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OCD Hobbs

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Form 3160-3
(February 2005)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

R-111-POTASH

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work ☐ DRILL ☑ REENTER	5 Lease Serial No. **NMNM123522**
1b. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6 If Indian, Allotee or Tribe Name
2 Name of Operator **Marbob Energy Corporation** <14049>	7 If Unit or CA Agreement, Name and No
3a Address **P.O. Box 227, Artesia, NM 88211-0227**	8 Lease Name and Well No. <38047> **Wish Federal #1**
3b Phone No. *(include area code)* **575-748-3303**	9 API Well No. **30-025-26241**
4. Location of Well *(Report location clearly and in accordance with any State requirements *)* At surface **1980' FNL & 1650' FEL** Unit G At proposed prod zone	10 Field and Pool, or Exploratory <59460> **Teas; Bone Spring**
14 Distance in miles and direction from nearest town or post office* **About 6 miles from Halfway, NM**	11 Sec., T R M or Blk and Survey or Area **Section 27, T20S - R33E**
	12 County or Parish **Lea County** / 13 State **NM**

15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) **990'**	16 No of acres in lease **280.00**	17 Spacing Unit dedicated to this well **40**
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. –	19 Proposed Depth **10,000'**	20 BLM/BIA Bond No. on file **NMB000412**
21 Elevations (Show whether DF, KDB, RT, GL, etc.) **3623.2, GL**	22 Approximate date work will start* **10/17/2009**	23 Estimated duration **3 Weeks**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No 1, must be attached to this form

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

25 Signature Nancy T. Agnew	Name *(Printed/Typed)* **Nancy T. Agnew**	Date **09/17/2009**
Title **Land Department**		

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title **STATE DIRECTOR**	Office **NM STATE 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 2)

KZ

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

District I
1625 N. French Dr., Hobbs, NM 88240
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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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Form C-102
Revised October 12, 2005
Submit to 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
30-025-26241	58960	Teas; Bone Spring

[4] Property Code	[5] Property Name	[6] Well Number
38047	Wish Federal	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
14049	Marbob Energy Corporation	3623.2

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	27	20-S	33-E		1980'	North	1650'	East	Eddy

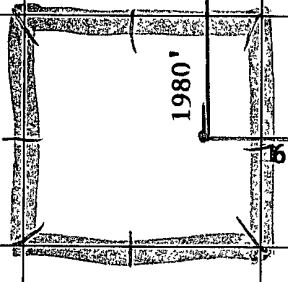
[11] Bottom Hole Location If Different From Surface

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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
40			

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.

16



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division

Nancy T. Agnew — 09/16/09
Signature — Date

Nancy T. Agnew
Printed Name

[18] 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

Certificate Number

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
AMOCO PRODUCTION COMPANY	Federal DI	1

Unit Letter	Section	Township	Range	County
G	27	20-South	33-East	Lea

Actual Footage Location of Well:
1980 feet from the North line and 1650 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3623.2'	Bone Springs	Und. Bone Springs	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

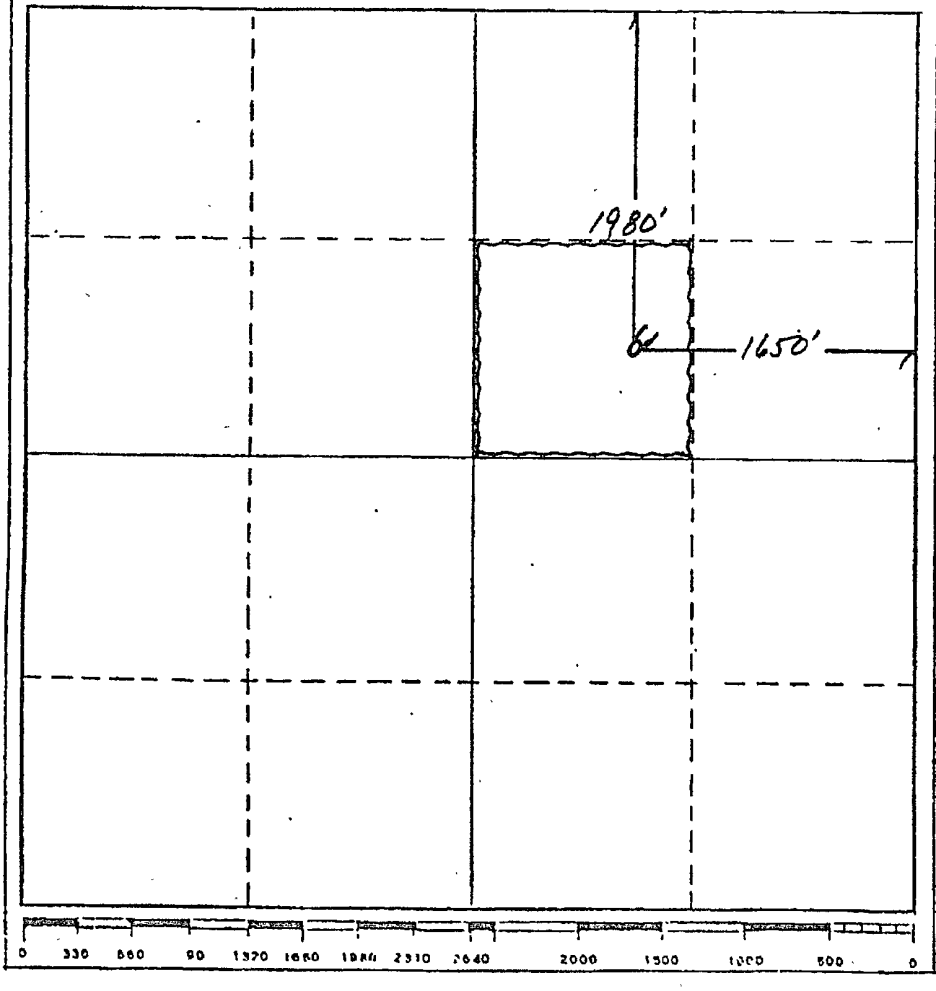
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Name: Admin. Analyst

Position: AMOCO PRODUCTION COMPANY

Company

Date: 12-13-83

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 knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Amoco Production Co.	Federal Y Com.	1

Unit Letter	Section	Township	Range	County
G	27	20 South	33 East	Lea

Actual Footage Location of Well:
1980 feet from the North line and 1650 feet from the East line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3629.2	Atoka	Halfway Atoka	320 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

