

PLEASE EXPEDITE THIS LOCATION WAS APPROVED ONCE BUT
THE PERMIT WAS ALLOWED TO EXPIRE.

ATS-08-253

Form 3-00
(April 2004)

RECEIVED

MAR 10 2008

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-HOBBS

382

Amend Prop. Code
FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

HOBBS OOD

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-65441
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name _____
2. Name of Operator GREAT WESTERN DRILLING COMPANY (CARY BILLINGSLEY 432-682-5241)		7. If Unit or CA Agreement, Name and No. _____
3a. Address P.O. BOX 1659 MIDLAND, TEXAS 79702		8. Lease Name and Well No. MADERA "25" FEDERAL # 3
3b. Phone No. (include area code) 432-682-5241		9. API Well No. 30-025-38807
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1500' FSL & 1980' FEL SECTION 25 T26S-R34E LEA CO. At proposed prod. zone SAME Unit J		10. Field and Pool, or Exploratory JABALINA ATOKA SW-GAS
11. Sec., T. R. M. or Blk. and Survey or Area SECTION 25 T26S-R34E		12. County or Parish LEA CO.
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately 16 miles Southwest of Jal New Mexico
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease 1280	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 16,000'	20. BLM/BIA Bond No. on file NM-0996 NATION WIDE
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3199' GL	22. Approximate date work will start* AS SOON AS APPROVED	23. Estimated duration 60 Days
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. I, shall be attached to this form:

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer |

25. Signature <i>Joe T. Janica</i>	Name (Printed/Typed) Joe T. Janica	Date 12/27/07
Title Permit Engineer		
Approved by (Signature) <i>/s/ Don Peterson</i>	Name (Printed/Typed) <i>/s/ Don Peterson</i>	Date MAR 06 2008
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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

(Instructions on Page A)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I
1625 N. FRENCH DR., HOBBES, NM 86240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-025-38807	Pool Code 79123 /	Pool Name JABALINA-ATOKA SOUTHWEST GAS
Property Code 24345	Property Name MADERA 25 FEDERAL	Well Number 3
OGRID No. 9338	Operator Name GREAT WESTERN DRILLING CO.	Elevation 3199'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	25	26-S	34-E		1500	SOUTH	1980	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 320 /	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

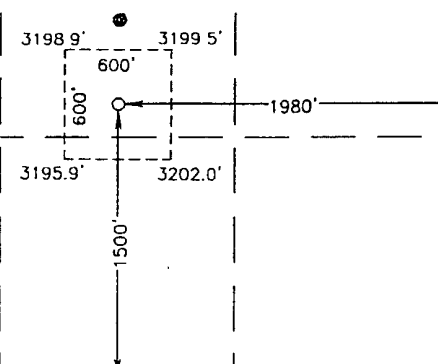
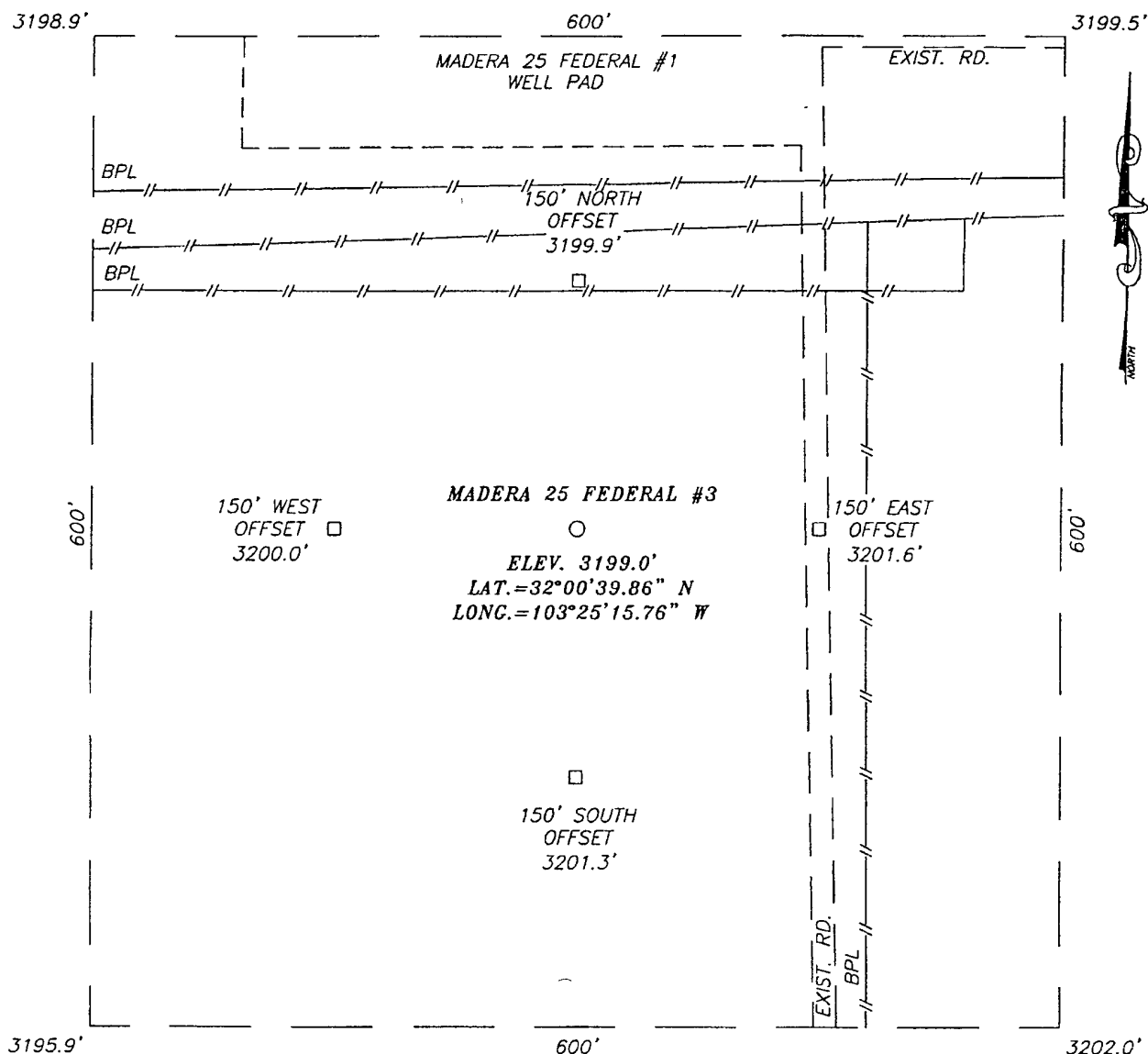
<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=368948.2 N X=782776.2 E</p> <p>LAT.=32°00'39.86" N LONG.=103°25'15.76" W</p> <p>NM-65441</p> 	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature <i>Joe T. Janice</i> Date 12/27/07 Joe T. Janice Printed Name</p>
	<p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>ARPH 7. 2006</p> <p>Date Surveyed REVISED 12/27/07 AR Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> 12/27/07 Certificate No. GARY EIDSON 12641 RONALD J. EIDSON 3239</p>

