Form 3160-3
(July 1992)

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO: NM056376

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

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

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

7. UNIT AGREEMENT NAME: N/A

2. NAME OF OPERATOR: Mallon Oil Company

8. FARM OR LEASE NAME, WELL NO: Mallon Federal 30

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

9. API WELL NO: 30-025-
43

10. FIELD AND POOL, OR WILDCAT: Quail Ridge, Bone Springs

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FSL and 660' FEL (NE SE) Unit I
At proposed prod. zone: 1980' FSL and 660' FEL (NE SE) Unit I

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 30, T19S-R34E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 40 miles West of Hobbs NM

12. COUNTY OR PARISH: ~~Eddy~~ County LEA | 13. STATE: NM

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: 640

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: 10,300'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (SHOW WHETHER DF, RT, GR, Etc.): 3668 GR

22. APPROX. DATE WORK WILL START:

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	42#	40'	Ready mix to surface
12-1/4"	9-5/8"	36#	1500'	700 sx lite or circ to surface
8-3/4"	5-1/2"	17#	TD	Stage 1: 800 sx Class C
				Stage 2: 580 sx Lite
				100 sx Class C

WITNESS

CAPITAN CONTROLLED WATER BASIN

Mallon Oil Company proposes to drill to a depth sufficient to test the Bone Springs formation for oil. If productive, 5-1/2" casing will be cemented. 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:

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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
Exhibit G: Archaeological Survey

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: Terry Lindeman   TITLE: ProductionSuperintendent   DATE: 01/23/98

(This space for Federal or State office use)

Bureau of Land Management
Received
MAY 12 1998
Carlsbad Field Office
Carlsbad, N.M.

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

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY ____________ TITLE STATE DIRECTOR DATE 5-4-98

RECEIVED 1998 MAY 12 BUREAU OF LAND MGMT

*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, N.M. 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

Property Code	Property Name	Well Number
	MALLON FEDERAL 30	43
OGRID No.	**Operator Name**	**Elevation**
	MALLON OIL COMPANY	3668

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	30	19 S	34 E		1980	SOUTH	660	EAST	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.

