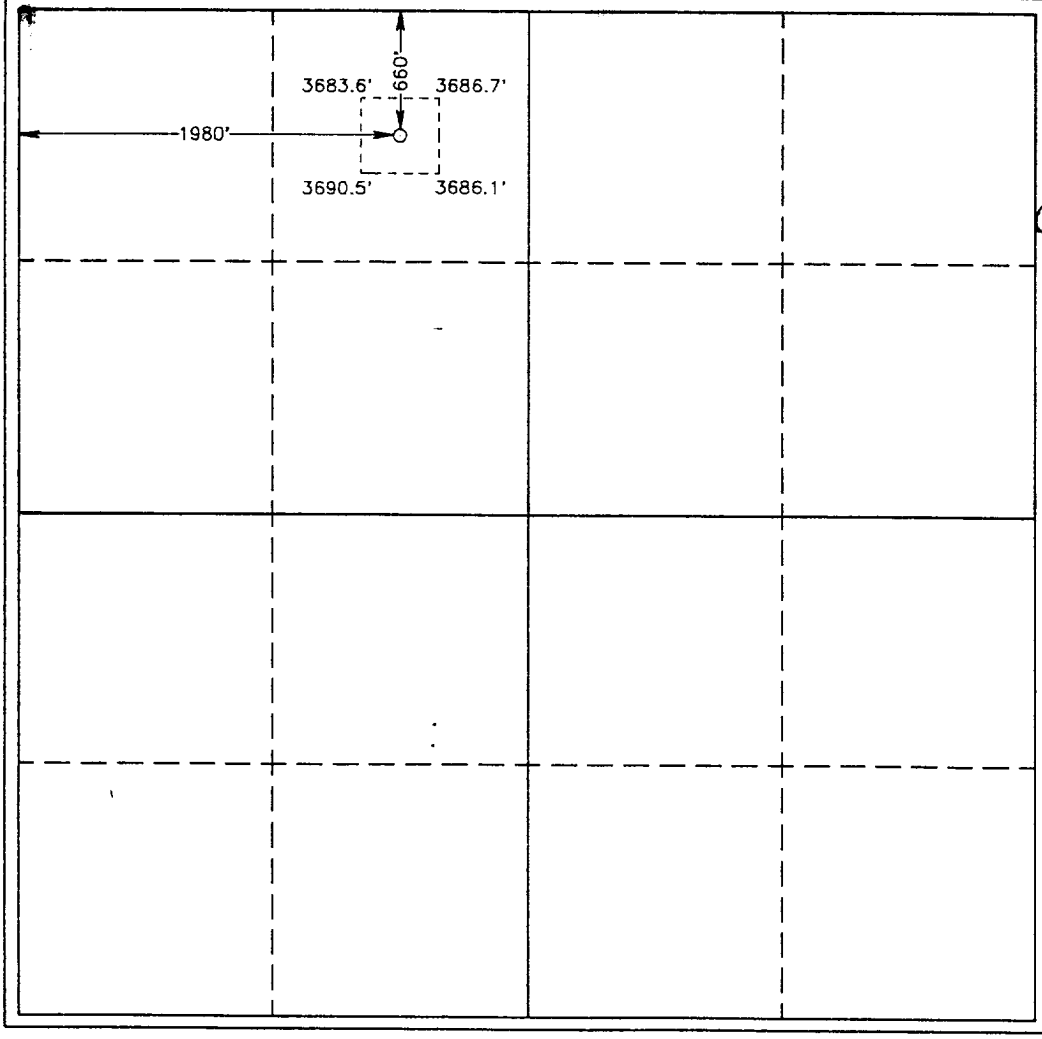
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	33	19 S	34 E		660	NORTH	1980	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

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

Duane C. Winkler
Signature

Duane C. Winkler
Printed Name

Production Superintendent
Title

11/13/96
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 supervison, and that the same is true and correct to the best of my belief.

NOVEMBER 9, 1996

Date Surveyed JLP
Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
REGISTERED PROFESSIONAL SURVEYOR

11-13-96

W.O. Num. 96-11-1470

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239
GARY L. EIDSON, 12641

Exhibit A

DRILLING PROGRAM

Attached to Form 3160-3
Mallon Oil Company
Mallon 33 Federal No. 2
NE NW 660' FNL and 1980' FWL Unit C
Sec. 33, T19S-R34E
Lea County, New Mexico
Lease Number: NM-57285

1. Geologic Name of Surface Formation : Quaternary Alluvium

2. Estimated Tops of Important Geologic Markers

Quaternary Alluvium	Surface	San Andres	5157'
Rustler	1658'	Delaware	6070'
Top of Salt	1687'	Bone Springs	8136'
Base of Salt	3232'	Wolfcamp	10,861'
Yates	3423'	Strawn	12,164'
7 Rivers	3785'	Atoka	12,416'
Queen	4463'	Morrow	12,747'
Grayburg	4925'	TD	13,800'

3. The Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Quaternary Alluvium	300'	Fresh water
Bone Springs	8400'	Oil
Morrow	13,500'	Gas

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing at 500' and circulating cement back to surface. Potash will be protected by setting 9-5/8" casing at 5000' and circulating cement back to surface.

Any shallower zones above TD which contain commercial quantities of oil and/or gas will have cement circulated across them by inserting a cementing stage tool into the 5-1/2" production casing which will be run to TD.

4. Proposed Casing Program:

Hole Size	Interval	Casing OD	Casing weight grade, Jt., Type Cond
25"	0'-40'	20"	Conductor, 0.25" wall thickness
17-1/2"	0'-500'	13-3/8"	48# H40 STC
12-1/4"	500'-5000'	9-5/8"	500'-2500' 9-5/8" 36# K-55 STC 2500'-5000' 9-5/8" 40# S80 STC
7-7/8"	5000'-TD	5-1/2"	0'-2800' 5-1/2" 17# N80 Butt 2800'-9000' 5-1/2" 17# N80 LTC 9000'-TD 5-1/2" 17# S95 LTC

Cement Program:

