Form 3160-3
(December 1990)

N. M. OIL CONS. COMMISSION
P. O. BOX 1980
HOBBS, NEW MEXICO 88240

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires: December 31, 1991

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: NMNM100861
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME, WELL NO.: Esmeralda Federal "24" #1
9. API WELL NO.: 30-025-34484
10. FIELD AND POOL, OR WILDCAT: Gem East (Morrow)
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 24, T19S, R33E
12. COUNTY OR PARISH: Lea
13. STATE: NM

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

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

2. NAME OF OPERATOR: Matador Operating Company

3. ADDRESS AND TELEPHONE NO.: 8340 Meadow Rd., #158, Dallas, TX 75231, 214-987-7144

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1650 FSL; 1980 FWL
At proposed prod. zone: K

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 30 miles west of Hobbs

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'	320	320 ac
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**
NA	13,800	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3657' GL

22. APPROX. DATE WORK WILL START*: August 24, 1998

23. PROPOSED CASING AND CEMENTING PROGRAM

SECRETARY'S POTASH
CAPITAN CONTROLLED WATER BASIN
WITNESS
WITNESS

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8" H-40	48#	425'	[illegible] sx
11" or 12-1/4	8-5/8" J-55	32#	4500'	[illegible] sx
7-7/8"	5-1/2" L-80 & S-95	17#	13,800'	540 sx

Drill 13,800' Morrow/Bone Spring test. Drill 17-1/2" hole to +/-425'. Run and cement 13-3/8" casing to surface. NU BOP stack and drill 11" or 12-1/4" hole to +/-4,500'. Run and cement 8-5/8" casing to surface. NU 5M BOP assembly and test. Drill 7-7/8" hole to +/-13,800' and evaluate.

Well Location and Acreage Dedication Plat
Application for Permit to Drill (Drilling Program)
Surface Use Plan
Exhibit A, Area Map
Exhibit B, Wellsite Plan
Exhibit C, Production Map
Exhibit D, Blowout preventer requirements
Exhibit E, BOP schmatic
Exhibit F, Choke manifold
Well Plan Outline
Topo Map

APPROVAL SUBJECT TO GENERAL REQUIREMENT SPECIAL STIPULATIONS ATTACHED

OPER. OGRID NO. 14245
PROPERTY NO. 23594
POOL CODE 77380
EFF. DATE 8-11-98
API NO. 30-025-34484

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any

24.

SIGNED John W Bell TITLE Drilling Manager DATE 7-10-98

(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 Richard A. Whitley TITLE Acting STATE DIRECTOR DATE 8/3/98

*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.

MP

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 87507-2088

State of New Mexico
Energy, Minerals, and Natural Resources Department

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

Form C-102
Revised 02-10-94

Instructions on back

Submit to the Appropriate District Office
State Lease - 4 copies
Fee Lease - 3 copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-34484	77380	Gem Morrow, East

[4] Property Code	[5] Property Name	[6] Well Number
23594	ESMERALDA FEDERAL "24"	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
014245	MATADOR OPERATING COMPANY	3657'

[10] SURFACE LOCATION

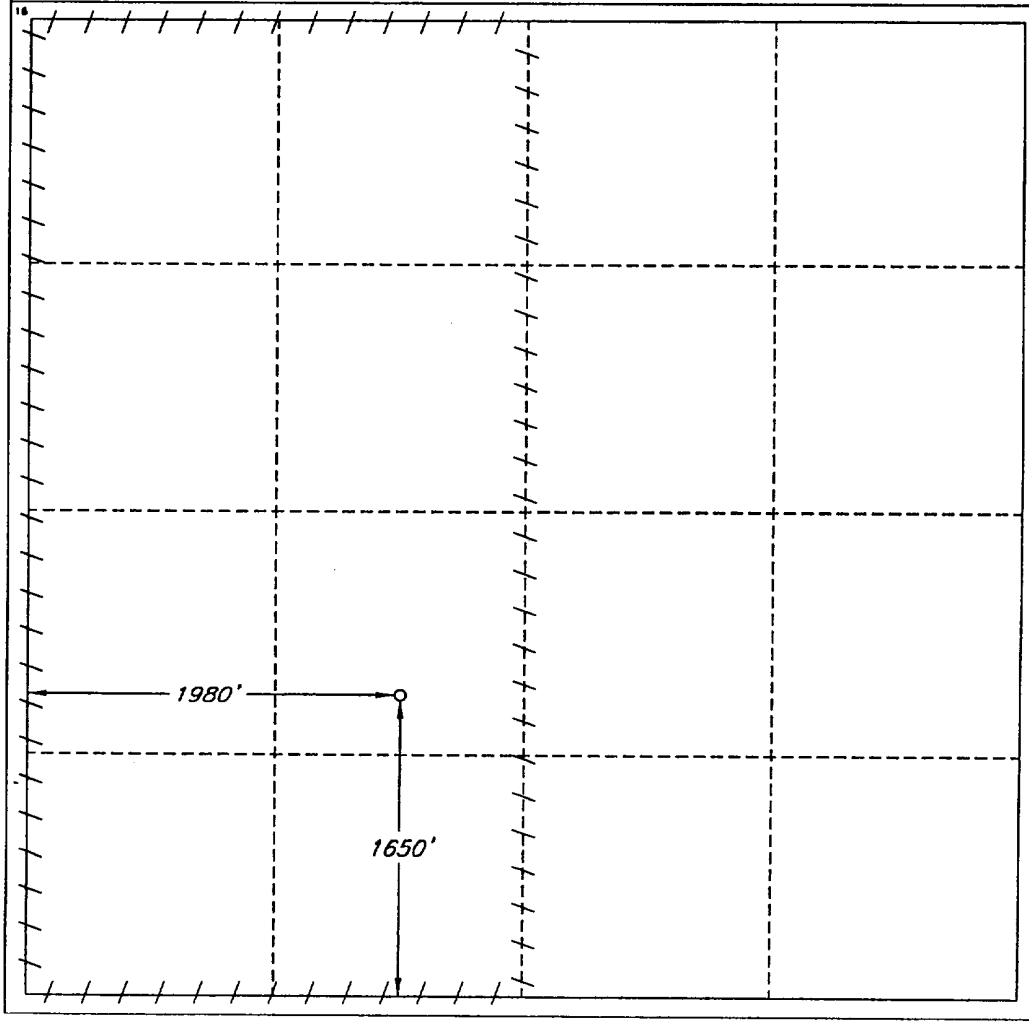
UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
K	24	19 SOUTH	33 EAST, N.M.P.M.		1650'	SOUTH	1980'	WEST	LEA

[11] BOTTOM HOLE LOCATION IF DIFFERENT FROM SURFACE

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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

NO ALLOWABLE WELL 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 that the information contained herein is true and complete to the best of my knowledge and belief.