EXHIBIT "A"

SECTION 25, TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO

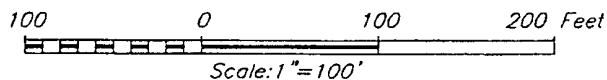


DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #205 AND BECKHAM RD. (7 MILES SOUTHWEST OF JAL), GO WEST ON BECKHAM RD. APPROX. 2.4 MILES (GOING AROUND THE RANCH HOUSE). GO WEST APPROX. 3.0 MILES. TURN RIGHT AND GO NORTHWEST APPROX. 0.4 MILES. TURN LEFT AND GO WEST-NORTHWEST APPROX. 1.7 MILES. TURN RIGHT AND GO NORTH APPROX. 0.1 MILE. TURN LEFT AND GO WEST APPROX. 1.5 MILES (BY WIND MILLS RD.), TURN RIGHT AND GO NORTHWEST APPROX. 450 FEET (THROUGH TWO CATTLEGUARDS). TURN LEFT AND GO WEST APPROX. 0.5 MILES. TURN LEFT AND GO SOUTH APPROX. 1.1 MILES. TURN RIGHT AND GO WEST APPROX. 0.5 MILE TO THE MADERA 25 FEDERAL #1 WELL PAD. TURN LEFT AND GO SOUTH APPROX. 300 FEET. THIS LOCATION IS APPROX. 150 FEET WEST.



PROVIDING SURVEYING SERVICES
 SINCE 1948
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