20" Conductor casing:	Cemented with ready-mix to surface
13-3/8" Surface casing:	Lead Slurry: 270 sks 35:65 Poz + 6% gel + 1/2# Celloseal + 2% CaCl2 Tail: 200 sks Class C + 1/4# Celloseal + 2% CaCl2
9-5/8" Intermediate casing:	Lead Slurry: 800 sks 35:65 Poz + 6% gel + 1/4# Celloseal + 2% CaCl2. Tail: 200 sks Class C +1/4# Celloseal + 2% CaCl2
5-/2" Production casing:	930 sks Super C modified + 15# Poz A + 11# BA-90 + 8# gilsonite + .44# FL-52 + .44# FL-25 This cement slurry is designed to bring TOC to 5000'

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 psi WP) preventer and a bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4-1/2" drill pipe rams on bottom. Both BOPs will be nippled up on 13-3/8" surface casing and used continuously until TD is reached. All BOPs and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 70% or rated working pressure (2100 psi). Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of brine, cut brine, and polymer/KCL mud system. The applicable depths and properties of this system are as follows:

Depth	Type	Weight (ppg)	Viscosity (sec)	Water loss (cc)
0'-500'	Fresh Water (spud)	8.5	40-45	N.C.
500'-5000'	Brine Water	10.0	30	N.C.
5000'-TD	Cut Brine/Brine Water	8.8-10.0	32-34	10-12 cc

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

7. Auxiliary Well Control and Monitoring Equipment:

(A) A Kelly cock will be kept in the drill string at all times.

(B) A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

(C) An electronic pit-volume-totalizer system will be used continuously below 8000' to monitor the mud and pump system. The drilling fluids system will also be visually monitored at all times.

(D) A mud logging unit complete with H2S detector will be continuously monitoring drilling penetration rate and hydrocarbon shows from 5000; to TD.

8. Testing, Logging and Coring Program:

(A) Drill stem tests will be run on the basis of drilling shows.

(B) The electric logging program will consist of GR-Dual Laterolog-MSFL and GR-Sonic from TD to intermediate casing and GR-Compensated-Neutron-Density from TD to surface. Selected SW cores will be taken in zones of interest.

(C) No conventional coring is anticipated.

(D) Further testing procedures will be determined after the 5-1/2" production casing has been cemented at TD based on drill shows, log evaluation and drill stem test results.

9. Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 195° F and estimated maximum bottom hole pressure (BHP) is 5000 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is April 1, 1997. Once commenced, the drilling operation should be finished in approximately 40 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

Multi-Point Surface Use and Operation Plan

Attached to Form 3160-3
Mallon Oil Company
Mallon 33 Federal No. 2
NE NW 660' FNL and 1980' FWL Unit C
Sec. 33, T19S-R34E
Lea County, New Mexico
Lease Number: NM-57285

1. Existing Roads:

   A. The well site and elevation plat for the proposed well is shown in Exhibit "A". It was staked by John West Engineering, Hobbs, NM.

   B. All roads to the location are shown in Exhibit "B". The existing roads are illustrated in pink and are adequate for travel during drilling and production operations. Upgrading of the road prior to drilling will be done where necessary as determined during the on-site inspection.

   C. Directions to location: Go west 34 miles from Hobbs, New Mexico on Hwy. 62/180. Turn northwest on lease road and go 1.0 mile. Turn east and travel 1/4 mile to location.

   D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

2. Proposed Access Road:

   Exhibit "B" shows the 697' of new access road to be constructed and is illustrated in yellow. The road will be constructed as follows:

   A. The maximum width of the running surface will be 15'. The road will be crowned and ditched and constructed of 6" of rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns. BLM may specify any additions or changes during the on-site inspection.

   B. The average grade will be less than 1%.

   C. No turnouts are planned.

   D. No culverts, cattle guard, gates, low-water crossings, or fence cuts are necessary.

E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM-approved caliche pit. Any additional materials that are required will be purchased from the dirt contractor.

F. The proposed access road as shown in Exhibit "B" has been center line flagged by John West Engineering, Hobbs, NM.

3. Location of Existing Wells:

Exhibit "C" shows all existing wells within a one-mile radius of this well. There are no disposal, drilling, SI, injection or observation wells within one-mile radius.

4. Location of Existing and/or Proposed Facilities:

A. If the well proved to be commercial, the necessary production facilities and tank battery will be installed on the drilling pad.

B. The tank battery and facilities including all flowlines and piping will be installed according to API specifications.

C. Any additional caliche which is required for firewalls, etc. will be obtained from a BLM-approved caliche pit. Any additional construction materials will be purchased from contractors.

D. No power will be required if the well is productive of gas.

E. If the well is non-productive, rehabilitation plans are as follows:

(1) The reserve pit will be back filled after the contents of the pit are dry.

(2) Caliche from unused portions of the drill pad will be removed. Topsoil removed from the drill site will be used to re-contour the pit area and any unused portions of the drill pad to the original natural level, as nearly as possible, and re-seeded as per BLM specifications.

F. In the event that gas production is established, plans for permanent gas lines will be submitted to the appropriate agencies for approval.

5. Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck over the existing and proposed access roads shown in Exhibit "B". If a commercial fresh water source is nearby, fasline may be laid along existing roads and fresh water pumped to the well. No water well will be drilled on the location.

6. Source of Construction Materials:

All caliche required for construction of the drill pad and the proposed new access road (approximately 2500 cubic yards) will be obtained from a BLM-approved caliche pit. All roads and pads will be constructed of 6" of rolled and compacted caliche.

7. Methods of Handling Waste Disposal:

A. Drill cuttings not retained for evaluation purposes will be disposed into the reserve pit.

B. Drilling fluids will be contained in steel mud tanks. The reserve pit will contain any excess drilling fluid or flow from the well during drilling, cementing, and completion operations. The reserve pit will be an earthen pit, approximately 200' x 100' x 6' deep and fenced on three sides prior to drilling. It will be fenced on the fourth side immediately following rig removal. The reserve pit will be plastic-lined (5-7 mil thickness) to minimize loss of drilling fluids and saturation of the ground with brine water.

C. Water produced from the well during completion may be disposed into the reserve pit or a steel tank (depending on the rates). After the well is permanently placed on production, produced water will be collected in tanks (fiberglass or steel) until hauled by transport to an approved disposal system; produced oil will be collected in steel tanks until sold.

D. A portable chemical toilet will be provided on the location for human waste during the drilling and completion operations.

E Garbage and trash produced during drilling or completion operations will be contained in portable trash basket and hauled to approved disposal facilities. All water and fluids will be disposed of into the reserve pit. Salts and other chemicals produced during drilling or testing will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be produced by this operation.