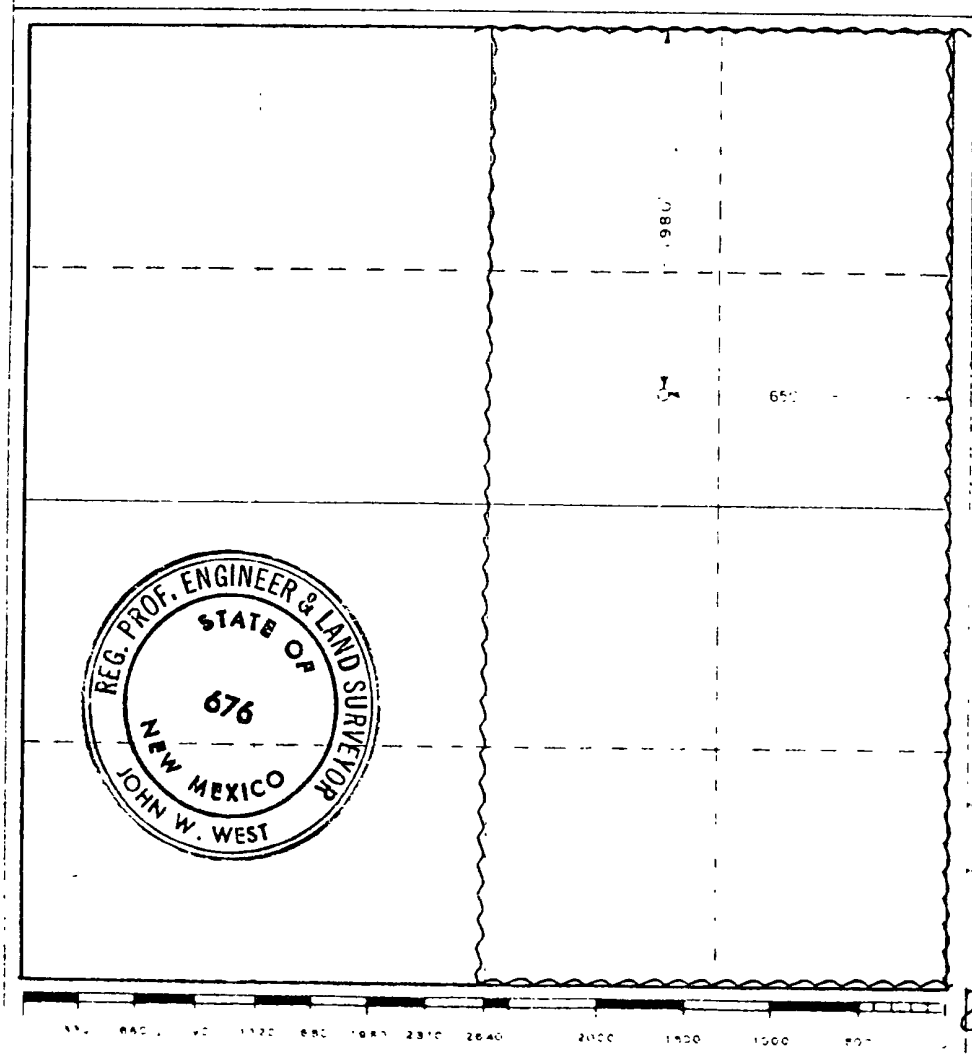
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty)

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

[redacted] Yes [redacted] No If answer is "yes" type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500

CERTIFICATION

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

Greg Mitchell
Name
Admin. Analyst
Position
Amoco Production Co.
Company
7-1-81
Date

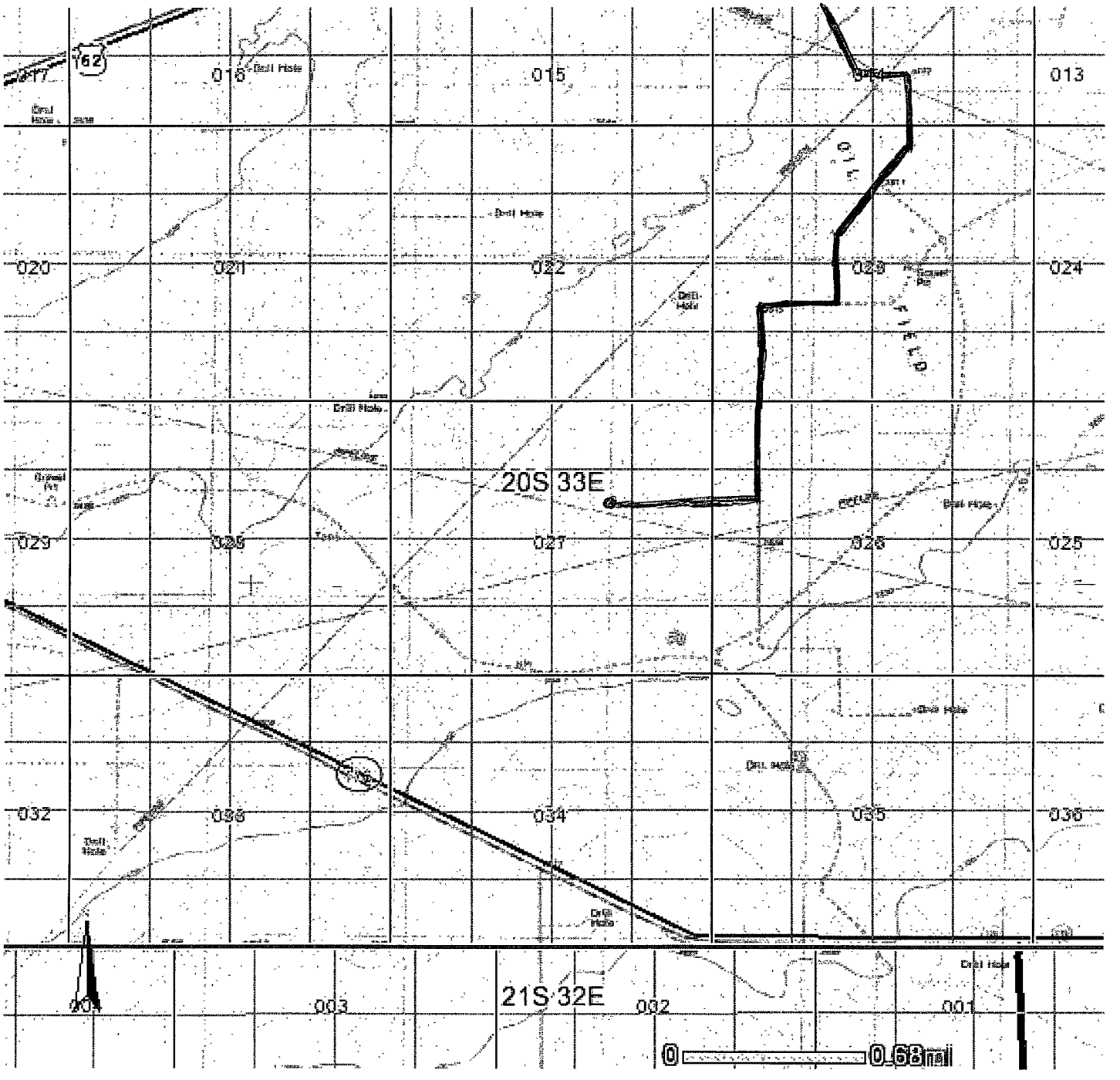
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my knowledge and belief

