AFS-09-398

Form 3160-3
(August 1999)

OCD Artesia

JUN 17 2009

FORM APPROVED
OMB No 1004-0136
Expires November 30, 2000

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

E-50

APPLICATION FOR PERMIT TO DRILL OR REENTER

634

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NMLC028784B
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA Agreement, Name and No. NMNM88525X
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. BURCH KEELY UNIT 921
2. Name of Operator MARBOB ENERGY CORPORATION Contact: DIANA CANNON E-Mail: production@marbob.com	9. API Well No. 30-015-37133
3a. Address P O BOX 227 ARTESIA, NM 88211-0227	3b. Phone No. (include area code) Ph: 505.748.3303 Fx: 505.746.2523 575
	10. Field and Pool, or Exploratory GRBG JACKSON SR Q GRBG SA
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface NWNW Lot D 660FNL 660FWL At proposed prod. zone NWNW Lot D 660FNL 660FWL	11. Sec., T., R., M., or Blk. and Survey or Area Sec 25 T17S R29E Mer NMP
14. Distance in miles and direction from nearest town or post office* SEE SURFACE USE PLAN	12. County or Parish EDDY / 13. State NM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of Acres in Lease 1264.00 / 17. Spacing Unit dedicated to this well 40.00
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth 4800 MD / 20. BLM/BIA Bond No. on file NMB000412
21. Elevations (Show whether DF, KB, RT, GL, etc. 3593 GL	22. Approximate date work will start 03/26/2003 / 23. Estimated duration 21 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall 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 shall 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 authorized officer.

25. Signature	Name (Printed/Typed)	Date
(Electronic Submission)	DIANA CANNON	02/23/2003

Title: AUTHORIZED REPRESENTATIVE

Approved by (Signature)	Name (Printed/Typed)	Date
/s/ Don Peterson	/s/ Don Peterson	6/15/09
Title: FOR FIELD MANAGER	Office: CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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.

Additional Operator Remarks (see next page) Roswell Controlled Water Basin

Electronic Submission #18832 verified by the BLM Well Information System
For MARBOB ENERGY CORPORATION, sent to the Carlsbad
Committed to AFMSS for processing by Armando Lopez on 02/24/2003 (03AL0157AE)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED **

JAN 23 2003

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

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

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015-37133	28509	GRAYBURG JACKSON SR Q GRBG SA

Property Code	Property Name	Well Number
006497	BURCH KEELY UNIT	921

OGRID No.	Operator Name	Elevation
14049	MARBOB ENERGY CORPORATION	3593'