F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. No adverse materials will be left on the location. The reserve pit will be completely fenced and flagged and kept closed until it has dried. When the reserve pit is dry enough to breakout and fill and, as weather permits, the unused portion of the well site will be leveled and re-seeded as per BLM specifications. Only that part of the pad required for production facilities will be kept in use. In the event of a dry hole, only a dry-hole marker will remain.

8. Ancillary Facilities:

No airstrip, campsite, or other facilities will be built as a result of the operations on this well.

9. Well site layout:

A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and location of major rig components are shown. Top soil, if available, will be stockpiled per BLM specifications as determined at the on site-inspection. Because the pad is almost level no major cuts will be required.

B. Exhibit "D" shows the planned orientation for the rig and associated drilling equipment, reserve pit, pipe racks, turn-around and parking areas, and access road. No permanent living facilities are planned but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

C. The reserve pit will be lined with a high-quality plastic sheeting (5-7 mil thickness).

10. Plans for Restoration of the Surface:

    A. Upon completion of the proposed operations, if the well is to be abandoned, the caliche will be removed from the location, road and returned to the pit from which it was taken. The pit area, after allowing to dry, will be broken out and leveled. The original top soil will be returned to the entire location which will be leveled and contoured to as nearly the original topography as possible.

    All trash, garbage will be hauled away in order to leave the location in an aesthetically pleasing condition.

    B. The disturbed area will be re-vegetated as recommended by the BLM.

    C. Three sides of the reserve pit will be fenced prior to and during drilling operations. At the time that the rig is removed the reserve pit will be fenced on the rig (fourth) side and flagged to prevent livestock or wildlife from being entrapped. The fencing and flagging will remain in place until the pit area is cleaned-up and leveled. No oil will be left on the surface of the fluid in the pit. The entire reserve pit will be flagged until the fluid has completely evaporated.

11. Surface Ownership:

    The well site and lease is located entirely on Federal Surface.

12. Other information:

    A. The top soil is sandy. The vegetation is native yucca, and prickly pear.

    B. There is no permanent or live water in the immediate area.

    C. Residences and other structures: No residences in the immediate area.

    D. Land use: Cattle grazing

    E. Surface ownership: The proposed well site and access road is on Federal surface and minerals.

    F. There is no evidence of any archaeological, historical or cultural sites in the area. An archaeological survey has been conducted by Desert West Archaeological Service, Carlsbad, New Mexico. The reports have been submitted to the appropriate government agencies.

13. Operations representative:

A. The field representative responsible for ensuring compliance with the approved surface use and operations plan is:

Duane C. Winkler
Mallon Oil Company
PO. Box 3256
Carlsbad, NM 88220
Office Phone: (505) 885-4596
Home Phone: (505) 885-3148

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 currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mallon Oil Company and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: 11-18-96 Signed: Duane C Winkler

Duane C Winkler
Production Superintendent

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

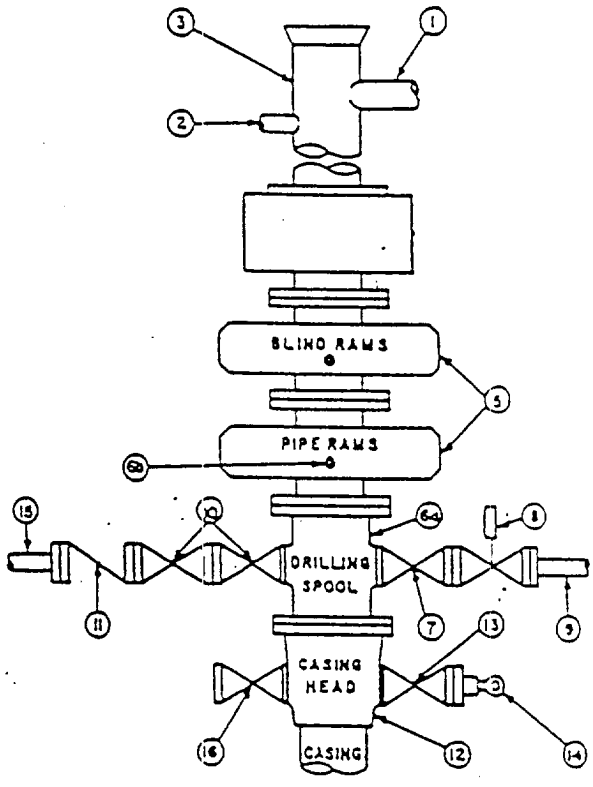
3 MWP

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
	—or—		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve Gate ☐ Plug ☐	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves Gate ☐ Plug ☐	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve Gate ☐ Plug ☐	1-13/16"	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

OPTIONAL			
16	Flanged valve	1-13/16"	

CONFIGURATION A



CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers position.
4. Kelly equipped with Kelly cock.
5. Inside blowout prevventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

MEC TO FURNISH:

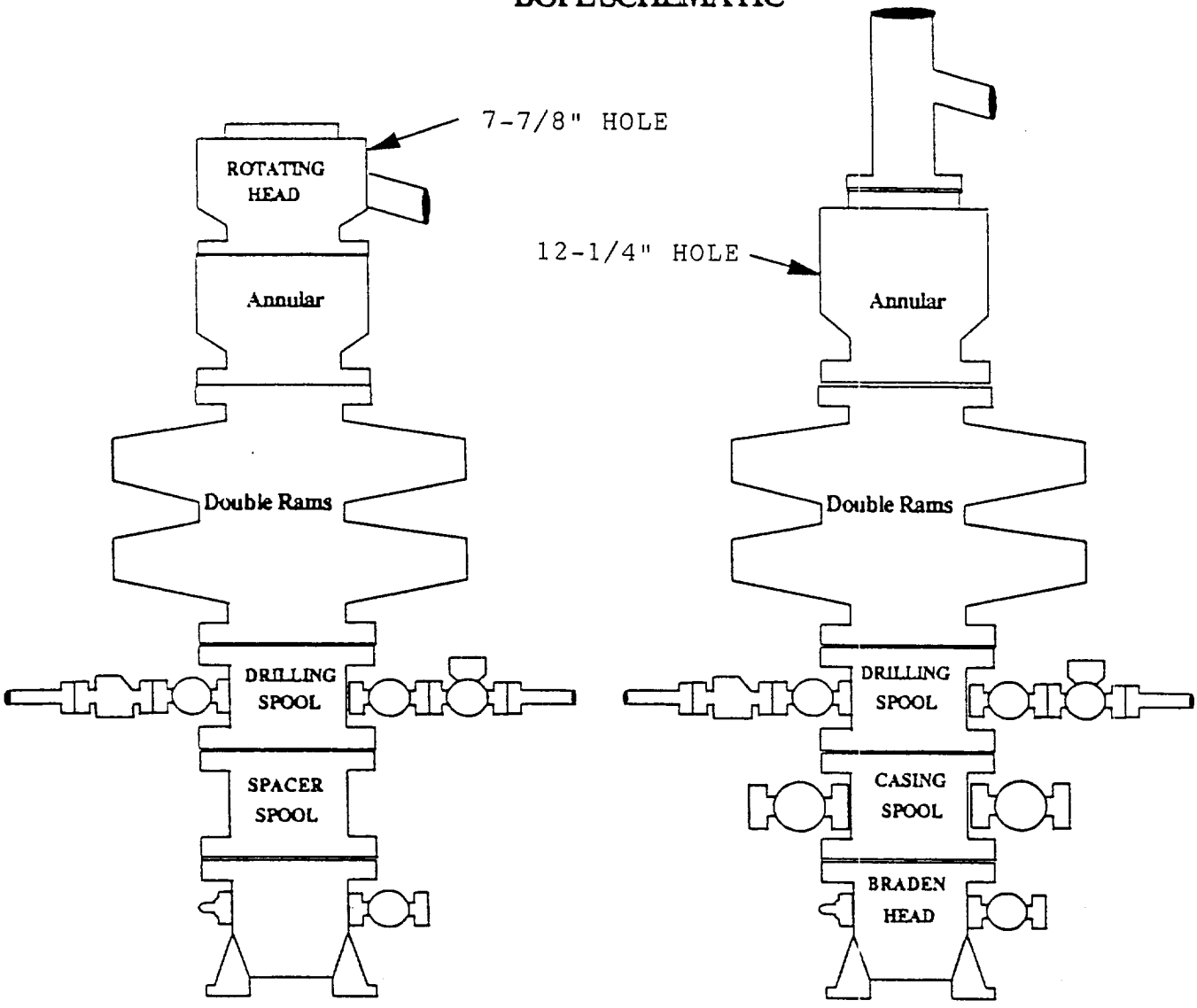
1. Bradenhead or casinghead and side valves.
2. Wear bushing, if required.

GENERAL NOTES:

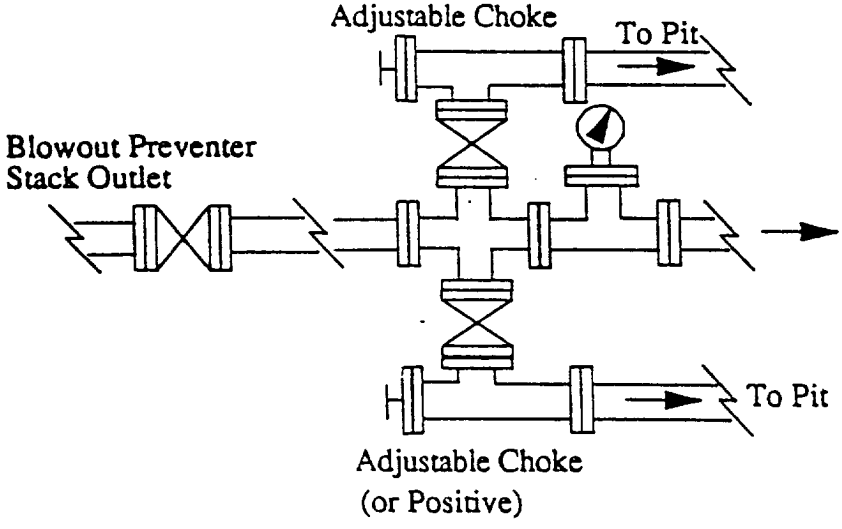
1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.
7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.

Exhibit 1

BOPE SCHEMATIC



Choke Manifold Requirement (3000 psi WP)

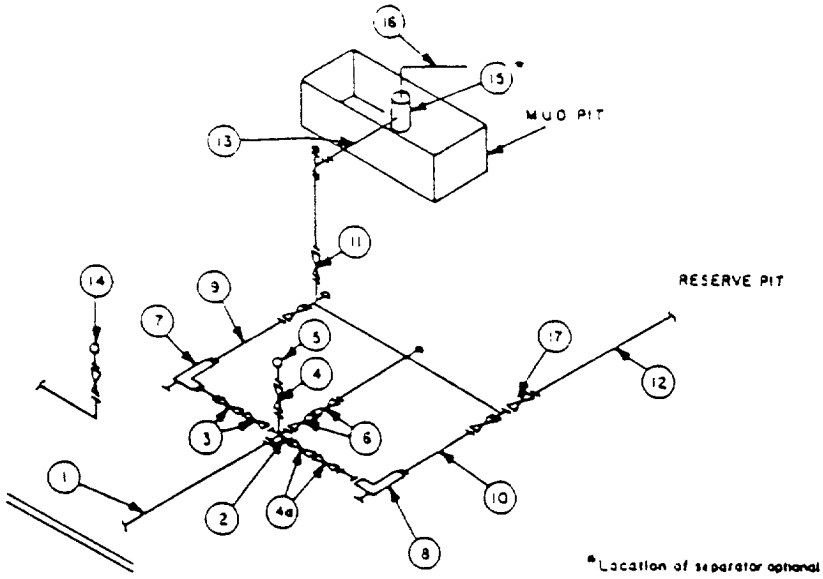


Minimum 4" Nominal choke and kill lines

Exhibit 1

MINIMUM CHOKE MANIFOLD
3,000, 5,000 and 10,000 PSI Working Pressure

3 MWP - 5 MWP - 10 MWP



BEYOND SUBSTRUCTURE

MINIMUM REQUIREMENTS										
		3,000 MWP			5,000 MWP			10,000 MWP		
No		I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING	I.D.	NOMINAL	RATING
1	Line from drilling spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3"x3"x3"x2"			3,000			5,000			
	Cross 3"x3"x3"x3"									10,000
3	Valves(1) Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
4	Valve Gate ☐ Plug ☐(2)	1-13/16"		3,000	1-13/16"		5,000	1-13/16"		10,000
4a	Valves(1)	2-1/16"		3,000	2-1/16"		5,000	3-1/8"		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valves Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
7	Adjustable Choke(3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		3"	10,000
11	Valves Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000
12	Lines		3"	1,000		3"	1,000		3"	2,000
13	Lines		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound standpipe pressure gauge			3,000			5,000			10,000
15	Gas Separator		2'x5'			2'x5'			2'x5'	
16	Line		4"	1,000		4"	1,000		4"	2,000
17	Valves Gate ☐ Plug ☐(2)	3-1/8"		3,000	3-1/8"		5,000	3-1/8"		10,000

(1) Only one required in Class 3M.