Date Surveyed
January 12, 1979

Registered Professional Engineer and/or Land Surveyor

John W West

Certificate No. John W West 676
Ronald J. Eidson 3239



Re-Entry
Wish Federal #1
(Previously "Federal Y Com #1")
Surf: 1980' FNL & 1650' FEL
Section 27, T20S - R33E
Lea County, New Mexico

— Existing Roads

9\17\2009

No warranty is made by the BLM for the use of the data for purposes not intended by the BLM.

Exhibit #2

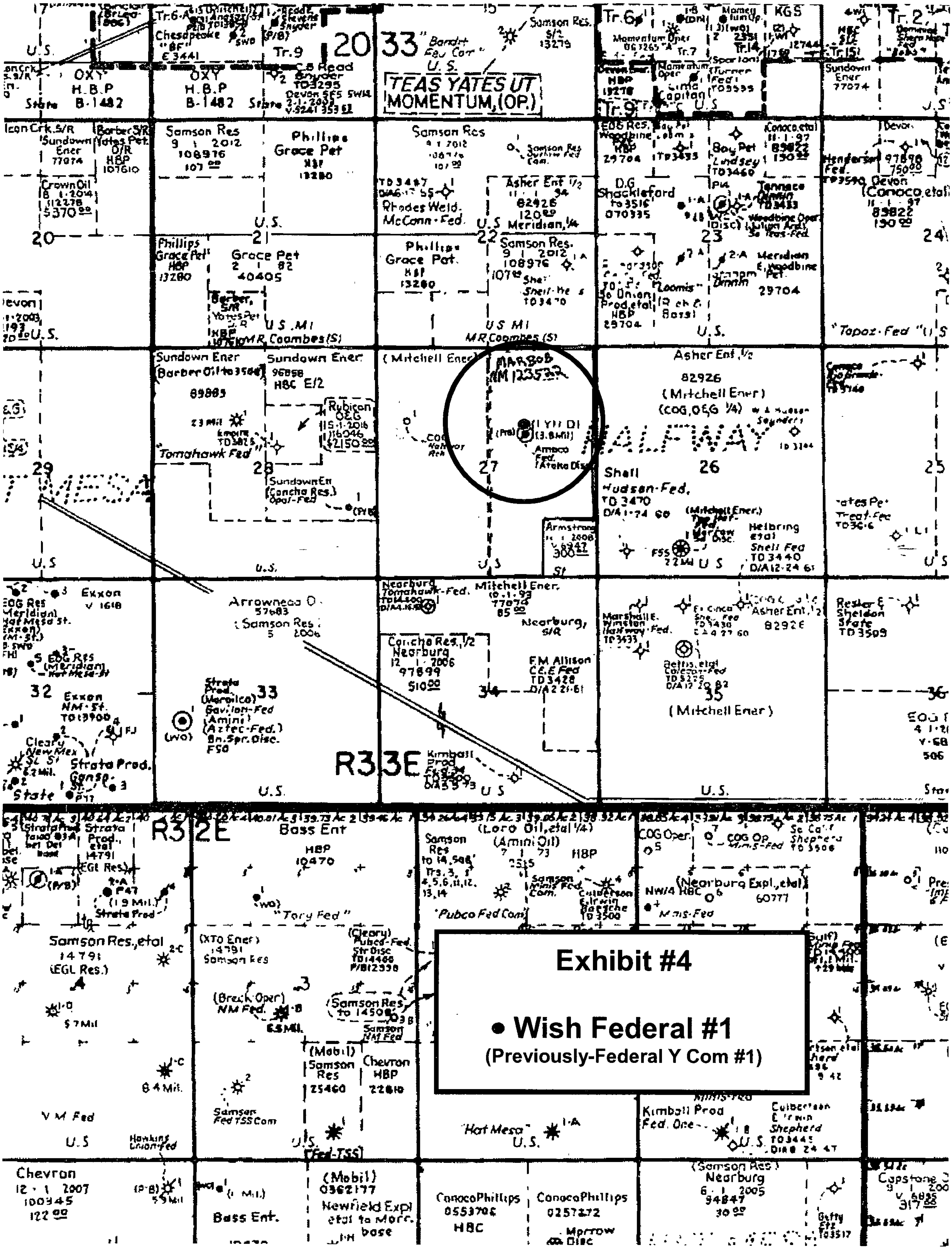


Exhibit #4

• Wish Federal #1

(Previously-Federal Y Com #1)

MARBOB ENERGY CORPORATION
DRILLING AND OPERATIONS PROGRAM

Re-Entry
Wish Federal #1
(Previously "Federal Y Com #1")
Surf: 1980' FNL & 1650' FEL
Section 27, T20S, R33E
Lea County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Marbob Energy Corporation submits the following ten items of pertinent information in accordance with BLM requirements.

1. **Geological surface formation:** Permian

2. **The estimated tops of geologic markers are as follows:**

Rustler	1493'
Yates	3402'
Delaware	5180'
Bone Spring	8480'
TD	10000'

3. **The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:**

Delaware	5180'	Oil
Bone Spring	8480'	Oil

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands are protected by 13 3/8" casing at 1497' with cement circulated to surface.