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

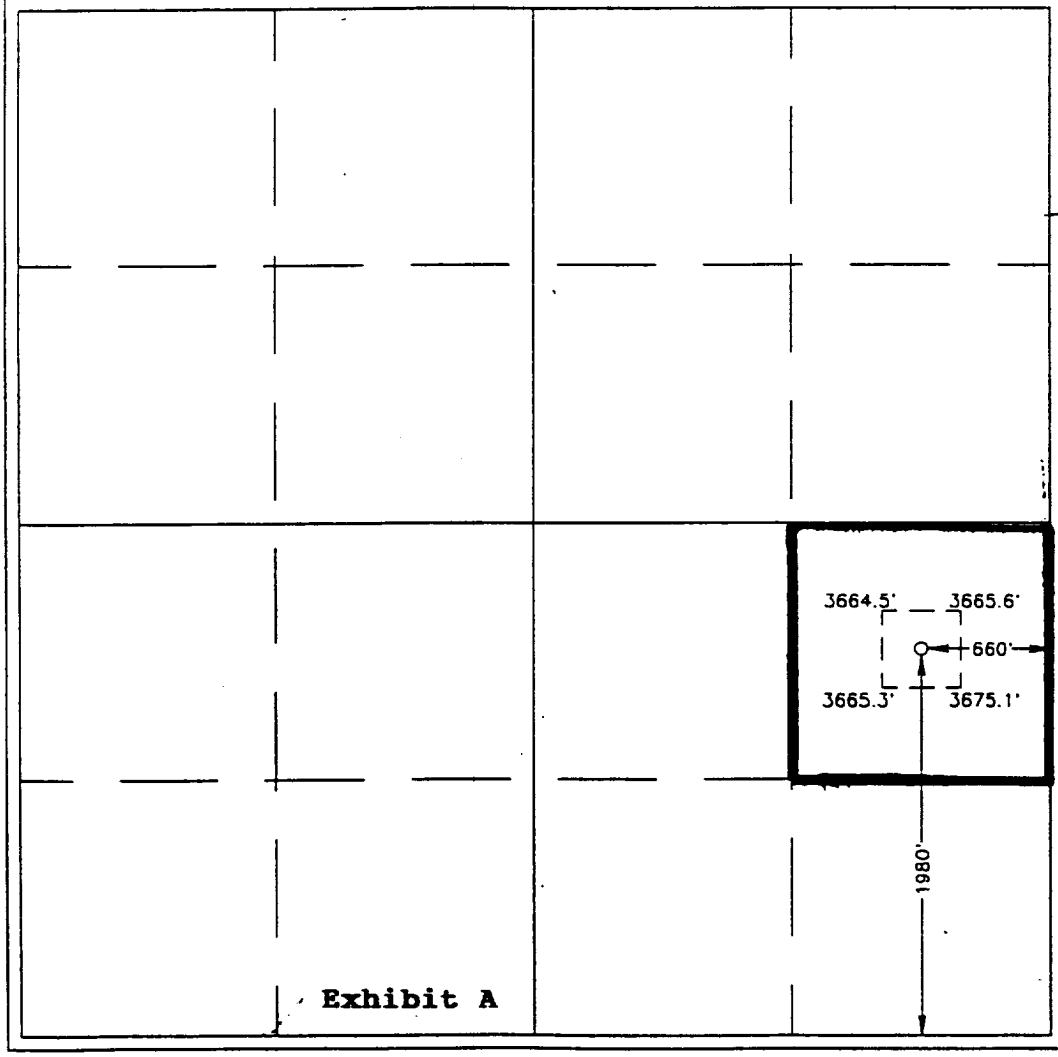


Exhibit A

OPERATOR CERTIFICATION

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

Signature

Terry Lindeman
Printed Name

Production Superintendent
Title

January 23, 1998
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.

DECEMBER 8, 1997

Date Surveyed DMCC

Signature & Seal of Professional Surveyor

RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

12-11-97

97-11-1994

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

DRILLING PROGRAM

Attached to Form 3160-3
Mallon Oil Company
Mallon Federal 30 No. 43
1980' FSL, 660' FEL, Sec. 30, T19S-R34E
~~Eddy~~ LEA County, New Mexico

Lease Number: NM056376

1. Geologic Name of Surface Formation is : Quaternary Alluvium

2. Estimated Tops of Important Geologic Markers:

Quaternary Alluvium	Surface
Rustler	1590'
Top of Salt	1720'
Base of Salt	3326'
Yates	3513'
Seven Rivers	3821'
Queen	4516'
Delaware	5800'
Total Depth	10,300'

3. The estimated depths of anticipated fresh water, oil or gas:

Quaternary Alluvium	300'	Fresh water
Yates	3513'	Oil
Queen	4516'	Oil
Delaware	5800'	Oil
Bone Springs	10,000'	Oil

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 9 5/8" csg at 1500' and circulating cement back to surface. Potash will be protected by setting 5 1/2" csg at total depth and circulating cement back to 1300' from surface.

4. Proposed casing program:

Hole Size	Interval	Csg OD	Csg weight grade, Jt., Type Cond
20"	0'-40'	16"	Conductor, 0.25" wall thickness
12-1/4"	0'-1500'	9-5/8"	36# K-55 STC

8-3/4"	0'-5300'	5-1/2"	15.5#	K-55 LTC
	5300'-TD	5-1/2"	17#	K-55 LTC N-80

Cement Program:

20" Conductor csg: Cemented with ready-mix to surface

9-5/8" Surface csg: Cemented to surface with 700 sks Pacesetter Lite 6.00% Gel (Bentonite)+0.25 lb/sk Cello-Seal 105.% fresh water

5-1/2" Production csg: Stage #1 - Cement with 800 sacks Class "C" + 5 lb/sk CSE + 0.5% CF-14 + 5 lb/sk salt + 5 lb/sk Gilsonite + 0.25 lb/sk Cello-Seal + 59.390% fresh water. This cement slurry is designed to bring TOC to 5000'.