(2) Gate valves only shall be used for Class 10M.

(3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling.

EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTIONS

1. All connections in choke manifold **shall** be welded, studded, flanged or Cameron clamp of comparable rating.
2. All flanges **shall** be API 6B or 6BX and ring gaskets **shall** be API RX or BX. Use only BX for 10 MWP.
3. All lines **shall be securely anchored.**
4. Chokes **shall be equipped with tungsten carbide seats and needles, and replacements shall be available.**
5. Choke manifold pressure and standpipe pressure gauges **shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge.**
6. Line from drilling spool to choke manifold should be as straight as possible. Lines downstream from chokes **shall** make turns by large bends or 90° bends using bull plugged tees.

Exhibit 1

Attachment to Exhibit #1
NOTES REGARDING THE BLOWOUT PREVENTERS

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum ID equal to preventer bore.

2. Wear ring to be properly installed in head.

3. Blow out preventer and all fittings must be in good condition, 3000 psi WP minimum.

4. All fittings to be flanged.

5. Safety valve must be available on rig floor at all times with proper connections, valve to be full bore 3000 psi WP minimum.

6. All choke and fill lines to be securely anchored, especially ends of choke stem.

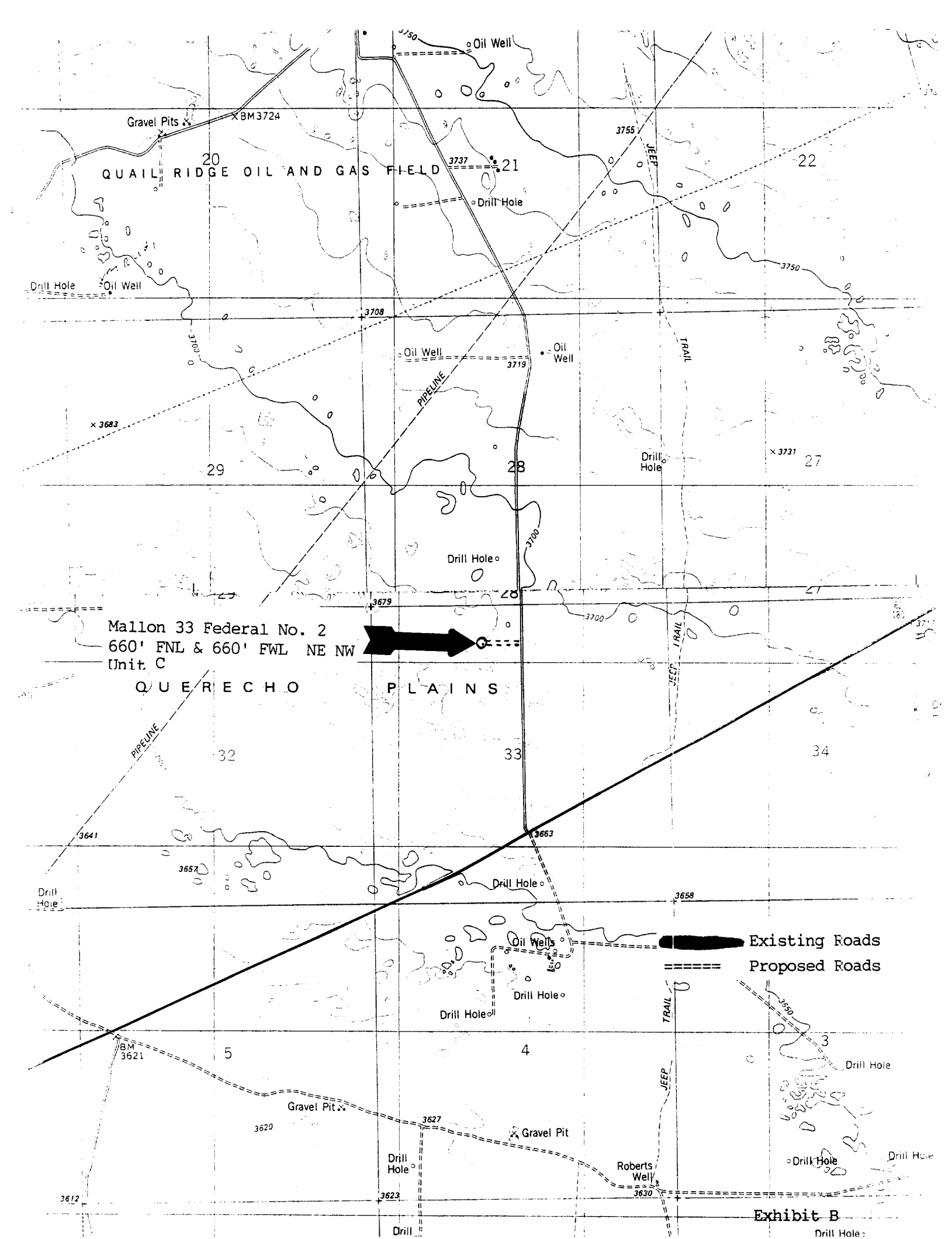
7. Equipment through which bit must pass shall be at lease as large as the diameter of the casing being drilled through.

8. Kelly cock on kelly.

9. Extension wrenches and hand wheels to be properly installed.

10. Blow out preventer control to be located as close to driller's position as feasible.

11. Blow out preventer closing equipment to include minimum 40 gallon accumulator, two independent sources of pump power on each closing unit installation, and meet all API specifications.