4. **Casing Program: (All Casings Are In Place)**

Hole Size	Interval	OD Casing	New or Used	Wt	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
17 ½"	0-1497'	13 3/8"	New	48#	STC	H-40	N/A	N/A	N/A
12 ¼"	0-5629'	9 5/8"	New	40#	LTC	S95	N/A	N/A	N/A
8 3/4"	0-12662'	7"	New	23-26#	LTC	N80/S95	N/A	N/A	N/A
6 ½"	0-14428'	4 ½"	New	20#	LTC	N80/S95/P110	N/A	N/A	N/A

??

ALL IN PLACE

5. **Cement Program:**
All casing strings are already set and cemented in place. We will run a CBL to verify that TOC is at least 5000' prior to testing Delaware at 5190'.

↑
See COA

6. **Minimum Specifications for Pressure Control:** See COA

Nipple up on 7' int. with 3M double ram system tested to 300 psi for 30 minutes then 3000 psi for 30 minutes with ~~reverse unit pump and chart recorder~~.

BOP will be operationally checked each 24 hour period. BOP will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a floor safety valve (inside BOP) with 3000 psi WP rating.

Well is cased to surface and is subnormally pressured. The Bone Spring zone 9504-93' required artificial lift to bring fluid to surface and produced 2 BOPD/5 BWPD when tested. Because well is already cased to surface and the Bone Spring is subnormally pressured, we request approval for the modified 3M BOP and choke manifold shown on the attached schematic diagram.

7. **Estimated BHP:** 3991 psi–Bone Spring is subnormally pressured and will require artificial lift to bring fluid to surface.

8. **Mud Program:** The applicable depths and properties of this system are as follows:

Depth	Type System	Mud Weight	Viscosity (sec)	Waterloss (cc)
0' - 10000'	Fresh Water	8.34	26-32	N.C.

9. **Auxiliary Well Control and Monitoring Equipment:**

   a. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
   b. Hydrogen Sulfide detection equipment will be in operation when reentry operations start until cleaned out to 10,000'. If any H2S is detected, detection equipment will remain in operation until well work is completed.

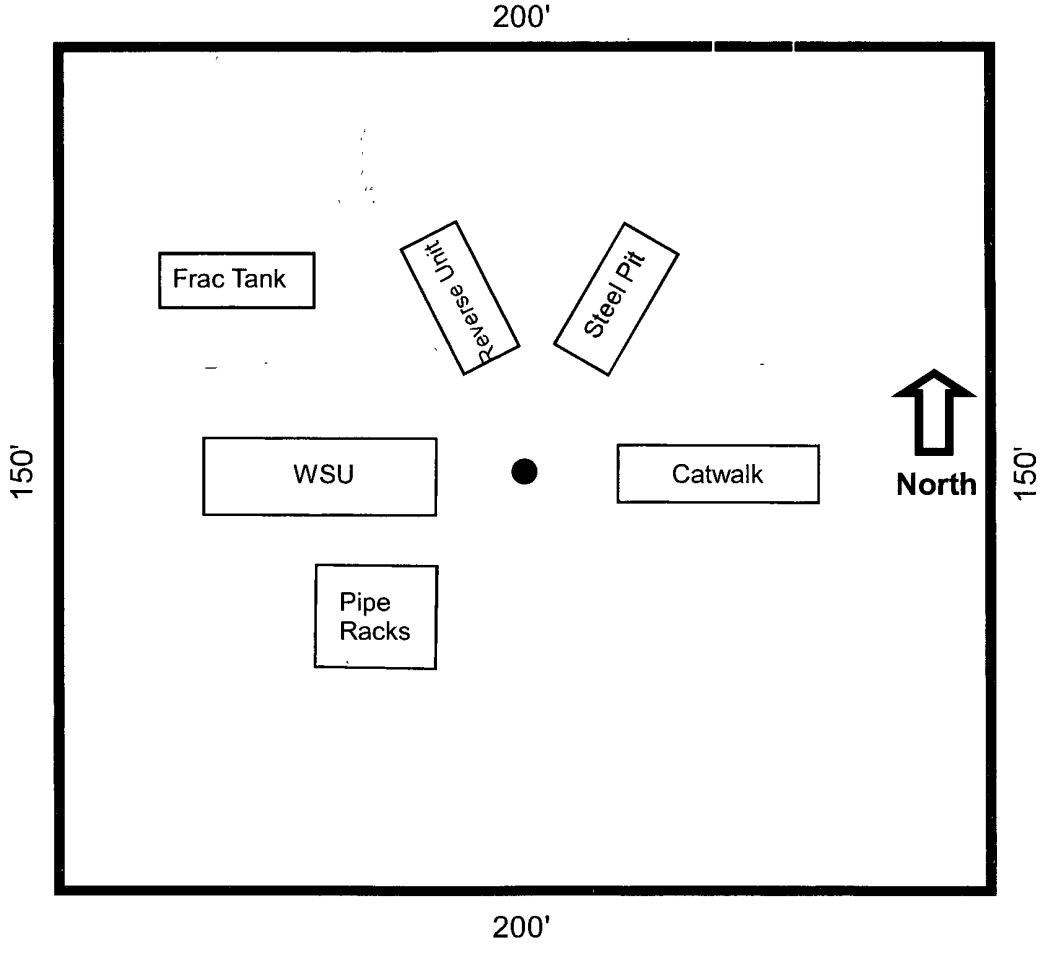
10. **Testing, Logging and Coring Program:**
No testing, logging or coring planned

11. **Potential Hazards:**
a. No abnormal pressures or temperatures are expected. There is H2S in this area in the Yates which is behind two casing strings. 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: 3991 psi.

The Delaware and Bone Spring are expected to be sweet and subnormally pressured.

12. **Anticipated starting date and Duration of Operations:**
   a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Reentry and completion operations are expected to take 21 days.