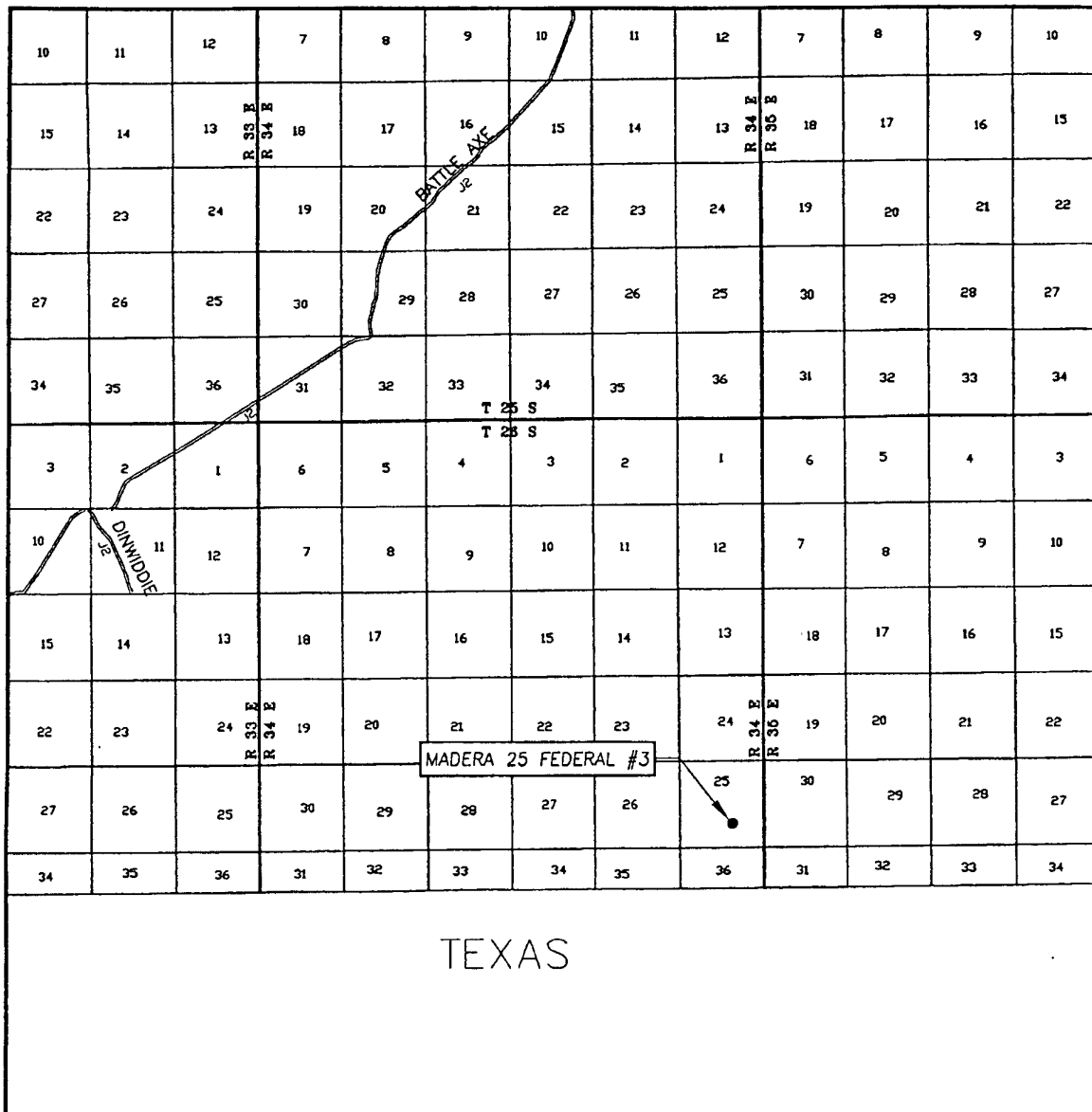


GREAT WESTERN DRILLING CO.

MADERA 25 FEDERAL #3
 LOCATED 1500 FEET FROM THE SOUTH LINE
 AND 1980 FEET FROM THE EAST LINE OF SECTION 25,
 TOWNSHIP 26 SOUTH, RANGE 34 EAST, N.M.P.M.,
 LEA COUNTY, NEW MEXICO.

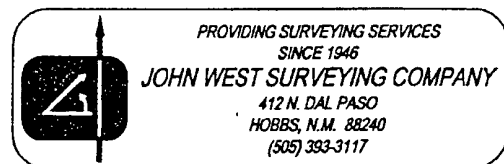
Survey Date: 04/07/06	Sheet 1 of 1 Sheets
W.O. Number: 06.11.0610	Dr By: AR
Date: 04/11/06	Rev: 12/27/07
Disk: CD#6	06110610
	Scale: 1"=100'