Signature: John W. Bell

Printed Name: John W. Bell

Title: Drilling Manager

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 supervision, and that the same is true and correct to the best of my belief.

Date of Survey:

Signature and Seal of Professional Surveyor

ROGER M. ROBBINS
NEW MEXICO
12128
REGISTERED PROFESSIONAL SURVEYOR

Certificate No.
ROGER M. ROBBINS P.S. #12128

JOB #58382 / 72 NE / V.H.B.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APPLICATION FOR PERMIT TO DRILL

MATADOR OPERATING CORPORATION
ESMERALDA FEDERAL "24" #1
1650 FSL & 1980' FWL
SEC. 24, T19S, R33E
LEA COUNTY, NEW MEXICO

In conjunction with Form 3160-3, Application for Permit to Drill, Matador Operating Company submits the following items of pertinent information in accordance with Onshore Oil and Gas Order Nos. 1 & 2, and with all other applicable federal and state regulations.

1. Geologic Name of Surface Formation:

   Permian

2. Estimated Tops of Important Geological Markers:

Upper Permian Yates Fm	3382'	+295'
Upper Permian Seven Rivers	3752'	+ 75'
Lower Permian Delaware Fm	5542'	-1865'
Lower Permian Bone Spring	8002'	-4325'
1st Bone Spring SS Mbr	9247'	-5575'
2nd Bone Spring SS Mbr	9742'	-6065'
3rd Bone Spring SS Mbr	10,602'	-6925'
Lower Permian Wolfcamp Fm	10,892'	-7215'
Lower Permian Wolfcamp "Chert"	11,007'	-7330'
Upper Penn Cisco	11,662'	-7985'
Upper Penn Canyon	11,862'	-8185'
Upper Penn Strawn Fm	11,967'	-8290'
Lower Penn Atoka Fm	12,237'	-8560'
Lower Penn Atoka LST	12,597'	-8920'
Lower Penn Morrow Fm	12,772'	-9095'
Middle Morrow Clastics	12,992'	-9315'
Lower Morrow	13,302'	-9625'
PTD	13,800'	-10,073'


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

Upper Permian Sands	0-300'	fresh water
1st Bone Spring SS Mbr	9,247'	oil
Middle Morrow Clastics	12,992'	gas
Lower Morrow	13,302'	gas

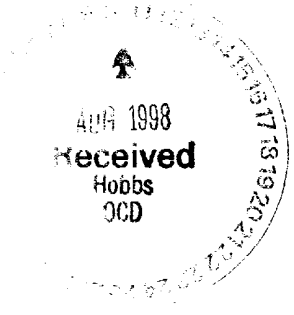
The ground water will be protected by setting 13-3/8" surface casing at 425' and circulating cement back to surface. The productive Wolfcamp horizons will be protected by setting 5-1/2" production casing at TD with cement tied back to approximately 9,000' on bottom, if Bone Spring is productive.

4. Proposed Casing Program:

Hole Size	Interval	Casing OD	Description
25"	0-40'	20"	Conductor, if necessary
17-1/2"	0-425'	13-3/8"	48#, H-40, ST&C, New, R-3
11" or 12-1/4"	0-4500'	8-5/8"	32#, J-55, LT&C, New, R-3
7-7/8"	0-10,200'	5-1/2"	17#, L-80, LT&C, New, R-3
7-7/8"	10,200-13,800'	5-1/2"	17#, S-95, LT&C, New, R-3

Proposed Cement Program:

20" Conductor:	Ready-mix poured to surface.
13-3/8" Surface Casing:	Cemented to surface with 170 sx 35:65 Poz (35% Poz:65% Class "C") + 6% Gel (Bentonite) + 0.25 lb/sk Cello Flake + 1% CaCl2 lead & 200 sx Class "C" +2% CaCl2 tail. Float equipment: Texas Pattern shoe with an insert float valve above the shoe joint and 2 centralizers. The shoe and first collar will be welded. One plug will be used to displace cement.
8-5/8" Intermediate Casing:	Cemented to surface with 1300 sx 35:65 Poz (35% Poz:65% Class "C") + 6% Gel (Bentonite) + 0.25 lb/sk Cello Flake + 5 lb/sk Salt lead & 200 sx Class "C" + 2% CaCl2 tail. Float equipment: Float shoe with a float collar 1 joint above the shoe joint and 12 centralizers. The shoe and float collar will be welded. One plug will be used to displace cement.
5-1/2" Production Casing:	Cement w/Lead: 210 sx 50:50 Poz:Cl H + 5% D44 + 0.4% D112 + 0.25% D65 + 2% D20 + 0.15% D13. Tail: 330 sx 35:65 Poz: Cl H + 5% D44 + 6% D20 + 0.15% D13.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5. Pressure Control Equipment:

The blowout preventer equipment (BOP) shown in Exhibits D & E will consist of a double ram-type (5000 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 BOP's will be nippled up on the 13-3/8" surface casing and used continuously until TD is reached. All BOP's 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 4000 psi and the hydril to 70% of 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 5000 psi WP rating which is shown in Exhibit F.

6. Proposed Mud System:

The proposed mud system will be a combination of fresh water, brine, cut brine, and polymer gel. The depths and mud properties of the mud system are listed below.

Depth	Type	Weight (ppg)	Viscosity (sec)	Waterloss (cc)	ph
0-425'	Fresh Water	8.3-8.8	28-30	Not Critical	9-10
400-5000'	Brine Water	8.8-10.2	28-30	Not Critical	9-10
5000-12,900'	Cut Brine	8.5-9.0	28-30	Not Critical	9-10
12,900-13,800	Polymer/Gel	9.0-9.8	30-32	<10	9-10

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

7. Auxiliary Well Control and Monitoring Equipment:

- A kelly cock will be kept in the drill string at all times.
- A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- A mud logging unit complete with H2S detector will be monitoring drilling penetration rate and hydrocarbon shows from 5000' to TD.