Well Site Lay-Out Plat

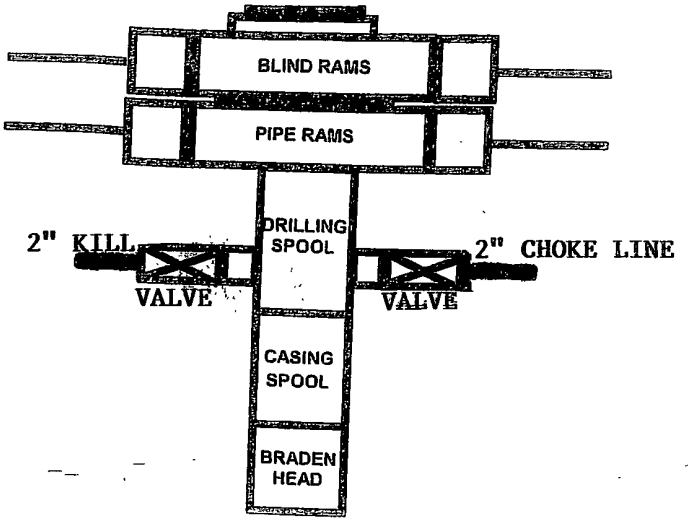


Re-Entry
Wish Federal #1
(Previously "Federal Y Com #1")
Surf: 1980' FNL & 1650' FEL
Section 27, T20S, R33E
Lea County, New Mexico