Oil Well
Gravel Pits
BM 3724
QUAIL RIDGE OIL AND GAS FIELD
Drill Hole
Oil Well
Oil Well
Oil Well
PIPELINE
TRAIL
JEEP
Drill Hole
Drill Hole
Mallon 33 Federal No. 2
660' FNL & 660' FWL NE NW
Unit C
QUERECHO PLAINS
Drill Hole
Drill Hole
Drill Hole
Oil Wells
Drill Hole
Drill Hole
Existing Roads
Proposed Roads
BM 3621
Gravel Pit
Gravel Pit
Drill Hole
Drill Hole
Roberts Well
Drill Hole
Drill Hole
Drill Hole
20
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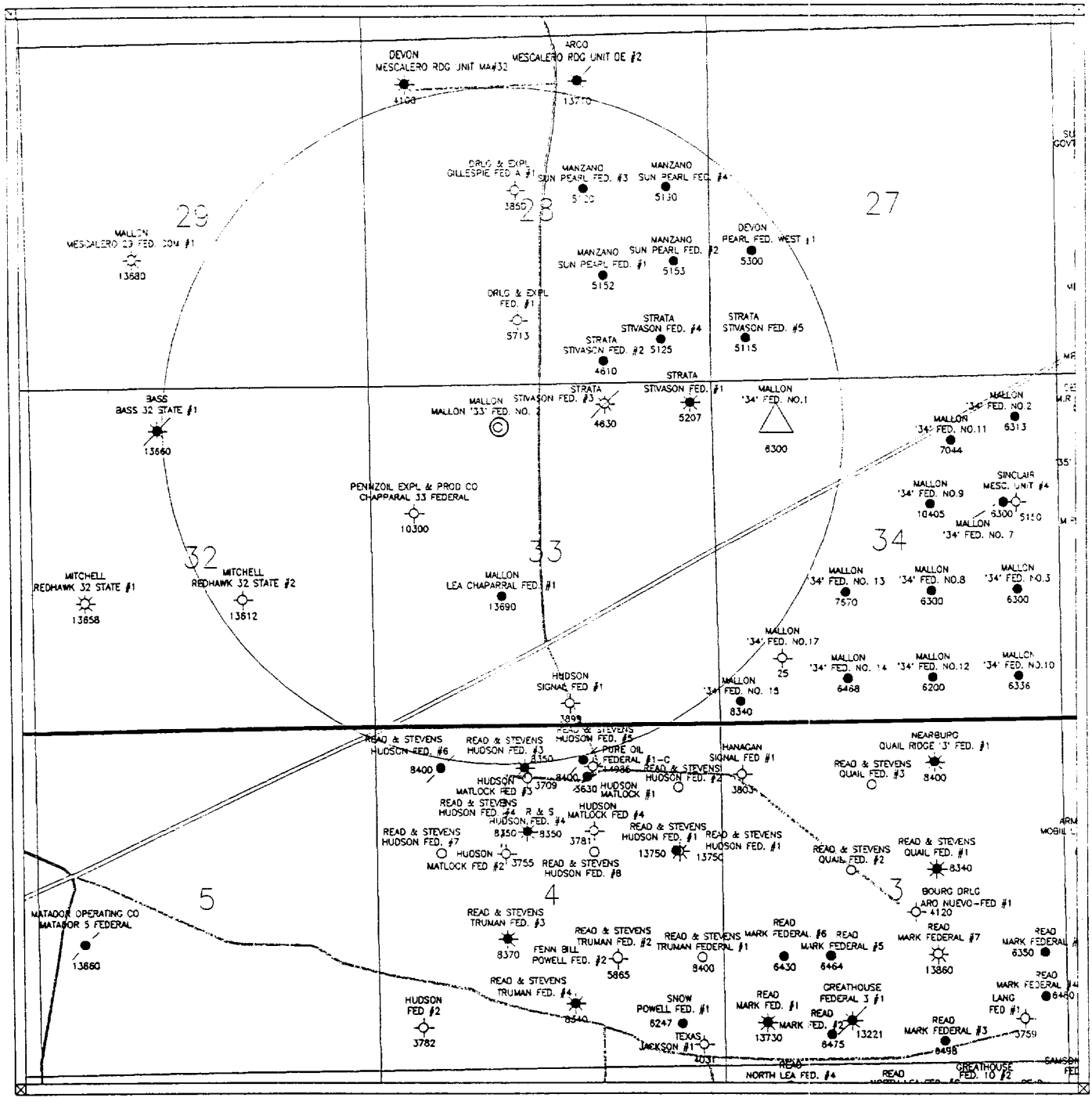
3630

Exhibit B



N

Scale 1:28000.

0.1 0. 0.1 0.2 0.3 0.4 0.5 miles

MALLON OIL COMPANY		
Mallon '33' Federal No. 2 One Mile Radius Map Lea County, New Mexico		
660'fnl, 1980'fwl	T19S R34E	
		11/14/96