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8. Drillstem Testing, Logging, and Coring Programs:

- Drillstem tests will be run based on shows encountered while drilling.

- No logs are planned for the 11" or 12-1/4" hole section. The electric logging program for the 7-7/8" hole sections will consist of GR-Dual Laterolog MLL-BAC Sonic and GR Compensated Neutron--LithoDensity from TD to intermediate casing. Selected sidewell cores and RFT's may be taken in zones of interest.

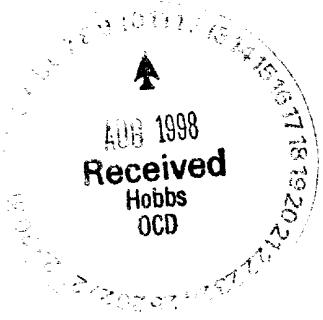
- No conventional coring is anticipated.

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

No abnormal pressures and/or temperatures are anticipated. No hydrogen sulfide or other hazardous gases or fluids are known to exist in this area. Lost circulation zones are expected from ±3500' until 8-5/8" casing is set at 5000'. Estimated BHP in Lower Morow is 6100 psi. Estimated BHP 6500 psi in the Middle Morrow.

10. Anticipated Starting Date and Duration of Operations:

The anticipated start date will be August 24, 1998. Once commenced, drilling operations should be completed in approximately 45 days. If the well is productive, another 15 days will be required for completion work and facility installation.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SURFACE USE PLAN
MATADOR OPERATING COMPANY
ESMERALDA FEDERAL "24" #1
1650' FSL, 1980' FWL
Sec 24, T19S, R33E
LEA COUNTY, NEW MEXICO

1. EXISTING ROADS - Area map, Exhibit "A", is a reproduction of the appropriate part of the U.S.G.S. New Mexico 7-1/2 minutes quadrangle. Existing roads are shown on the exhibit and the road to be used on the referenced well is marked. All roads shall be maintained in a condition equal to that which existed prior to the start of construction.

   A. Exhibit "A" shows the proposed exploratory well site as staked.

   B. Directions: From Hobbs go West on US62 for 27 miles or ±1/4 mi past mile marker 76, turn Northwest on Smith Road and travel 2.0 miles, then West & North for 1.4 miles on lease road, then East-Northeast on lease road for 1.5 miles to location.

2. PLANNED ACCESS ROADS - Existing lease roads with an extension of approximately 2500' of new road from existing location, then upgrading 1000' of existing road and adding 600' of new road from the upgraded road to the location.

3. LOCATION OF EXISTING WELLS ON A ONE-MILE RADIUS

   A. Water wells - NA.

   B. Disposal wells - NA.

   C. Drilling wells - NA.

   D. Producing wells - As shown on Exhibit "C".

   E. Abandoned wells - As shown on Exhibit "C".

4. If upon completion, the well is a producer, Matador Operating Company will furnish maps or plats showing On Well Pad Facilities, and Off Well Pad Facilities (if needed) on a Sundry Notice before construction of these facilities starts.


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5. LOCATION AND TYPE OF WATER SUPPLY

Water will be purchased locally from a private source and trucked over the access road or piped in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIALS

If needed, construction materials will be obtained from the drill site's excavations, or from a local source. These materials will be transported over the access route as shown in Exhibit "A".

7. METHODS FOR HANDLING WASTE DISPOSAL.

A. 1. Drill cuttings will be disposed of in the reserve pit.

2. Trash, waste paper, and garbage will be contained in a fenced trash trailer to prevent wind-scattering during storage. When the rig moves out, all trash and debris will be hauled to an approved land-fill site.

3. Salts remaining after completion of the well will be picked up by the supplier, including broken sacks.

4. Sewage from trailer houses will drain into holes with minimum depth of 10'00". These holes will be covered during drilling and back-filled upon completion. A "porta-john" will be provided for the rig crews. This will be properly maintained during the drilling operations and removed upon completion of the well.

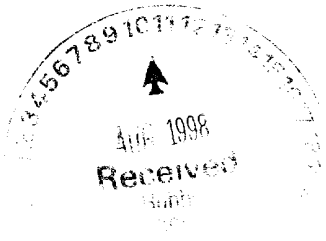
5. Chemicals remaining after completion of the well will be stored in the manufacturer's containers and picked up by the supplier.

B. Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for back-filling. In the event the drilling fluids have evaporated in a reasonable period of time, they will be transported by a tank truck to a state approved disposal site.

Water produced during testing of the well will be disposed of in the reserve pit. Oil produced during testing of the well will be stored in test tanks until sold and hauled from the site.

8. ANCILLARY FACILITIES

No camps or airstrips will be constructed.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9. WELL SITE LAYOUT

A. Exhibit "B" shows the proposed well site layout.

B. This exhibit indicates proposed location of the reserve pits and trash trailer.

C. Mud pits in the active circulating system will be steel pits and the reserve pit is proposed to be unlined, unless subsurface conditions encountered during pit construction indicate that lining is needed for lateral containment of fluids.

D. If needed, the reserve pit is to be lined with a poly-ethylene liner. The pit liner will be a minimum of 6 mils thick. The pit liner will extend a minimum of 2'00" over the reserve pit dikes where the liner will be anchored down.

E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or dry hole.

In either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be levelled and contoured to conform to the original and surrounding area as closely as is possible. Drainage system, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location pad and surface facilities. After the area has been shaped and contoured, topsoil from the soil pits will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.


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11. OTHER INFORMATION

A. The area around the wellside has moderate to high dunes with deflation basins 1-2 meters deep, shin oak, yucca, sage brush, mesquite, broom weed & various grasses.

B. The surface use is grazing and the leasee is Ken Smith, Inc., P. O. Box 764, Carlsbad, NM 88221.

C. An archaeological study has been conducted for the location and road. The report will be submitted under separate cover.