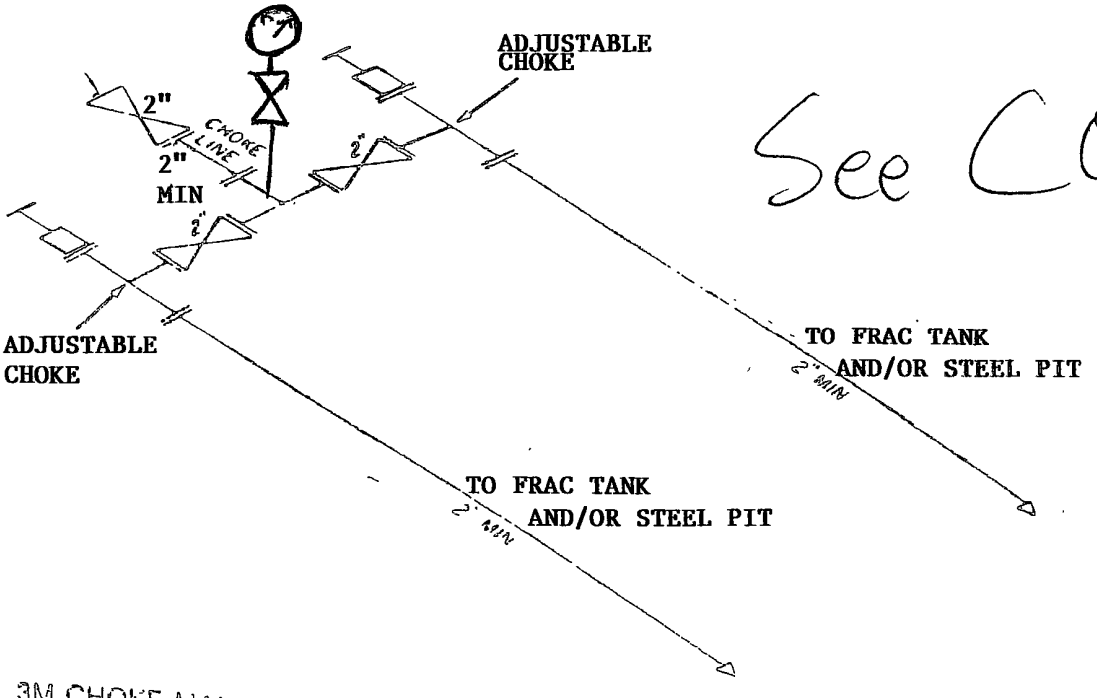
EXHIBIT THREE

3M SYSTEM

CASED HOLE, SUBNORMAL PRESSURE



See COA

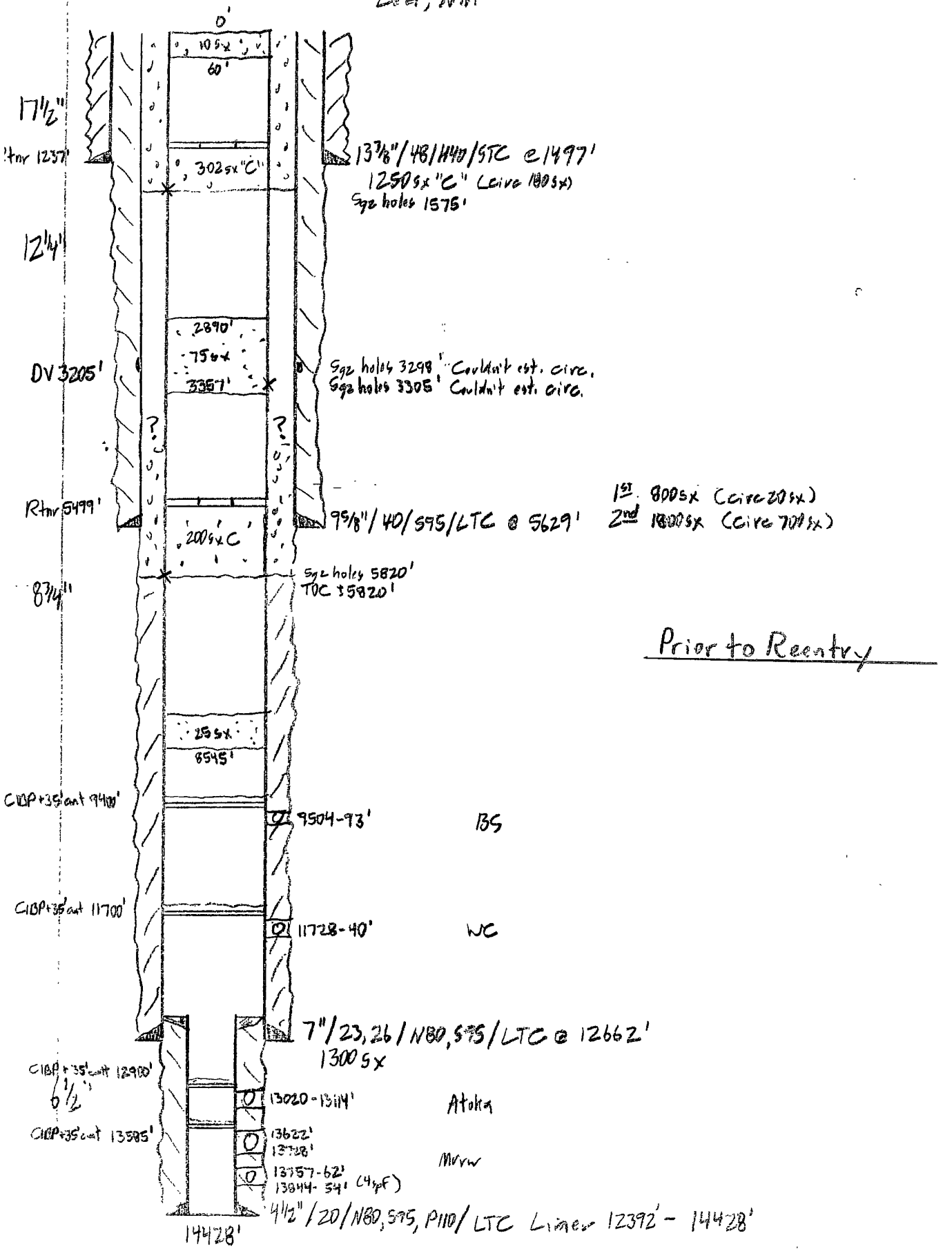


See COA

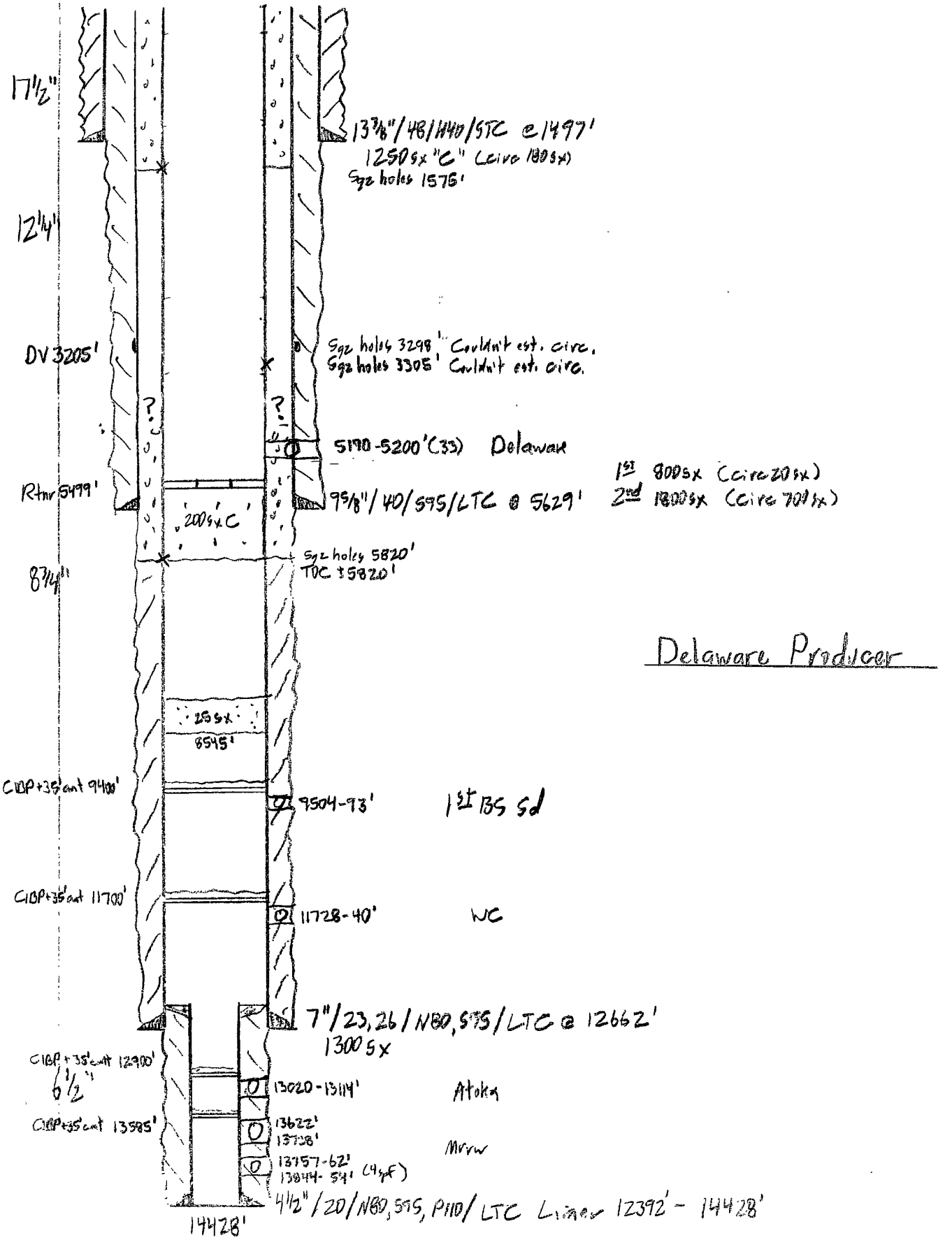
3M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES MAY VARY