Exhibit C

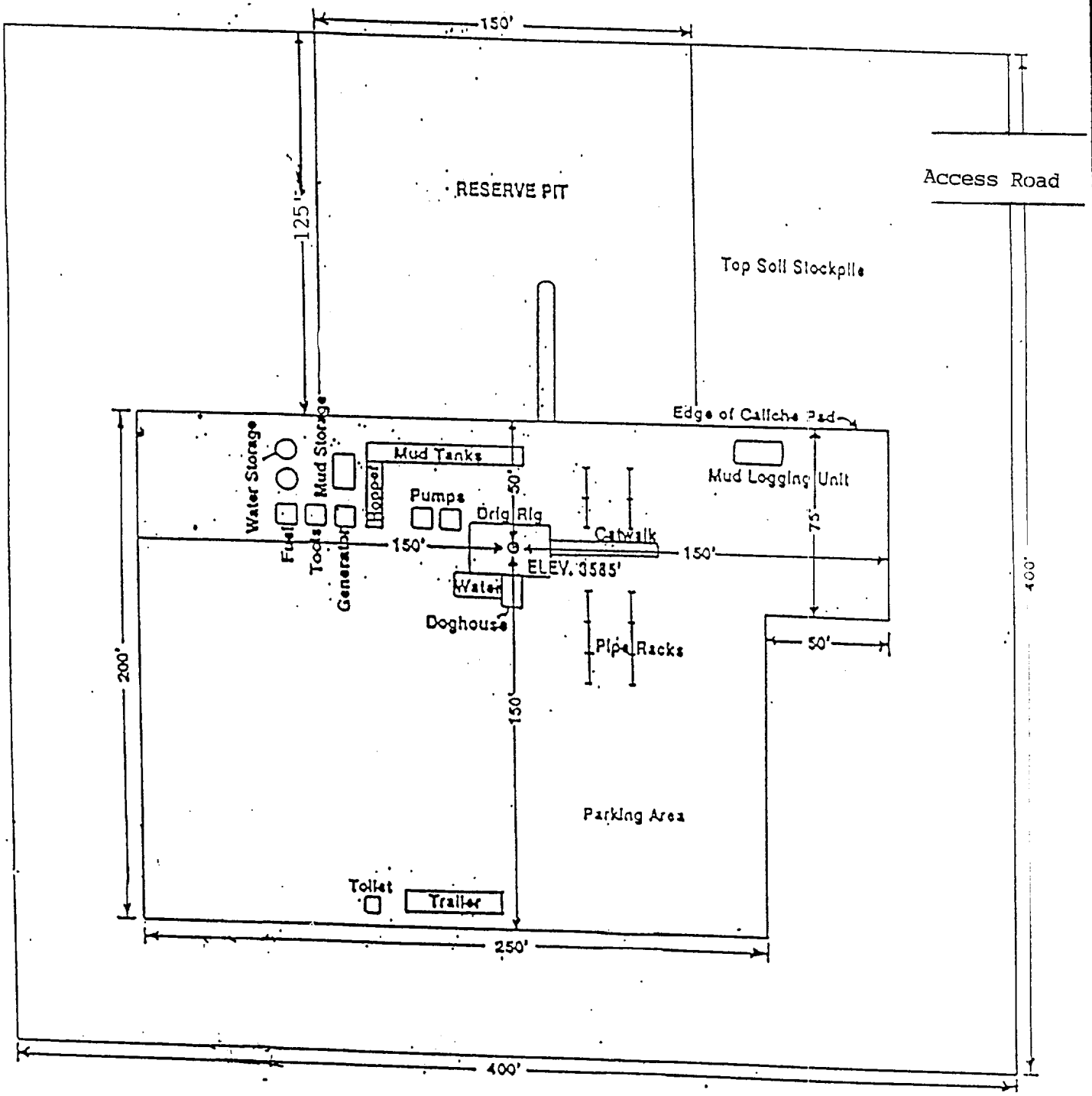

150'
RESERVE PIT
125'
Access Road
Top Soil Stockpile
Edge of Caliche Pad
Water Storage
Mud Storage
Mud Tanks
Hopper
Pumps
Drlg Rig
50'
Mud Logging Unit
75'
Catwalk
Fuel
Tools
Generator
150'
150'
ELEV. 3585'
Water
Doghouse
Pipe Racks
50'
400'
200'
150'
Parking Area
Toilet
Trailer
250'
400'

Exhibit D

SHEET NO. OF

MALLON OIL COMPANY

ENGINEERING CHART

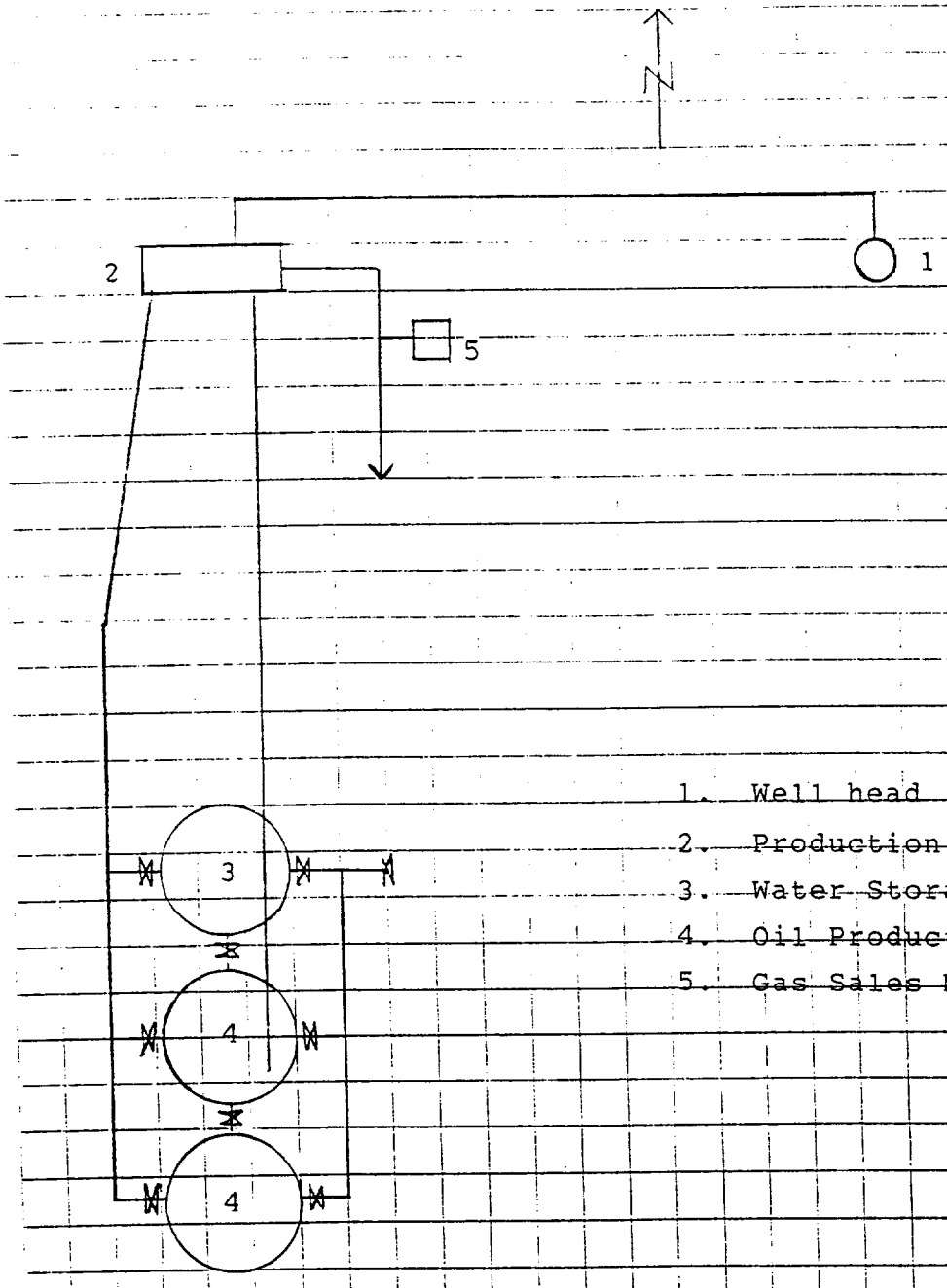
FILE

APO'N

DATE

BY

SUBJECT Production Facility Layout



1. Well head
2. Production Unit
3. Water Storage Tank
4. Oil Production Tank
5. Gas Sales Meter

Exhibit E

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H_2S).