D. There are no buildings in the area.

12. OPERATOR'S REPRESENTATIVE

Matador Operating Company's field representative for contact regarding compliance with the Surface Use Plan is:

Before, during, and after construction:
John W. Bell
8340 Meadow Road #158
Dallas, TX 75231
Office: 214-987-7144
Res: 972-818-8778
Mobile: 214-213-7670

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 currently 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 Matador Operating Company and its contractors/
subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Name: J. W. Bell
John W. Bell
Drilling Manager

Date: 7-10-97


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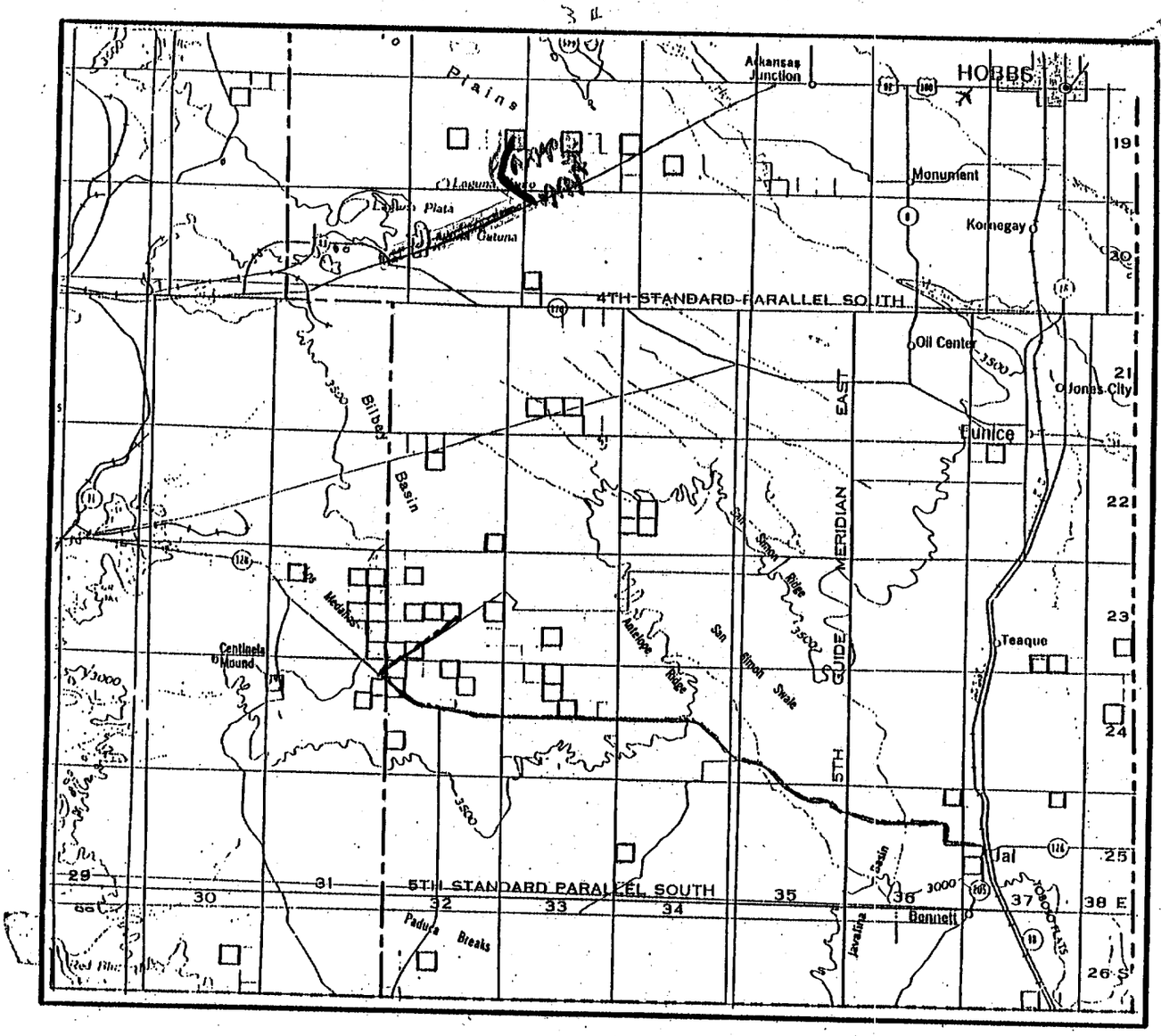
VICINITY MAP



SECTION 24 TWP 19-S RGE 33-E

SURVEY NEW MEXICO PRINCIPAL MERIDIAN

COUNTY LEA STATE NM

DESCRIPTION 1650' FSL & 1980' FWL

OPERATOR MATADOR OPERATING COMPANY

LEASE ESMERALDA FEDERAL "24" #1

DISTANCE & DIRECTION FROM THE JCT. OF U.S. HWY. 62 & STATE HWY. 176, ±35 MILES WEST OF HOBBS, GO EAST 7.6 MILES ON STATE HWY. 62, THENCE NORTHWEST 2.7 MILES ON LEASE ROAD, THENCE NORTHEAST 1.3 MILES ON LEASE ROAD TO A POINT ±650' WEST OF THE LOCATION.

N

Exhibit "A"
Area Map

This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us.

Review this plat and notify us immediately of any possible discrepancy.

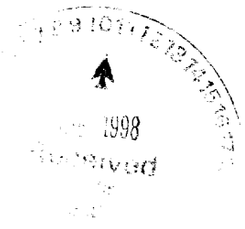
TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