Fed Y Com. 1

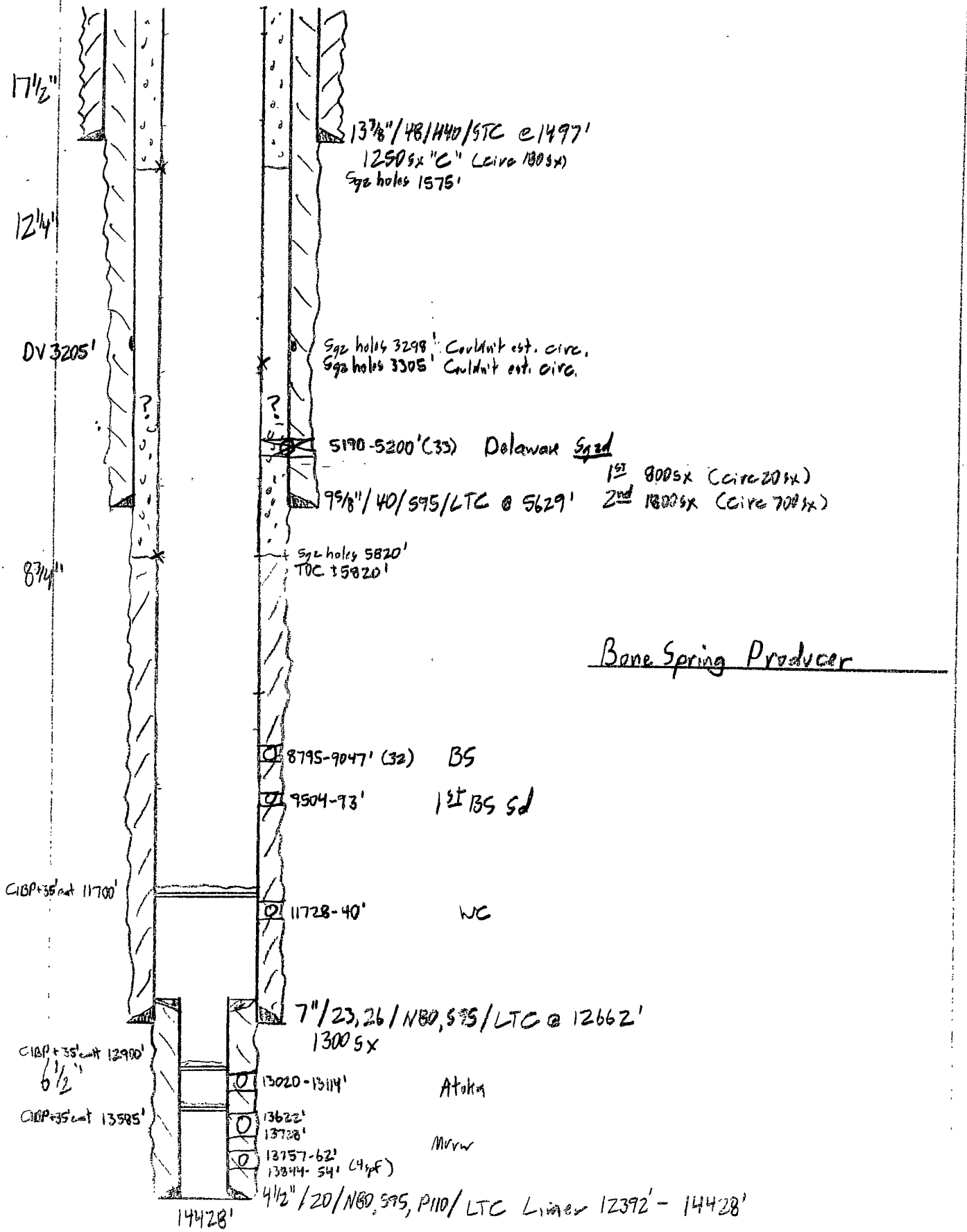
1980' FNL, 1650' FEL
G-27-20S-33E
Lea, NM



Brent's Wish Fed. 1
(Formerly: Fed Y Com. 1)
1980' FNL, 1650' FEL
G-27-20S-33E
Lea, NM



Brent's Wish Fed. 1
(Formerly Fed Y Com. 1)
1980' FNL, 1650' FEL
G-27-20S-33E
Lea, NM



MARBOB ENERGY CORPORATION

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:

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

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

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

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

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

A. 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.

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

C. 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 out the 5 ½" casing shoe at 4230'.

A. Well Control Equipment:

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

B. Protective equipment for essential personnel:

Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

C. H_2S detection and monitoring equipment:

2 - portable H_2S monitor 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.

D. Visual warning systems:

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.

E. Mud Program:

The mud program has been designed to minimize the volume of H_2S circulated to the surface.

F. Metallurgy:

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.

G. Communication:

Company vehicles equipped with cellular telephone and 2-way radio.

Marbob Energy has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore we do not believe that an H2S Contingency Plan would be necessary.

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. ***CK WITH MARBOB FOREMAN AT MAIN OFFICE***

MARBOB ENERGY CORPORATION

1-575-748-3303

EMERGENCY CALL LIST

	Office	Mobile	Home
Marbob Energy Corp.	575-748-3303		
Shane Gray	575-748-3303	575-748-5959	575-746-0860
Johnny C. Gray	575-748-3303	575-748-5983	575-885-3879
Raye Miller	575-748-3303	575-513-0176	575-746-9577
Dean Chumbley	575-748-3303	575-748-5988	575-748-2426

EMERGENCY RESPONSE NUMBERS
Eddy County, New Mexico

State Police	575-748-9718
Eddy County Sheriff	575-746-2701
Emergency Medical Services (Ambulance)	911 or 575-746-2701
Eddy County Emergency Management (Harry Burgess)	575-887-9511
State Emergency Response Center (SERC)	575-476-9620
Carlsbad Police Department	575-885-2111
Carlsbad Fire Department	575-885-3125
New Mexico Oil Conservation Division	575-748-1283
Indian Fire & Safety	800-530-8693
Halliburton Services	800-844-8451

CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Marbob Energy Corporation and its contractors and 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.

Marbob Energy Corporation

9/18/09
Date

Brian Collins
Engineer

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Marbob Energy Corp.
LEASE NO.:	NM123522
WELL NAME & NO.:	Wish Federal # 1
SURFACE HOLE FOOTAGE:	1980' FNL & 1650' FEL
BOTTOM HOLE FOOTAGE	Same
LOCATION:	Section 27, T. 20 S., R 33 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**
- Lesser Prairie Chicken
- Cultural

☒ **Construction**
- Notification
- Topsoil
- Closed Loop System
- Federal Mineral Material Pits
- Well Pads
- Roads

☐ **Road Section Diagram**
☒ **Drilling**
- BOP

☐ **Production (Post Drilling)**
- Well Structures & Facilities
- Pipelines
- Electric Lines

☒ **Reseeding Procedure/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)

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 1st through June 15th 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.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

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 (575) 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 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Although this is a closed loop system and no reserve pits will be utilized, the v-door will be on the East side of the location.

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

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 (575) 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.