VICINITY MAP

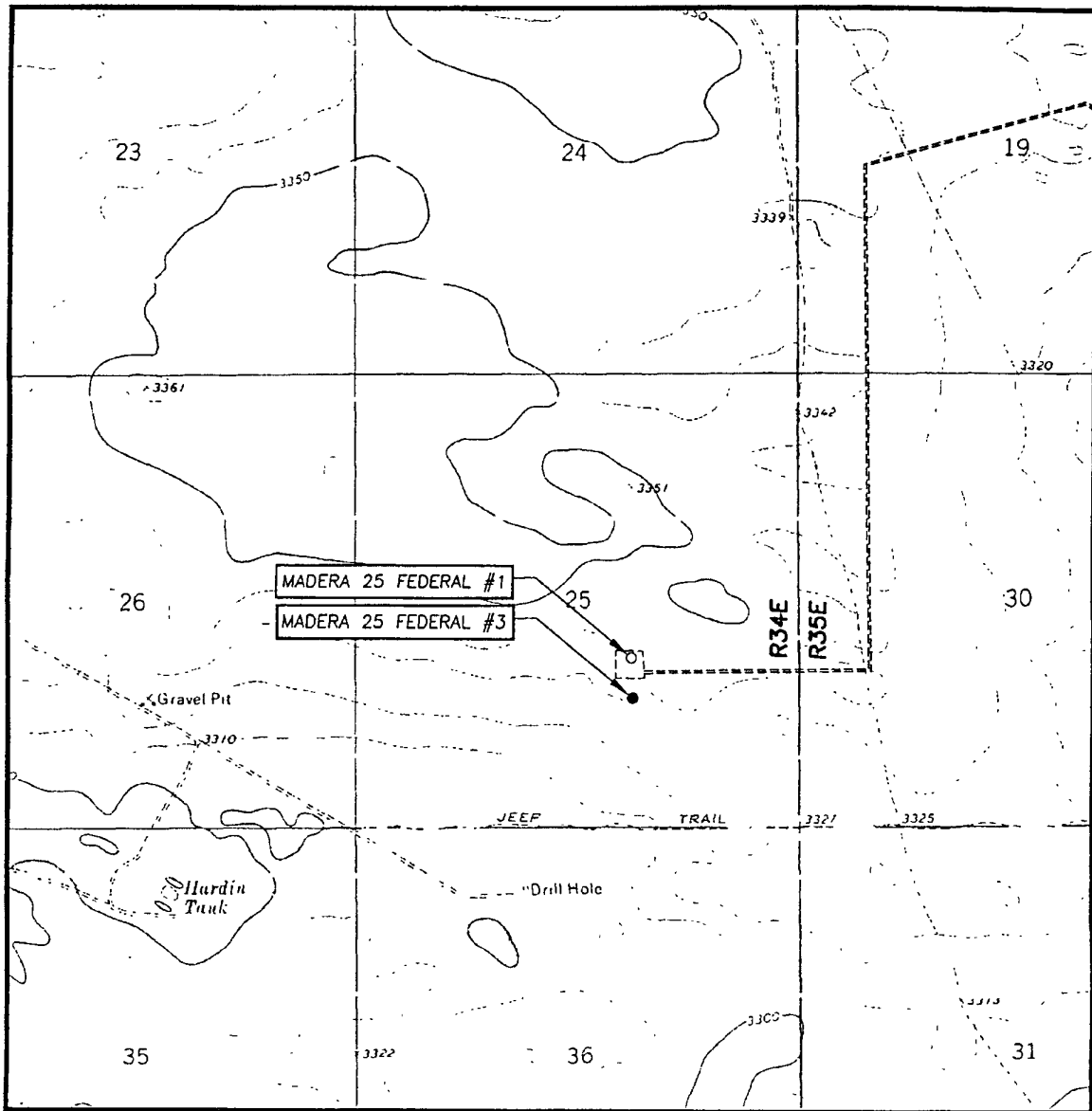


SCALE: 1" = 2 MILES

SEC. 25 TWP. 26-S RGE. 34-E
 SURVEY N.M.P.M.
 COUNTY LEA STATE NEW MEXICO
 DESCRIPTION 1500' FSL & 1980' FEL
 ELEVATION 3199'
 OPERATOR GREAT WESTERN DRILLING CO.
 LEASE MADERA 25 FEDERAL



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
ANDREWS PLACE, N.M.-TX. - 10'

SEC. 25 TWP. 26-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

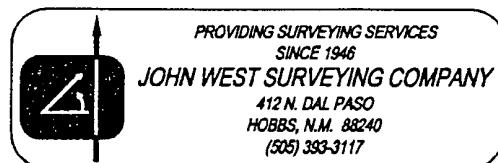
DESCRIPTION 1500' FSL & 1980' FEL

ELEVATION 3199'

OPERATOR GREAT WESTERN
DRILLING CO.

LEASE MADERA 25 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
ANDREWS PLACE, N.M.-TX.



APPLICATION TO DRILL

GREAT WESTERN DRILLING COMPANY
 MADERA "25" FEDERAL # 3
 UNIT "J" SECTION 25
 T26S-R34E LEA CO. NM

In response to questions asked under Section II of Bulliten NTL-6, the following information on the above will be provided.

1. LOCATION: 1500' FSL & 1980' FEL SECTION 25 T26S-R34E LEA CO. NM
2. ELEVATION ABOVE SEA LEVEL: 3199' GL
3. GEOLOGICAL NAME OF SURFACE FORMATION: Quaternary Aeolian Deposits.
4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.
5. PROPOSED DRILLING DEPTH: 16,000'

6. ESTIMATED TOPS OF GEOLOGICAL FORMATIONS:

Rustler Anhydrite	800'	Wolfcamp	12,550'
Yates	2365'	Strawn	14,600'
San Andres	3620'	Atoka Sand	15,200'
1st Bone Spring Sand	9470'	TD	16,000'

7. POSSIBLE MINERAL BEARING FORMATIONS:

Bone Spring	Oil	Strawn	Gas
Wolfcamp	Oil	Atoka	Gas

8. CASING PROGRAM:

HOLE SIZE	INTERVAL	OD OF CASING	WEIGHT	THREAD	COLLAR	GRADE
26"	0-40	20"	NA	NA	NA	Conductor New
17½"	0-1000'	13 3/8"	54.5#	8-R	ST&C	or K-55 J-55 New
12½"	0-5340'	9 5/8"	40 & 36#	8-R	ST&C	J-55 L-80 New
8½"	0-13,100'	7"	29#	8-R	LT&C	HCP-110 New
6 1/8"	12,900-16,000'	5"	23.2#	AB	FLUSH JOINT	P-110 New

Collapse 1,125 Burst 1,000 Body 1/4" 1.5 Joint 8R-1.8
casing changed to match Madera 25 Fed 2 Buttress 1.5

9 5/8 3100' 36# K-55 STC
1500' 36# HCK-55 STC
740' 40# HCK-55 STC

APPLICATION TO DRILL

GREAT WESTERN DRILLING COMPANY
MADERA "25" FEDERAL # 3
UNIT "J" SECTION 25
T26S-R34E LEA CO. NM

9. CASING SETTING DEPTHS & CEMENTING:

20"	CONDUCTOR	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
13 3/8"	Surface	Set ^{1000'} 5340' of 13 3/8" 54.5# ^{For} X-55 ST&C casing. Cement with 1000 Sx. of of Class "C" cement + 1# Flocele/Sx. + 2% CaCl, Yield 1.32, circulate cement to surface.
9 5/8"	Intermediate	Set 5340' of 9 5/8" 36&40# ^K X -55 & HCK-55 ST&C casing. Cement with 1500 Sx. of 65:35 Class "C" POZ+ 6% Gel, + 5% Salt Yield 2.09, tail in with 500 Sx. of Class "C" cement + 1% CaCl, Yield 1.32. Circulate to surface.
7"	2nd Intermediate	Set 13,100' of 7" 26 & 32# BT&C, LT&C casing. Cement with 1550 Sx. of Class "H" cement + 1.0% F1 additive, + .15% + .25disp + retarder as necessary. Estimate TOC 3000' from surface. <i>1.62 per open hole 1/22/08</i>
5"	Production Liner	Set a 3100' 5" 23.2# ATLAS BRADFORD flush joint production liner from 16,000' back to 12,900'. Cement with 300 Sx. of Class "H" cement + .3% Hal413, + .2% Hal 344, + SSA-1 + 25% SSA-2 + 10#/Sx. HiDens, + .2% SA5431, + .4% SCR100, + .4% HR2, Yield 1.38. cement to top of liner.