1307 N. HOBART
PAMPA, TX. 79065
(800) 658-6382

6709 N. CLASSEN BLVD.
OKLAHOMA CITY, OK. 73116
(800) 654-3219

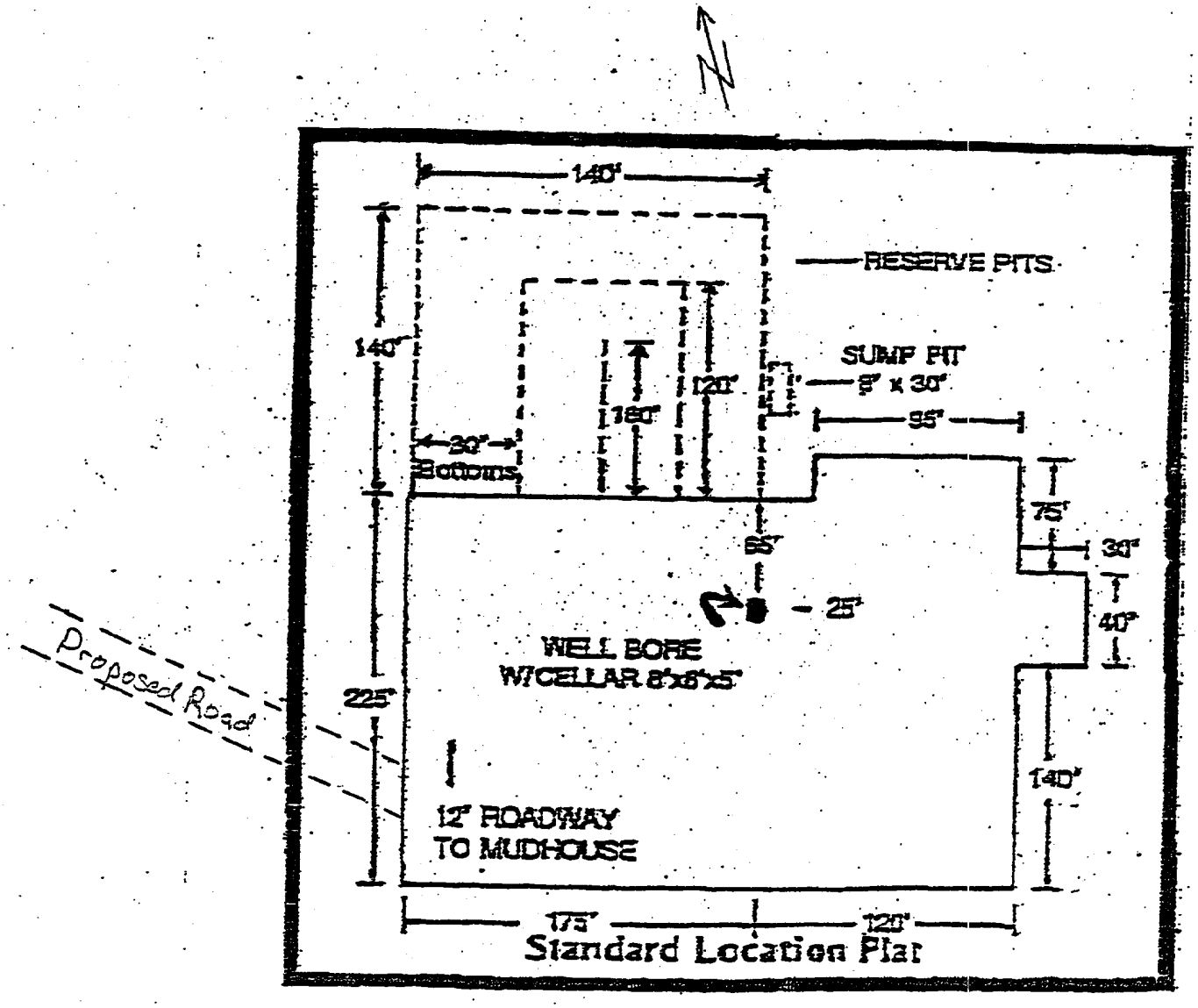
2903 N. BIG SPRING
MIDLAND, TX. 79705
(800) 767-1653

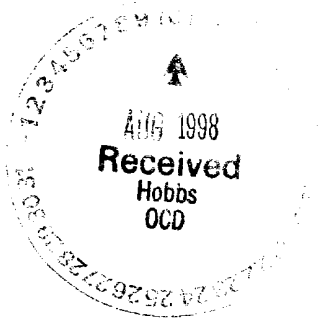


WELLSITE PLAN

Matador Operating Company
Esmeralda Federal 24 #1
1650 FSL & 1980 FWL
Section 24, T19S, R33E
Lea County, New Mexico

Exhibit "B"

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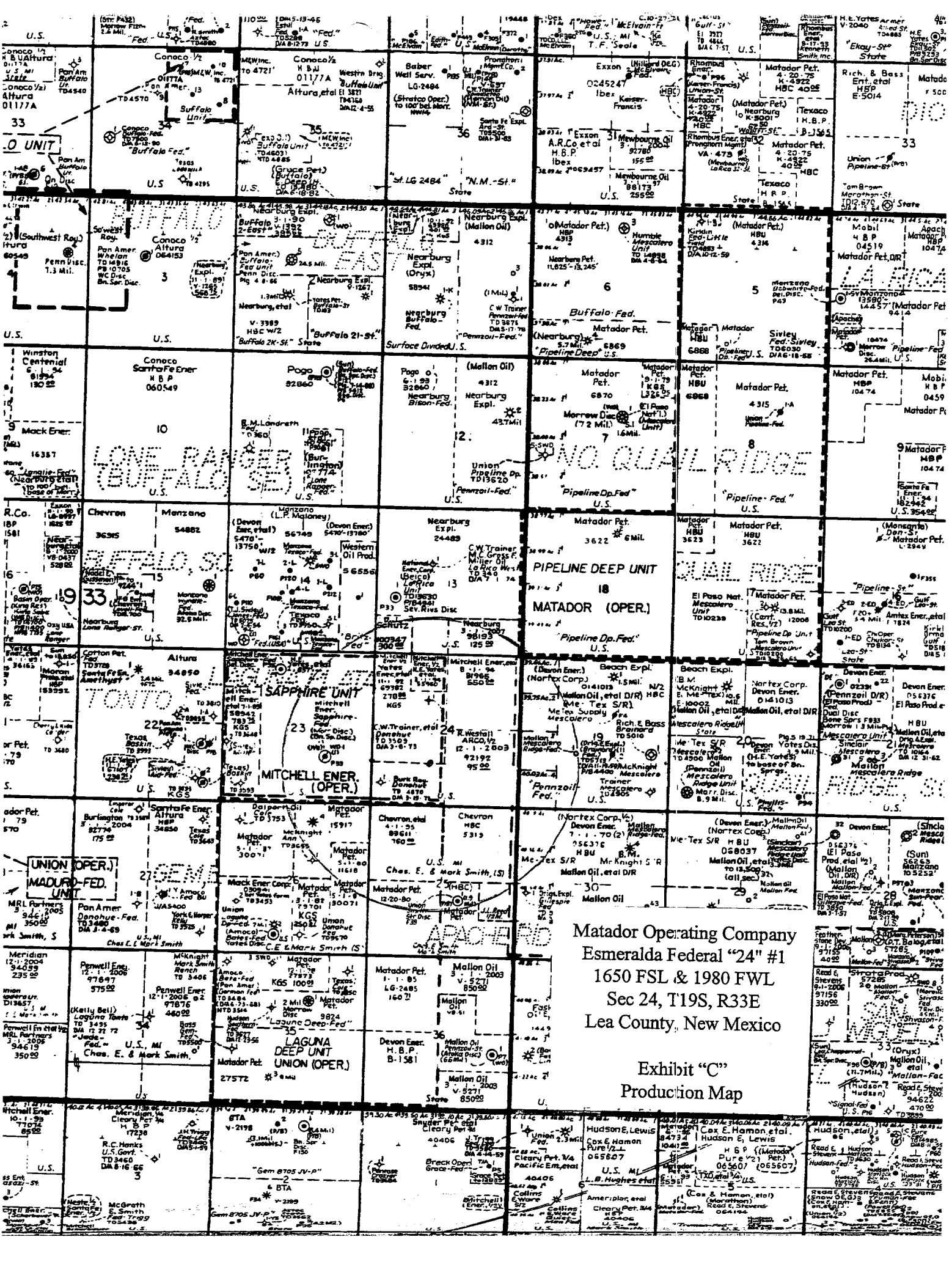
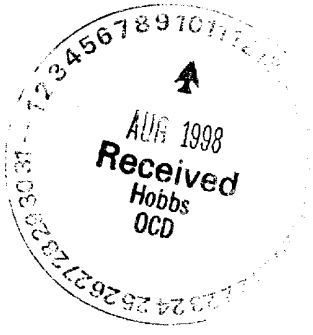