Surface Location

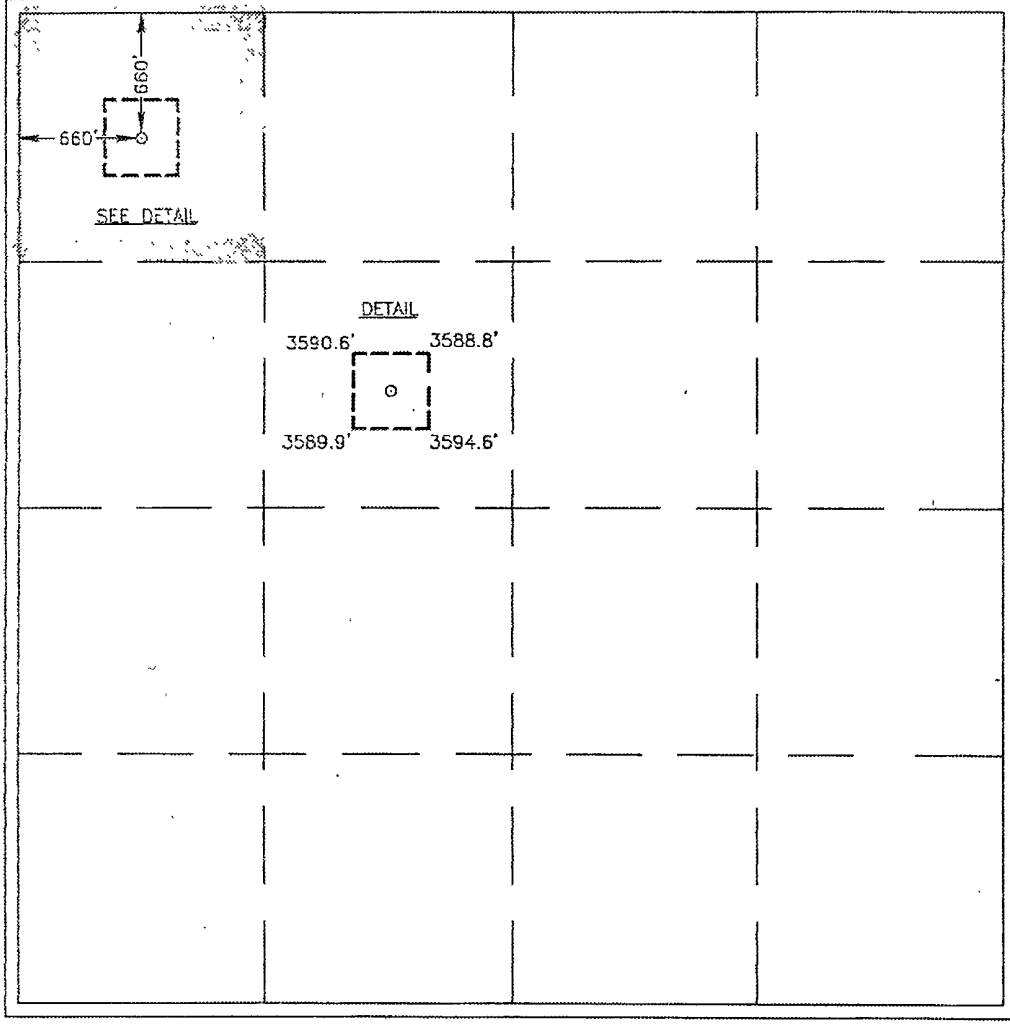
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	25	17-S	29-E		660	NORTH	660	WEST	EDDY

Bottom Hole Location If Different From Surface

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
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