Stage #2 - Cement with 580 sacks Pacesetter Lite, 6.0% Gel (Bentonite) + 5.0% salt + 0.25 lb/sk Cello-Seal + 105.0% fresh water followed with 100 sacks Class "C" cement + 5.0 lb/sk CSE + 5 lb/sk salt + 0.25 lb/sk + Cello-Seal + 5.0 lb/sk Gilsonite + 0.5 % CF-14 + 105.0% fresh water. This cement slurry is designed to bring TOC to 1300'.

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. The unit will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and drill pipe rams on bottom. The BOP will be nipped up on the 9-5/8" surface csg and used continuously until TD is reached. BOP and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Pipe 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 2" 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 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)	Waterloss (cc)
0'-40'	Fresh Water (spud)	8.5	40-45	N.C.
0'-1500'	F.W. (Gel/Lime)	8.5-9.0	32-36	N.C.
1500'-TD	Brine Water	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) The drilling fluids systems will be visually monitored at all times.

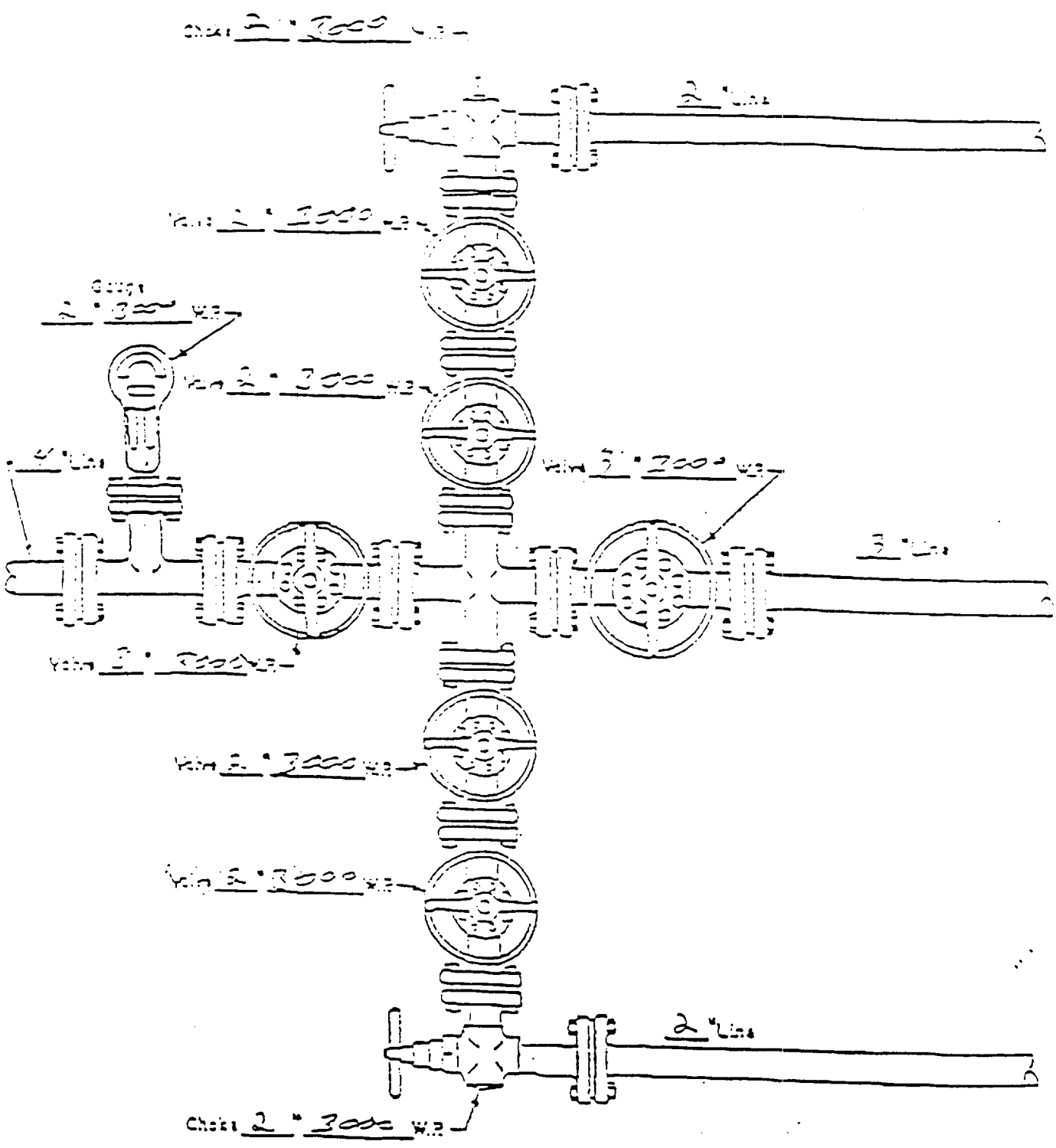
8. Testing, Logging and Coring Program:

Drill Stem Tests:	None anticipated
Logging:	TD to surface casing, GR., CNL-FDC, DLL, MSFL
Coring:	None planned

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

   No abnormal pressures or temperatures are anticipated. The proposed mud program will be modified to control excess pressure if abnormal pressures are encountered. The estimated bottom hole temperature (BHT) at TD is 150° F and estimated maximum bottom-hole pressure (BHP) is 3200 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: March 3, 1998
    Anticipated completion of Drilling operations: Expected duration of 3 weeks.



MANIFOLD
3000 #W.P

☒ Manuel
☐ Hydraulic

Exhibit 1

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

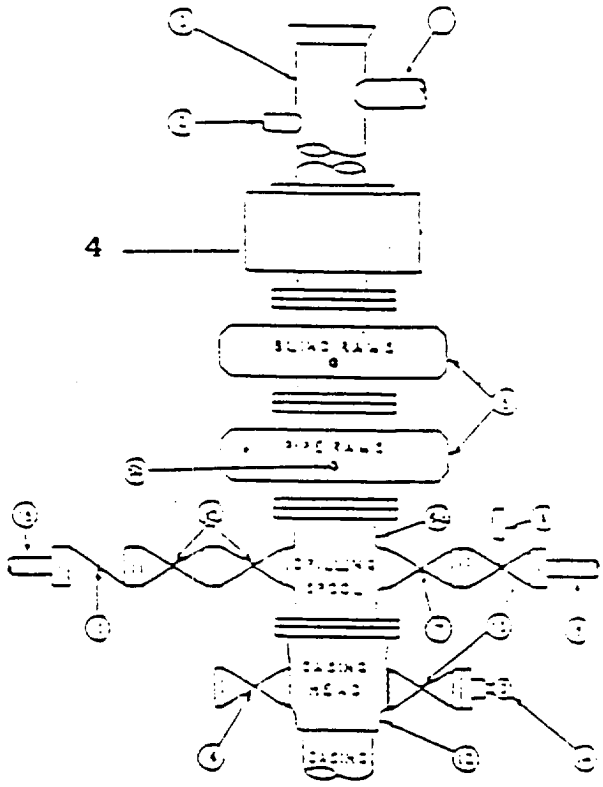
3 MWP

STACK REQUIREMENTS

No.	Item	Bore	Min. Nominal
1	Flow line		
2	Fill-up line		2"
3	Drilling nipple		
4	Annular Preventor		
5	Two single or one dual hydraulically operated rams		
5a	Drilling spool with 3" min. side outlets		
5b	3" min. side outlets in ram. (Alternate to 5a 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 ☐	3-1/8"	
11	Check valve	3-1/8"	
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 preventer 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:

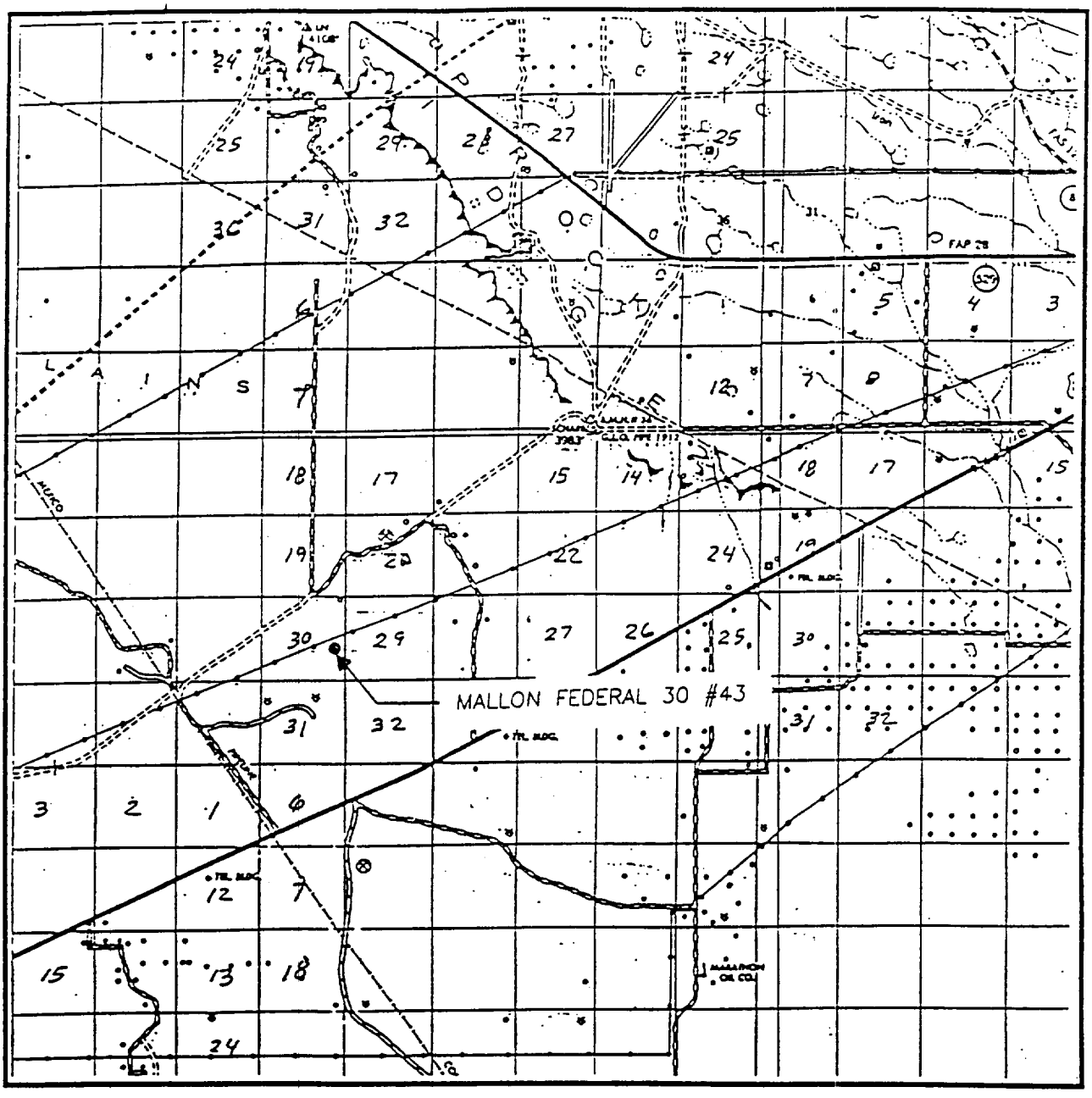
1. Bradenhead or casinghead and side valves.
2. Wear bushing, if required.