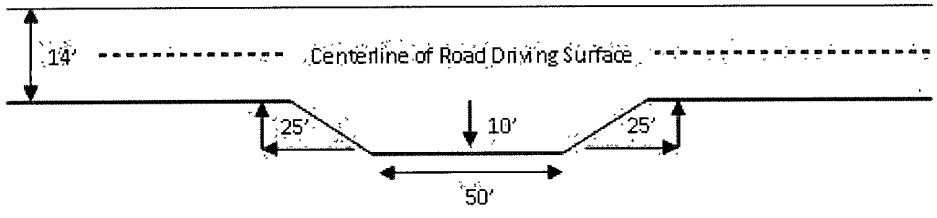
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

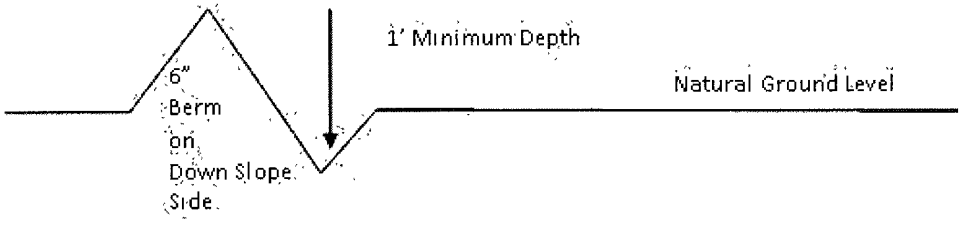
Standard Turnout – Plan View



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 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 foot road with 4% road slope: 400'/4% + 100' = 200' 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.

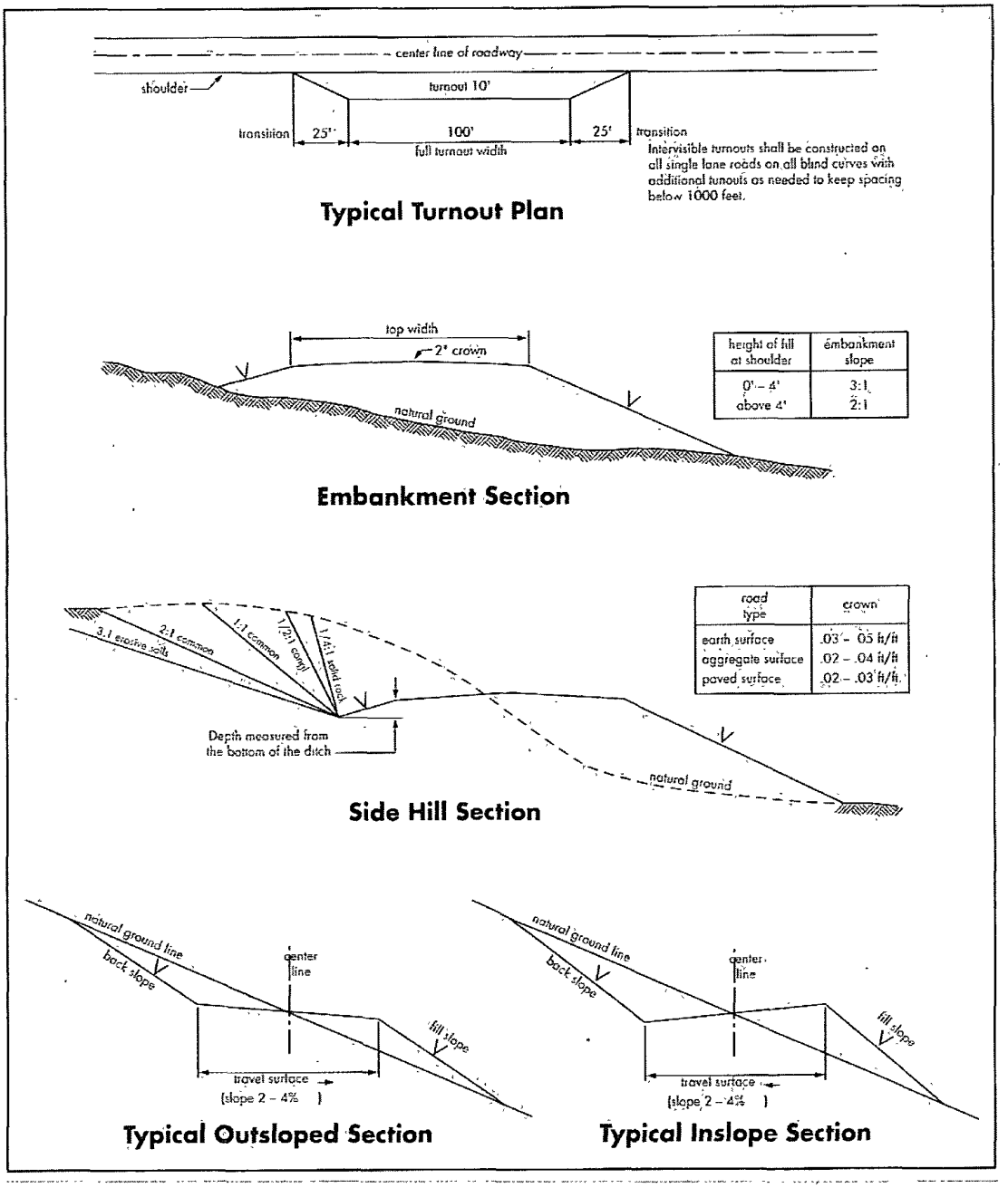
Fence Requirement
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. Re-spudding well
b. CIT for the production casing
c. BOPE tests

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

1. **Hydrogen Sulfide has been reported as a hazard in formations shallower than the proposed depth. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide (H2S) is encountered, a H2S Drilling Plan will be implemented. The Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. Report measurements and formations to the BLM.**

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.

4. **A CBL is to be run from PBTD to surface once PBTD is reached. A copy of the CBL run shall be submitted to the BLM. This information will be used for the plugging of the well, once it becomes uneconomical.**

B. CASING

Possible lost circulation in the Bone Springs.
Possible brine and water flows in the Bone Springs.

1. The **13-3/8** inch surface casing was set at **1497** feet and cemented to the surface.

2. The **9-5/8** inch Intermediate casing was set at **5629** feet and cemented to the surface.

   A CIT is to be performed on the 7" casing per Onshore Oil and Gas Order 2.III.B.1.h prior to completing the well. Test pressure to be 388 psi at surface.

3. The **7** inch surface casing was set at **12662** feet and cemented with 1300 sx. CBL to be run to determine what is behind casing.

4. 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.

5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling to PBTD shall be **3000 (3M)** psi. Schematic given for BOP and Manifold are inadequate. Must follow Onshore Order No. II requirements.

3. 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.

D. DRILL STEM TEST

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

DHW 101909

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 & RESEEDING PROCEDURE

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.

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. RESEEDING PROCEDURE

Once the well has been drilled, all completion procedures have been accomplished, and all trash removed, reseed the location and all surrounding disturbed areas 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:

Species	lb/acre
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

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.

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

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.