OPERATOR CERTIFICATION

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

Signature

DIANA J. CANNON
Printed Name

PRODUCTION ANALYST
Title

FEBRUARY 23, 2003
Date

SURVEYOR CERTIFICATION

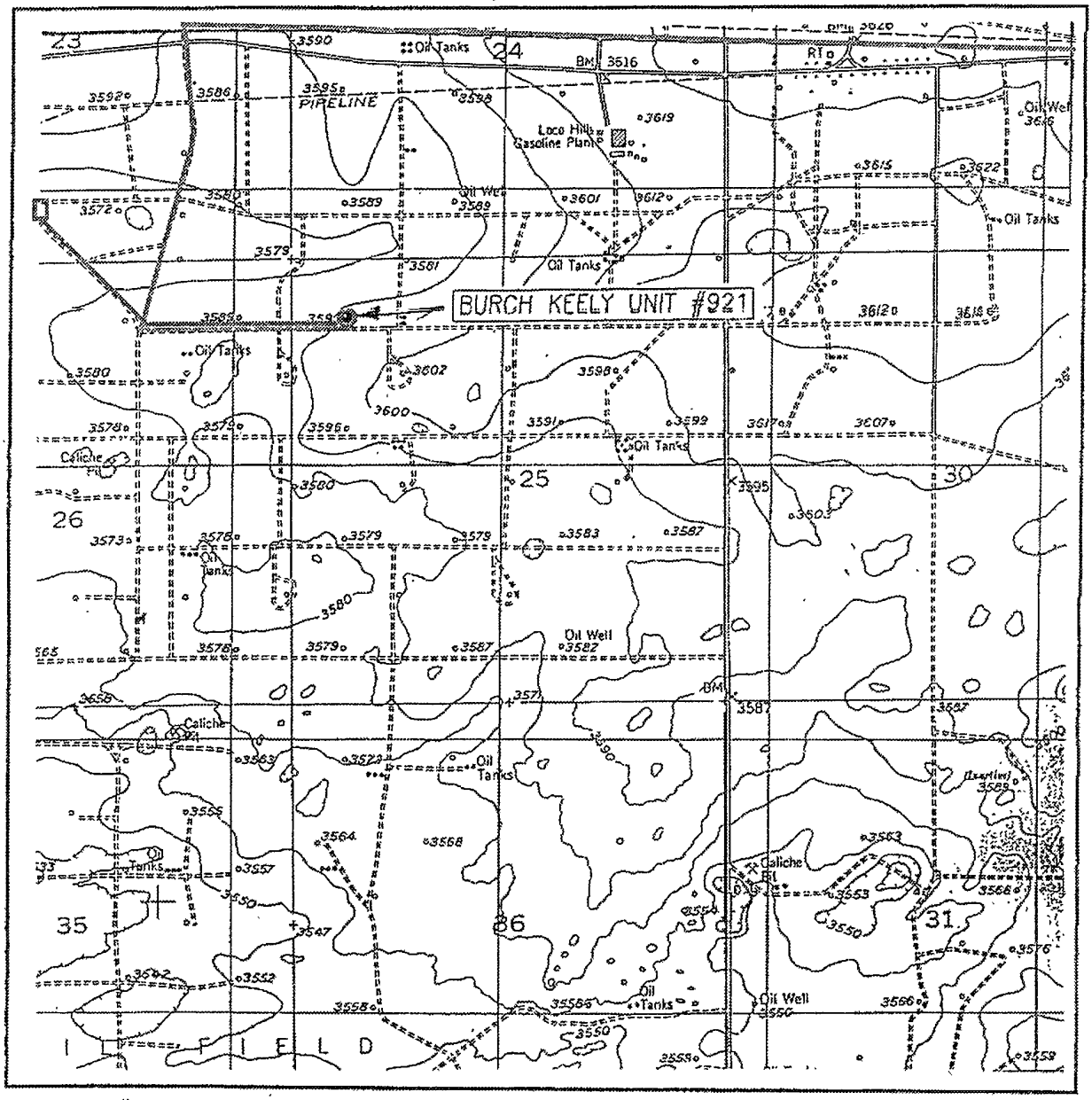
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

JANUARY 17, 2003
Date Surveyed L.A.