Matador Operating Company
Esmeralda Federal "24" #1
1650 FSL & 1980 FWL
Sec 24, T19S, R33E
Lea County, New Mexico
Exhibit "C"
Production Map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Matador Operating Company
Esmeralda Federal "24" #1
1650 FSL & 1980 FWL
Sec 24, T19S, R33E
Lea County, New Mexico

Exhibit "D"

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

5,000 psi Working Pressure

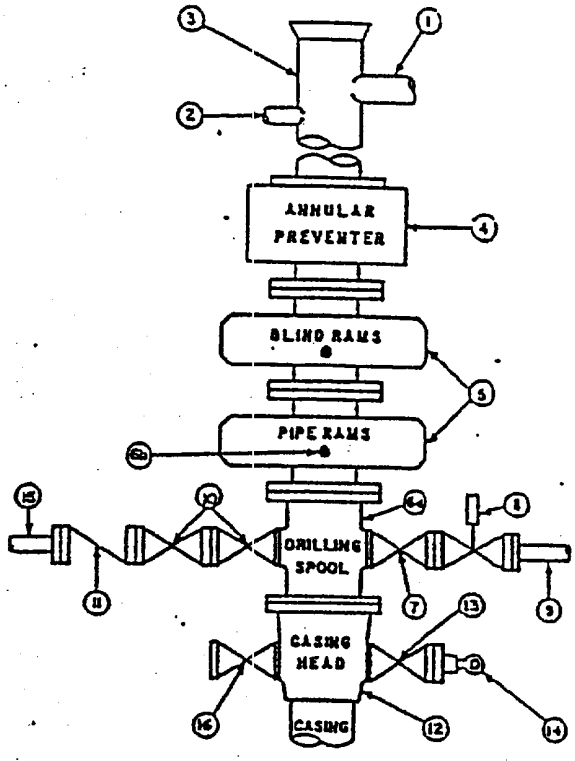
5 MWP

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
6b	—or— 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 5,000 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 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 (5000 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.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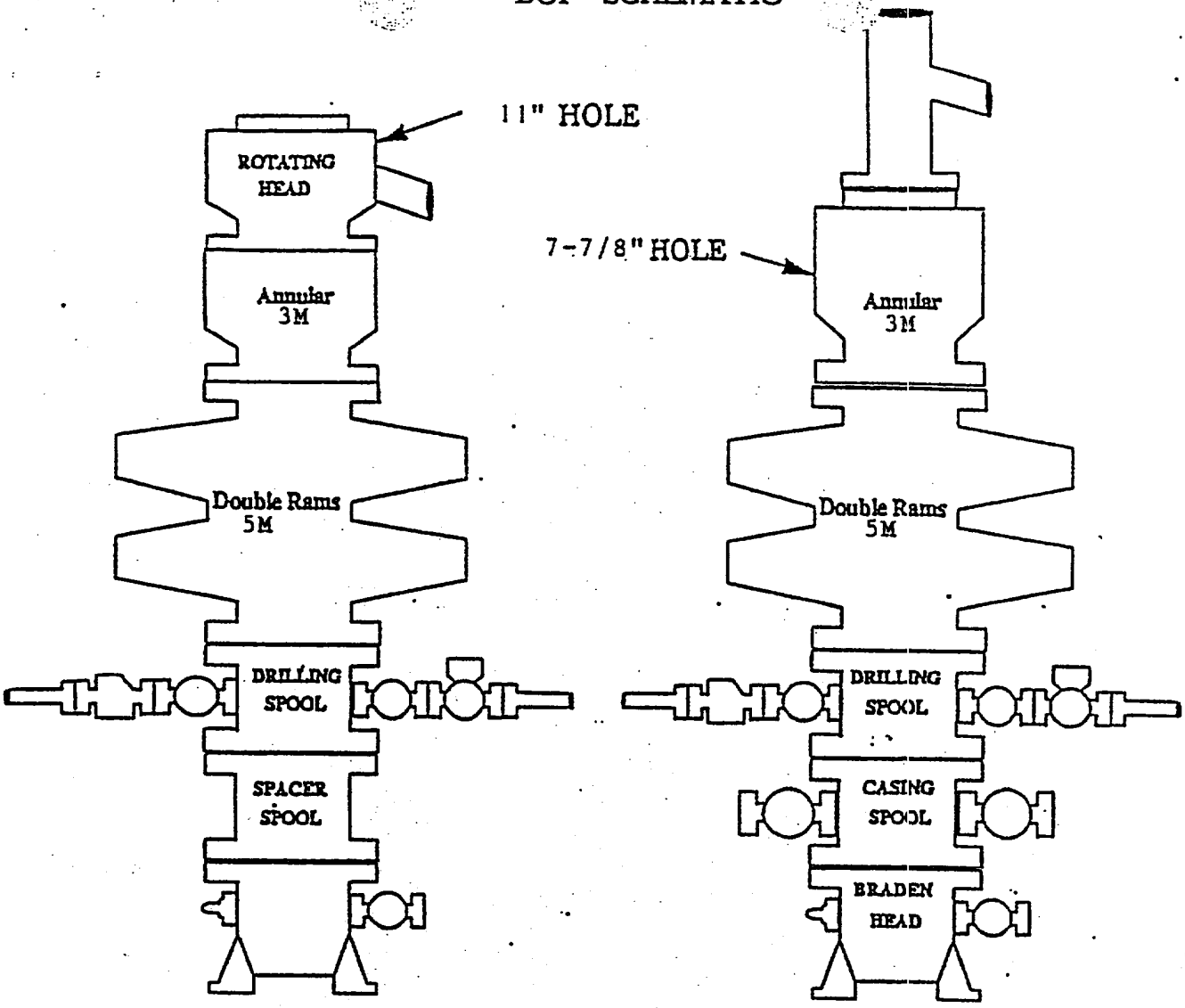