10. PRESSURE CONTROL EQUIPMENT:

Exhibit "E" shows a 1500 series 5000 PSI working pressure B.O.P. to be installed on the 13 3/8" casing. B.O.P. will be tested to API specifications prior to drilling casing shoe. This 5000 PSI B.O.P. will remain on the hole till the 7" casing is run. Exhibit "F" shows a 10,000 PSI working pressure B.O.P. to be installed after the 7" casing is run and cemented and prior to drilling the Strawn. Exhibit "E-1" shows a 5000 PSI choke manifold and closing unit. Exhibit "F-1" shows a 10,000 PSI choke manifold and closing unit. The B.O.P.s will be operated at least once in each 24 hour period and the blind rams will be operated when the drill pipe is out of hole on trips. High pressure gas may be encountered in the Strawn. Mud weight will be increased in order to control this pressure.

APPLICATION TO DRILL

GREAT WESTERN DRILLING COMPANY
MADERA "25" FEDERAL # 3
UNIT "J" SECTION 25
T26S-R34E LEA CO. NM

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD.
40-1000'	8.4-8.7	29-34	NC	Fresh water add paper to control seepage, and lime for pH control.
1000-5340'	10.0-10.2	29-38	NC	Brine water add paper to control seepage and lime for pH control use high viscosity sweeps to clean hole.
5340-13,400'	8.4-8.7	29-40	Nc	Fresh water mud system use LCM if needed use high viscosity sweeps to clean hole.
13,400-16,000'	10.0-16.0	34-40	10cc or less	Brine water using Dris-pac/Polymer to maintain viscosity and water loss to 10cc or less, add barite to increase weight to 12PPG continue to increase weight to 16PPG prior to drilling the Atoka.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing the viscosity and/or the water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

GREAT WESTERN DRILLING COMPANY
MADERA "25" FEDERAL # 3
UNIT "J" SECTION 25
T26S-R34E LEA CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs : Dual Laterolog, SNP, LDT, MSFL, Gamma Ray, Caliper from TD back to 4000'.
- B. Cased hole logs: Gamma Ray, Neutron from 5340' to surface.
- C. Rig up mud logger on hole at 4000' and keep on hole to TD.
- D. No cores are planned at this time, DST's may be run if shows dictate.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H²S in this area. If H²S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 9500± PSI, and Estimated BHT 215°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 60 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Aroka formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialized as a gas well.



5000 psi WP

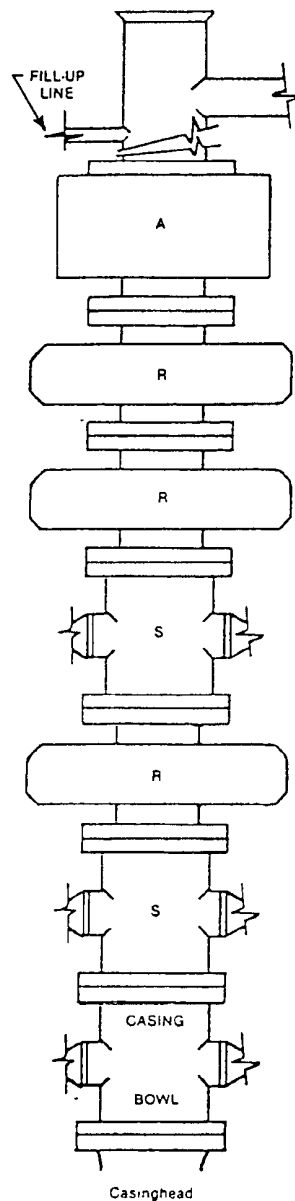


FIGURE K1-3. Recommended IADC Class 10 BOP stack arrangement
SRSRRA, 10,000 psi WP. Lower drilling spool is optional with outlets on
lower ram. Annular preventers may be 5000 or

10000

EXHIBIT "E-1"
10,000 PSI
SKETCH OF B.O.P. TO BE USED ON
GREAT WESTERN DRILLING COMPANY
MADERAL "25" FEDERAL # 3
UNIT "J" SECTION 25
T26S-R34E LEA CO. NM