Signature & Seal of Professional Surveyor

11/22/03
02.11.1039

Certificate No. RONALD J. EIDSON 3239
GARY EIDSON 12641

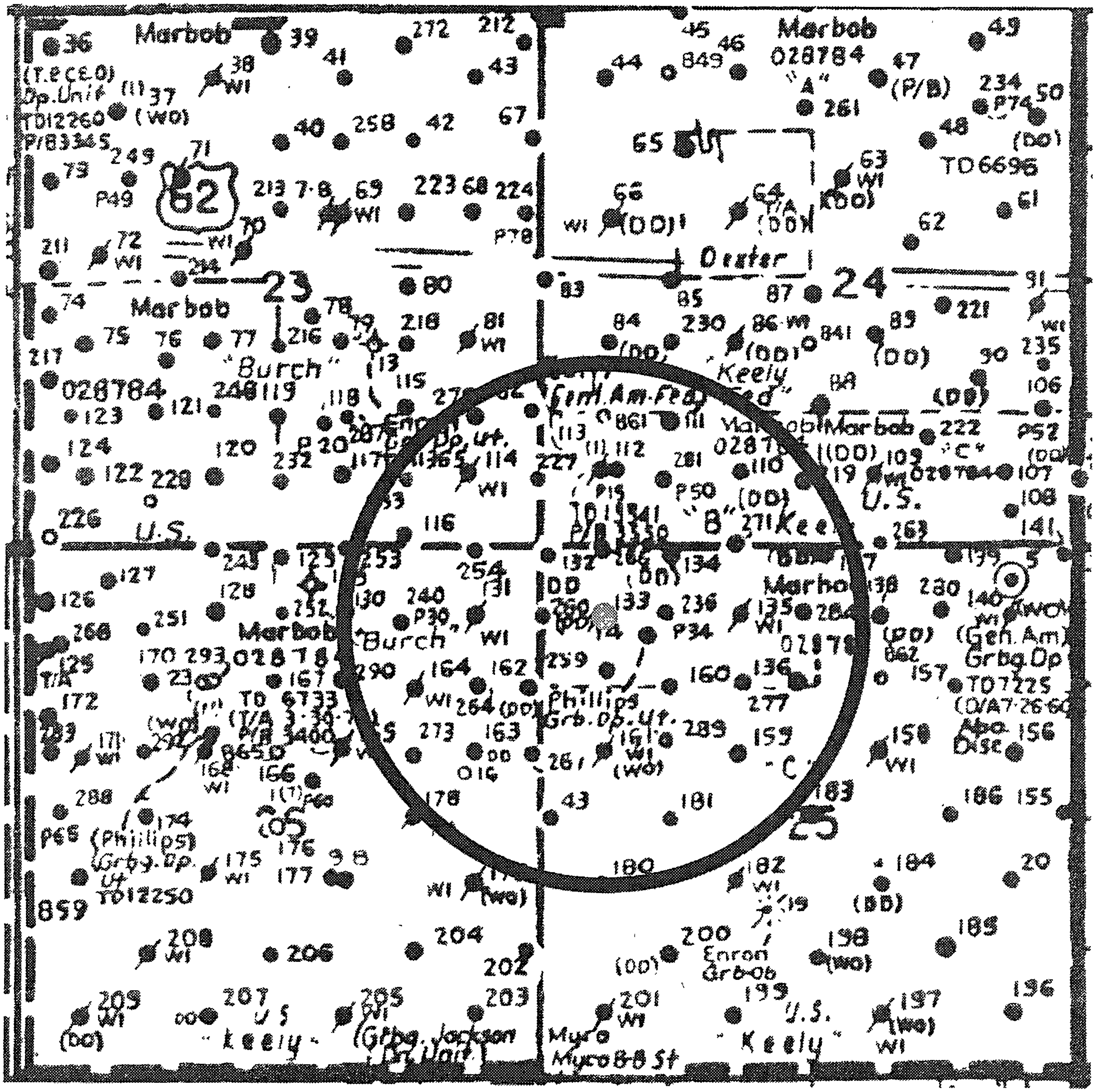


SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
RED LAKE SE. N.M.

Burch Keely Unit No. 921
660' FNL and 660' FWL
Section 25-17S-29E
Eddy County, New Mexico

EXHIBIT TWO



Burch Keely Unit No. 921
660' FNL and 660' FWL
Section 25-17S-29E
Eddy County, New Mexico

EXHIBIT THREE

MARBOB ENERGY CORPORATION
MASTER DRILLING PROGRAM
BURCH-KEELY UNIT

Attached to Form 3160-3

T-17S, R-29E		T-17S, R-30E	
SE/4SE/4	Section 12	ALL	Section 18
ALL	Section 13	ALL	Section 19
ALL	Section 23	ALL	Section 30
ALL	Section 24		
ALL	Section 25		
ALL	Section 26		

Eddy County, New Mexico

1. Geological Name of Surface Formation:

   Permian

2. Estimated Tops of Important Geologic Markers:

Permian	Surface	Queen	1815'
Salt	360'	Grayburg	2140'
Base of Salt	780'	San Andres	2510'
Yates	930'	Glorietta	3900'
Seven Rivers	1145'		

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

Upper Permian Sands	100'	Fresh Water
Yates	930'	Oil
Seven Rivers	1145'	Oil
Queen	1815'	Oil
Grayburg	2140'	Oil
San Andres	2510'	Oil
Glorietta	3900'	Oil

See COA - Master plan

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 8-5/8" casing at 350' and circulating cement back to surface. Any shallower zones above TD which contain commercial quantities of oil and/or gas will have cement circulated across them by inserting a float shoe joint into the 5-1/2" production casing which will be run at TD.