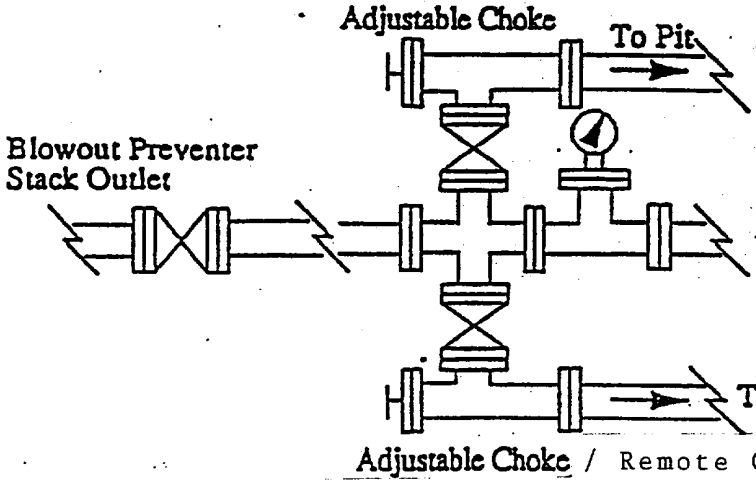
BOP SCHEMATIC



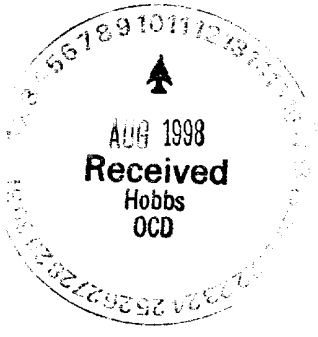
Choke Manifold Requirement (5000 psi WP)



Minimum 4" Nominal choke and kill lines

Matador Operating Company
Esmeralda Federal "24" #1
1650 FSL & 1980 FWL
Sec 24, T19S, R33E
Lea County, New Mexico

Exhibit "E"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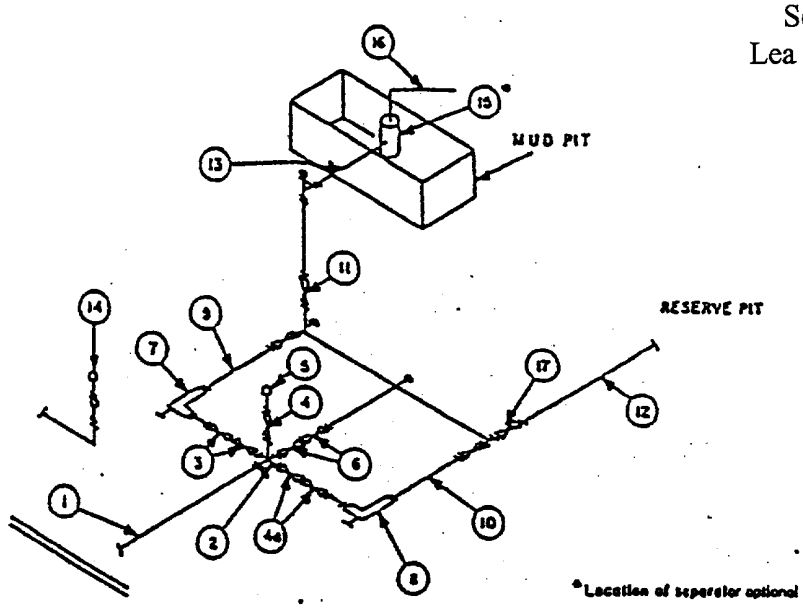
Esmeralda Federal "24" #1
1650 FSL & 1980 FWL
Sec 24, T19S, R33E
Lea County, New Mexico

Exhibit "F"

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.
7. Discharge lines from chokes, choke bypass and from top of gas separator should vent as far as practical from the well.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WELL PLAN OUTLINE

Well Name: Esmeralda Federal "24" #1 County: Lea State: NM

Location: 1650 FSL & 1980 FWL Est KB: 3677 TD: 13,800'