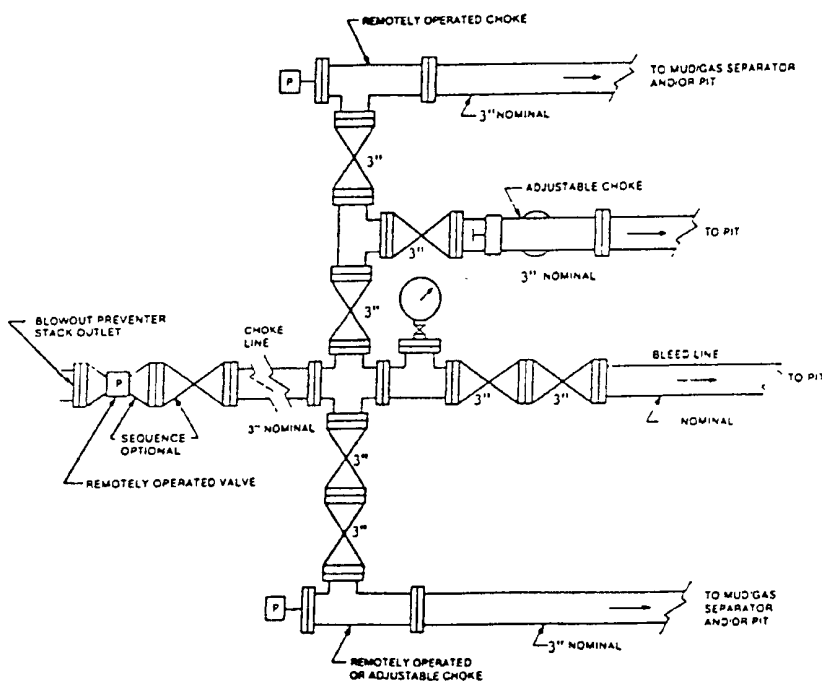
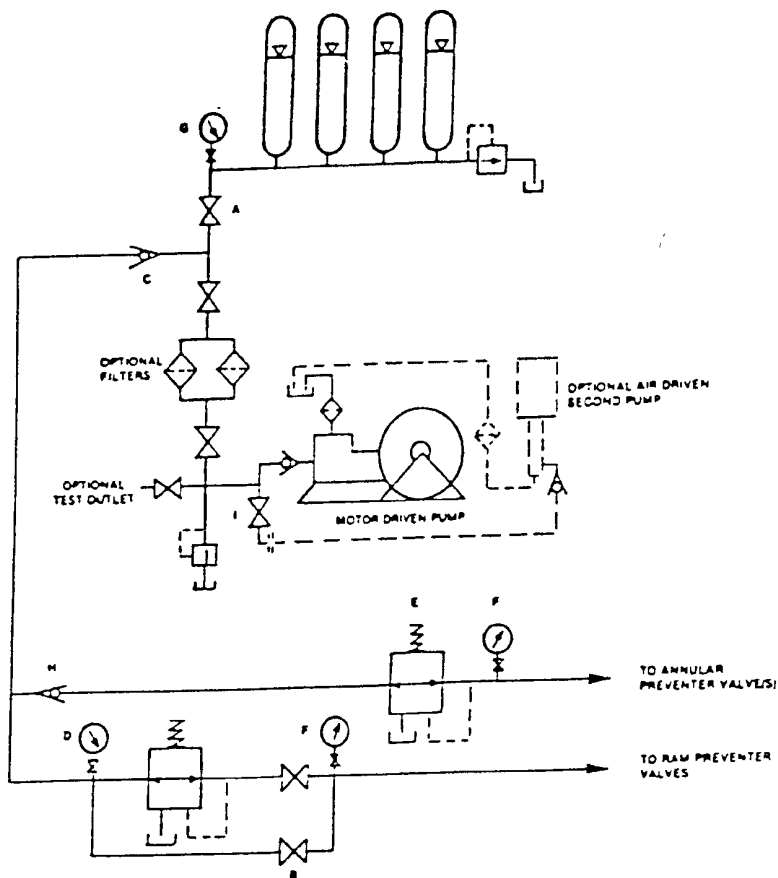


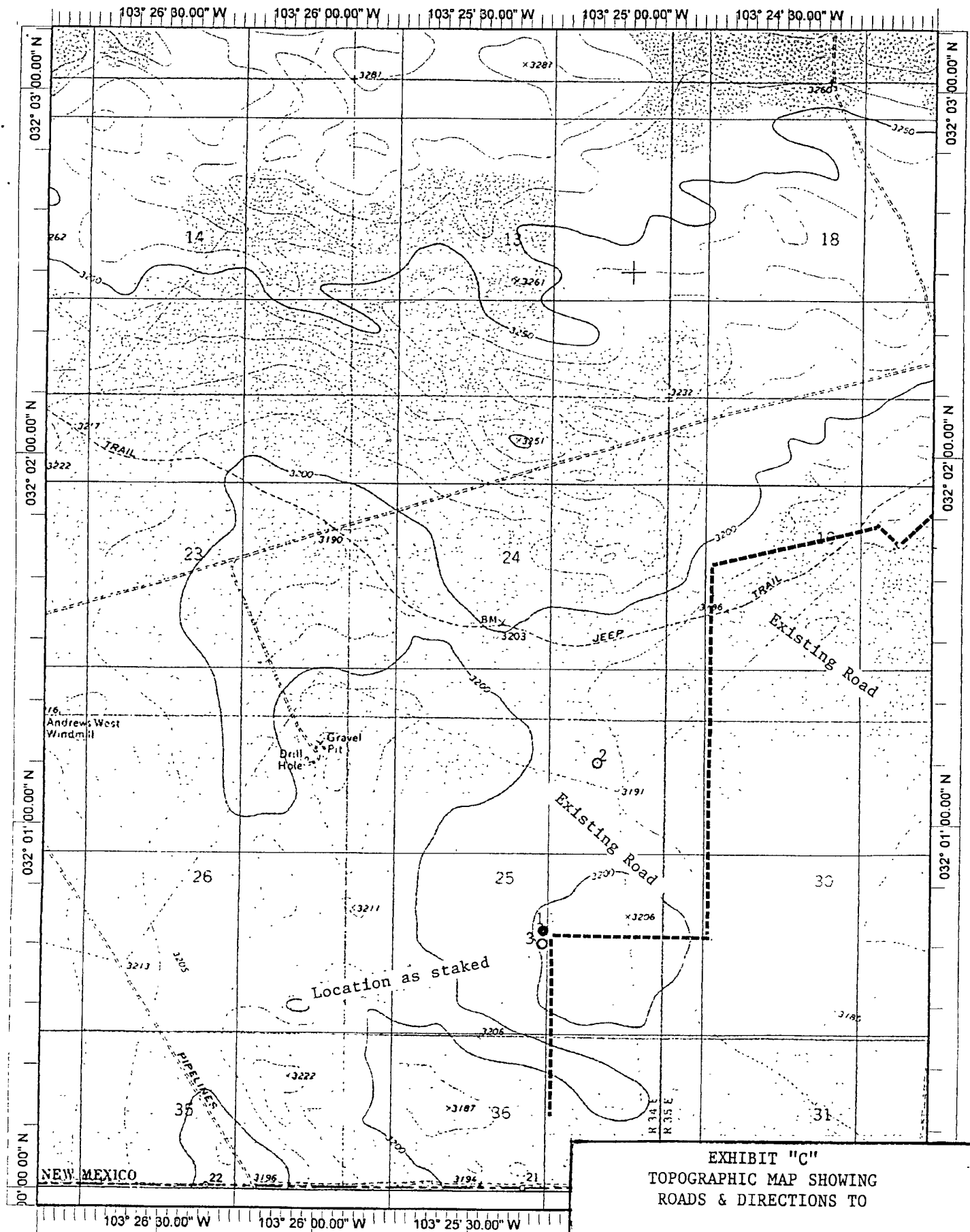
FIGURE K4-3 Typical choke manifold assembly for 10M and 15M rated