2. The proper use and maintenance of personal protective equipment and life support systems.

3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.

4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.

2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.

3. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

1. Well Control Equipment:

   A. Choke manifold with a minimum of one remote choke.

   B. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

2. Protective equipment for essential personnel:

   A. Mark II Surviveair 30-minute units located in the dog house and at briefing areas, as indicated on well site diagram.

3. H_2S detection and monitoring equipment:

   A. 2 - portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 20 ppm are reached.

4. Visual warning systems:

   A. Wind direction indicators as shown on well site diagram.

   B. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud Program:

   A. The mud program has been designed to minimize the volume of H_2S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

6. Metallurgy:

   A. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.

   B. All elastomers used for packing and seals shall be H_2S trim.

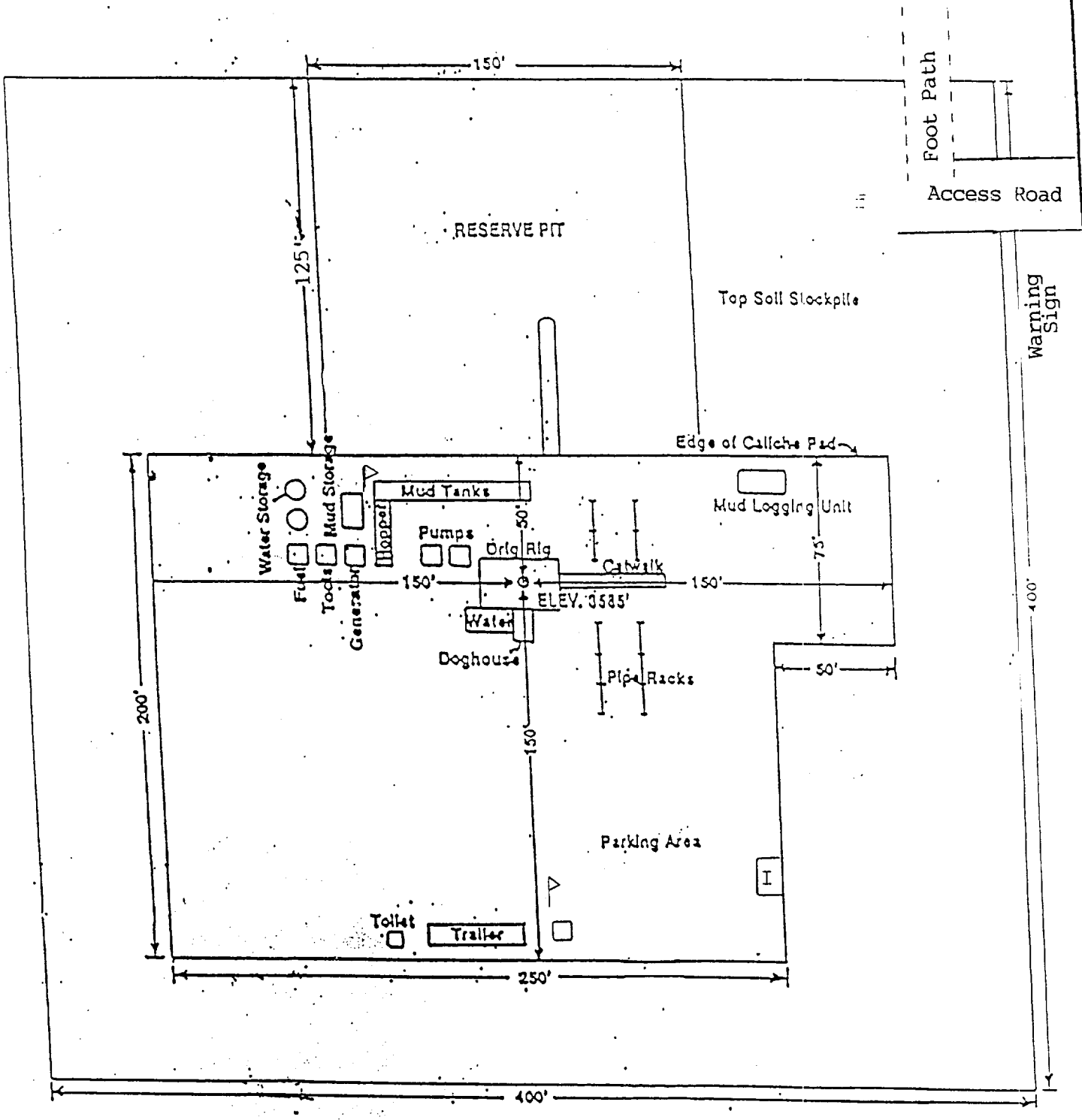
7. Communication

   A. Cellular telephone communications in company vehicles.

8. Well Testing:

   A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill stem testing operations conducted in an H_2S environment will use the closed chamber method of testing.

Prevailing Wind Direction: Northwest



△ H_2S Monitors with alarms at the bell nipple and shale shaker

⚐ Wind Direction Indicators

□ Safe briefing areas with Caution signs and protective breathing equipment, min. 150 feet from wellhead, (I) designates primary area.

Exhibit F

WARNING

YOU ARE ENTERING AN H_2S AREA

AUTHORIZED PERSONNEL ONLY

1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK WITH A MALLON OIL COMPANY REPRESENTIVE AT MAIN OFFICE

MALLON OIL COMPANY

1-505-885-4596