Sec 21, T19S, R33E GL: 3657

Depth	Formation Top & Type	Drilling Problems	Type of Formation Evaluation	Hole Size	Casing Size-Depth	Frac Grad	Form Press Grad	(ppg) Mud Wt & Type	Days
	Sand & Red Bed @ 300'		0-300'	17-1/2"	13-3/8" 48# H-40 @			8.3-8.8	1
			Dev. survey <1deg		425' w/ cmt to surface			Fresh wtr	
1000	Anhydrite/Salt		500' surveys to TD						
2000								8.8-10.2	
				11"				Cut Brine	
		Possible		or					
3000		Deviation &		12-1/4"					
	Yates 3382 (+295)	washout							
	Seven Rivers 3752 (-75)								
4000									
			Logging unit		8-5/8" 32# J-55 @				
			4500' to TD		4500 w/ cmt to surf				
5000									
	Delaware 5542 (-1865)								10
6000								8.5-9.0	
								Cut Brine	
				7-7/8"					
7000									
8000	Bone Spring 8002 (-4325)		Maximum deviation						
			5 degrees						
9000									
									20
	2nd Bone Spg 9742 (-6065)								
10000									
	Wolfcamp 10,892 (-7215)								
11000									
	Cisco 11,662 (-7985)				5-1/2" 17# L-80				30
					& S-95 @ 13,800				
12000	Strawn 11,967 (-8290)				w/ cmt to 9,000'				
	Atoka 12,237 (-8560)								
	Morrow 12,772 (-9093)								
13000	Mid Morrow Clastics							9.0-9.8	
	12,992 (-9315)							Polymer-Gel	40
								WL<10	
14000									


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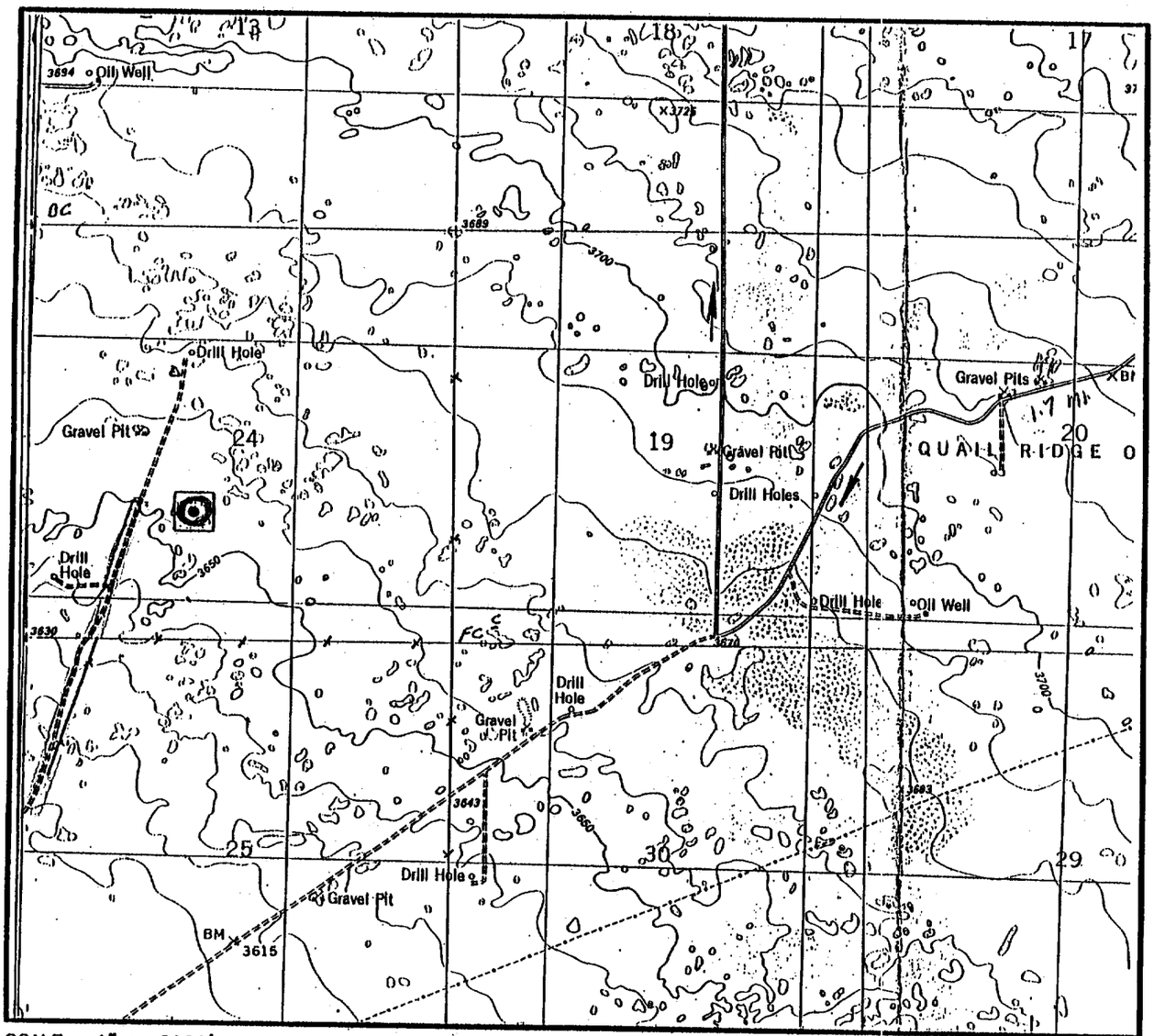
LOCATION & ELEVATION VERIFICATION MAP



SCALE : 1" = 2000'

CONTOUR INTERVAL 10'

SECTION 24 TWP 19-S RGE 33-E

SURVEY NEW MEXICO PRINCIPAL MERIDIAN

COUNTY LEA STATE NM

DESCRIPTION 1650' FSL & 1980' FWL

ELEVATION 3615' 3657'

OPERATOR MATADOR OPERATING COMPANY

LEASE ESMERALDA FEDERAL "24" #1

U.S.G.S. TOPOGRAPHIC MAP

IRONHOUSE WELL, NEW MEXICO

LAT. N 32°38'34.2"

LONG. W 103°37'05.9"

N

This location has been very carefully staked on the ground according to the best official survey records, maps, and other data available to us.

Review this plat and notify us immediately of any possible discrepancy.

TOPOGRAPHIC LAND SURVEYORS

Surveying & Mapping for the Oil & Gas Industry

1307 N. HOBART
PAMPA, TX. 79065
(800) 658-6382

6709 N. CLASSEN BLVD.
OKLAHOMA CITY, OK. 73116
(800) 654-3219

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(800) 767-1653


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