EXHIBIT "F"
CHOKE MANIFOLD & CLOSING UNIT
FOR 5,000 & 10,000 PSI B.O.P.

GREAT WESTERN DRILLING COMPANY
MADERA "25" FEDERAL # 3
UNIT "J" SECTION 25
T26S-R34E LEA CO. NM

U.S.	U.S.	U.S. M.I. 8 W. Dinwiddie	U.S.	U.S.	Gonzales Jr. M.I. 3 mi. S.	U.S.	U.S.
EOG Res. 12-1-2004 34114 44500	EOG Res. 12-1-2004 34114 54400		EOG 12-1-2004 34114 56000	Enbridge 12-1-2004 34114 56000 Bn. Dinwiddie et al. (S)	Devon Ener 12-1-2004 34114 56000 (Chesapeake)	OXY HBP 45706	OXY HBP 45706 (Chesapeake)
26	25		30	29	28		27
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.
EOG Res. 12-1-2004 34114 44500	Enbridge 12-1-2004 34114 54400 (Chesapeake)	Pauline Pet 12-1-2004 34114 54400 (Chesapeake)	Yates Pet et al 12-1-2004 34114 56000	J Bruce 12-1-2004 34114 56000	R E Landreth 12-1-2004 34114 56000	Devon Ener 12-1-2004 34114 56000 (Chesapeake)	OXY HBP 45706 (Chesapeake)
35	36		31	32	33		34
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.
Devon Ener 12-1-2004 34114 56000	J Bruce 12-1-2004 34114 56000	J Bar Cane 12-1-2004 34114 56000	Devon Ener 12-1-2004 34114 56000 (Chesapeake)	Amoco 12-1-2004 34114 56000 Purcell Prod Co 13447	OXY HBP 45706	Pioneer Nat Res 12-1-2004 34114 56000	Yates Pet 12-1-2004 34114 56000
2	1		6	5	4		3
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.
Devon et al 12-1-2004 34114 56000	Devon et al 12-1-2004 34114 56000	Devon et al 12-1-2004 34114 56000	OXY HBP 45706	Pioneer Nat Res 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Devon Ener 12-1-2004 34114 56000 (Chesapeake)	Devon Ener 12-1-2004 34114 56000 (Chesapeake)
11	12		7	8	9		10
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.
Devon et al 12-1-2004 34114 56000	Devon et al 12-1-2004 34114 56000	Devon et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000
14	13		18	17	16		15
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.
Pure Res 75% Grt Western 25% (Devon et al) 12-1-2004 34114 56000	(Grt Western Drig.) (Tarn Brown, etc.) 12-1-2004 34114 56000	(Grt Western Drig.) (Tarn Brown, etc.) 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000
23	24		19	20	21		22
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.
Devon et al 12-1-2004 34114 56000	Devon et al 12-1-2004 34114 56000	Devon et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000	Yates Pet et al 12-1-2004 34114 56000
26	25		30	29	28		27
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.
"Rattlesnake Fed 14"	Location as staked		Location as staked	Location as staked	Location as staked		Location as staked
35	36		31	32	33		34
U.S.	U.S.		U.S.	U.S.	U.S.		U.S.

EXHIBIT "A-1"
ONE MILE RADIUS MAP
GREAT WESTERN DRILLING COMPANY
MADERA "25" FEDERAL # 3
UNIT "J"
T26S-R34E
SECTION 25
LEA CO. NM



Datum: NAD27

Copyright (C) 1999, Maptech, Inc.

EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

GREAT WESTERN DRILLING COMPANY
MADERA "25" FEDERAL # 3
UNIT "J" SECTION 25
T26S-R34E LEA CO. NM

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Great Western Drilling Company
LEASE NO.:	NMNM65441
WELL NAME & NO.:	Madera 25 Federal No 3
SURFACE HOLE FOOTAGE:	1500' FSL & 1980' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 25, T. 26 S., R 34 E., NMPM
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Pad orientation and restrictions in size
 - Lesser Prairie Chicken
- ☐ **Construction**
 - Notification
 - Topsoil
 - Reserve Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **Reserve Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

V-DOOR NORTH AND RESTRICT PAD SIZE TO THE EAST TO 150 FT. AVOID PIPELINES TO THE EAST AND NORTH.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 15 through June 15 annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 8 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 165' X 120' on the West side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON-LEASE ACCESS ROADS

Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

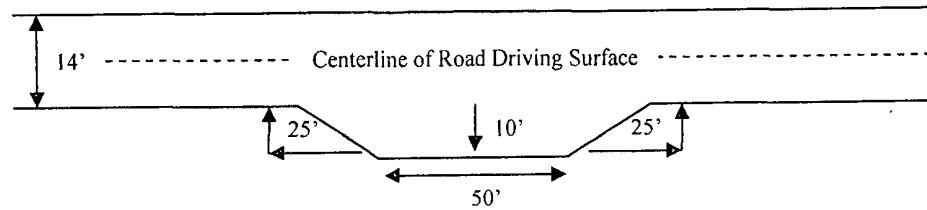
Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