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 chokes. 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 chokes, 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

VICINITY MAP



SEC. 30 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1980' FSL & 660' FEL

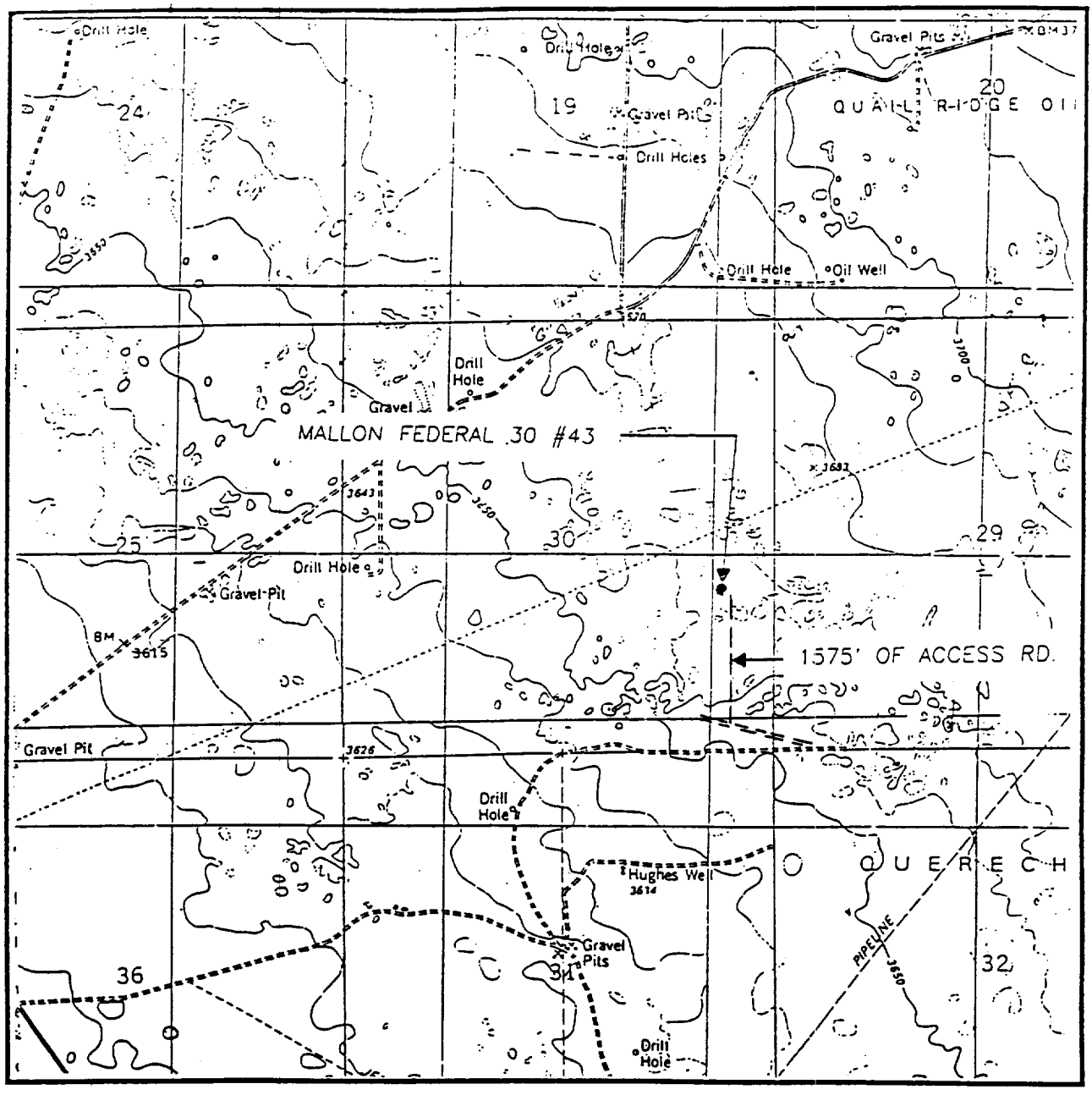
ELEVATION 3668

OPERATOR MALLON OIL COMPANY

LEASE MALLON FEDERAL 30

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
LEA – 10'
IRONHOUSE WELL – 10'

SEC. 30 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1980' FSL & 660' FEL

ELEVATION 3668

OPERATOR MALLON OIL COMPANY

LEASE MALLON FEDERAL 30

U.S.G.S. TOPOGRAPHIC MAP
LEA, IRONHOUSE WELL, N.M.

Exhibit B

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

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.

Exhibit 1