Standard Turnout – Plan View

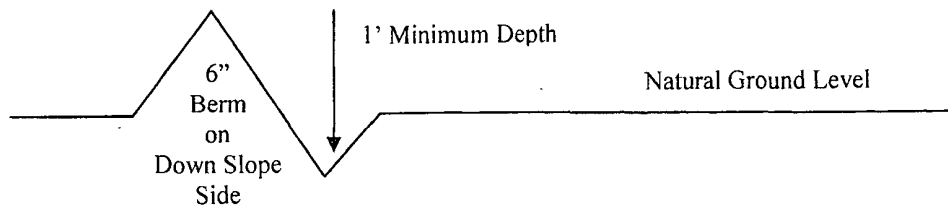


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

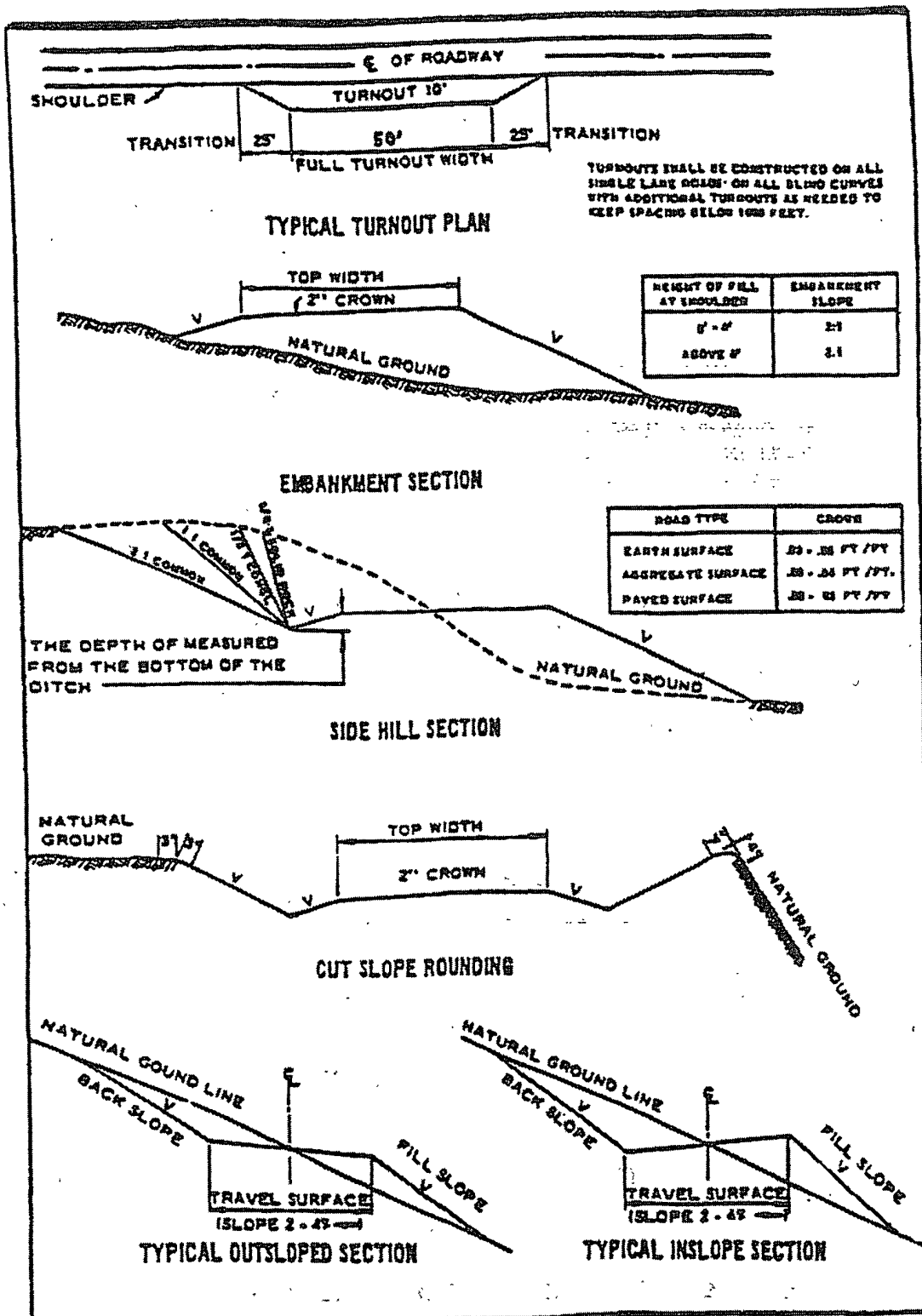
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Bone Spring** formation.
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The **13-3/8** inch surface casing shall be set **at approximately 1000 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.

Possible lost circulation in the shallow formations.

Possible high pressure gas bursts in the Wolfcamp formation and high pressure in the Pennsylvanian section.

- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Please provide WOC times to inspector for cement slurries.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

- 3. The minimum required fill of cement behind the 7 inch intermediate casing is:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Please provide WOC times to inspector for cement slurries.**

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i.

- 4. The minimum required fill of cement behind the 5 inch production liner is:

☒ Cement to come to top of liner. Operator shall provide method of verification.

- 5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17. **On 10M BOP system, a 10M annular is required.**
- 2. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.

- b. The results of the test shall be reported to the appropriate BLM office.
- c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.
- e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

WWI 030108

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2.

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

**Four-winged Saltbush 5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed
(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.