See COA

4. Casing Program:

Hole Size	Interval	OD Csg.	Weight	Grade	Jt.	Cond.	Type	Collapse	Burst	Tension
12 1/4"	~~0-350'~~	8 5/8"	24#	J-55	STC	NEW	R-3	1.125	1.125	1.6
7 7/8"	0-TD	5 1/2"	17#	J-55	LTC	NEW	R-3	1.125	1.125	1.6

See COA

Cement Program:

8 5/8" Surface: Cement to surface with 300 sk "C" yield 1.34 wt 14.8 ppg

5 1/2" Production: 1st Stage with 250 sk "H" wt 13.0 ppg yield 1.67, TOC 3250'. 2nd Stage lead300 sk "H" Lite wt 12.7 yield 1.91 Tail in with 300 sk "H" wt 13.0 ppg yield 1.67 DV Tool @ 3250' TOC 100'

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type ~~(3000 psi wp)~~ 2000 preventer. This unit will be hydraulically operated and the ram-type preventer will be quipped with blind rams on the top and 4 1/2`` drill pipe rams on bottom. This BOP will be nippled up on the 8-5/8`` surface casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested to ~~1000 psi~~ See COA before drilling out of surface casing.

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 a 3`` choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi wp rating.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with cut brine. The applicable depths and properties of this system are as follows:

Depth	Type	Weight (ppg)	Viscosity (sec)	Waterloss (cc)
0- 350'	Fresh Water (Spud)	8.5	48	N.C.
350`-4800`	Brine	9.8-10.2	40-45	N.C.

7. Auxiliary Well Control and Monitoring Equipment:

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

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

8. Logging, Testing, and Coring Program:

(A) No Drillstem tests are anticipated.

(B) The electric logging program will consist of Dual Laterolog Micro SFL, Spectral Density Dual Spaced Neutron Csng Log, and Depth Control Log. Selected SW cores may be taken in zones of interest.

(C) No conventional coring is anticipated.

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

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 104' and estimated bottom hole pressure (BHP) is 2250 psig.

This area has a potential H_2S hazard. An H_2S Drilling Plan is attached, including a diagram of the drilling rig layout with H_2S monitors and wind direction indicators shown.

10. Anticipated Starting Date and Duration of Operations:

Location and road work will not begin until approval has been received form the BLM. The anticipated spud date will be provided with each well application. Once commenced, the drilling operation should be finished in approximately 21 days. If the well is productive, an additional 30 to 60 days will be required for completion and testing before a decision is made to install permanent facilities.

DRILLING PROGRAM

Burch Keely Unit No. 921
660' FNL and 660' FwL
Section 25-17S-29E
Eddy County, New Mexico

10. Anticipated Starting Date and Duration of Operations

Starting date will be scheduled upon approval.

Duration of Operations: Once commenced, the drilling operations should be completed in approximately 21 days. If the well is productive, an additional 30 to 60 days will be required for completion and testing of the well.

Additional Operator Remarks:

12 1/4" HOLE - 8 5/8" J55 24# CSG SET @ 350' - CMT W/ 300 SX ← See COA
7 7/8" HOLE - 5 1/2" J55 17# CSG SET @ 4800'- CMT SUFFICIENT TO COVER 200' ABOVE ALL KNOWN OIL & GAS HORIZONS.

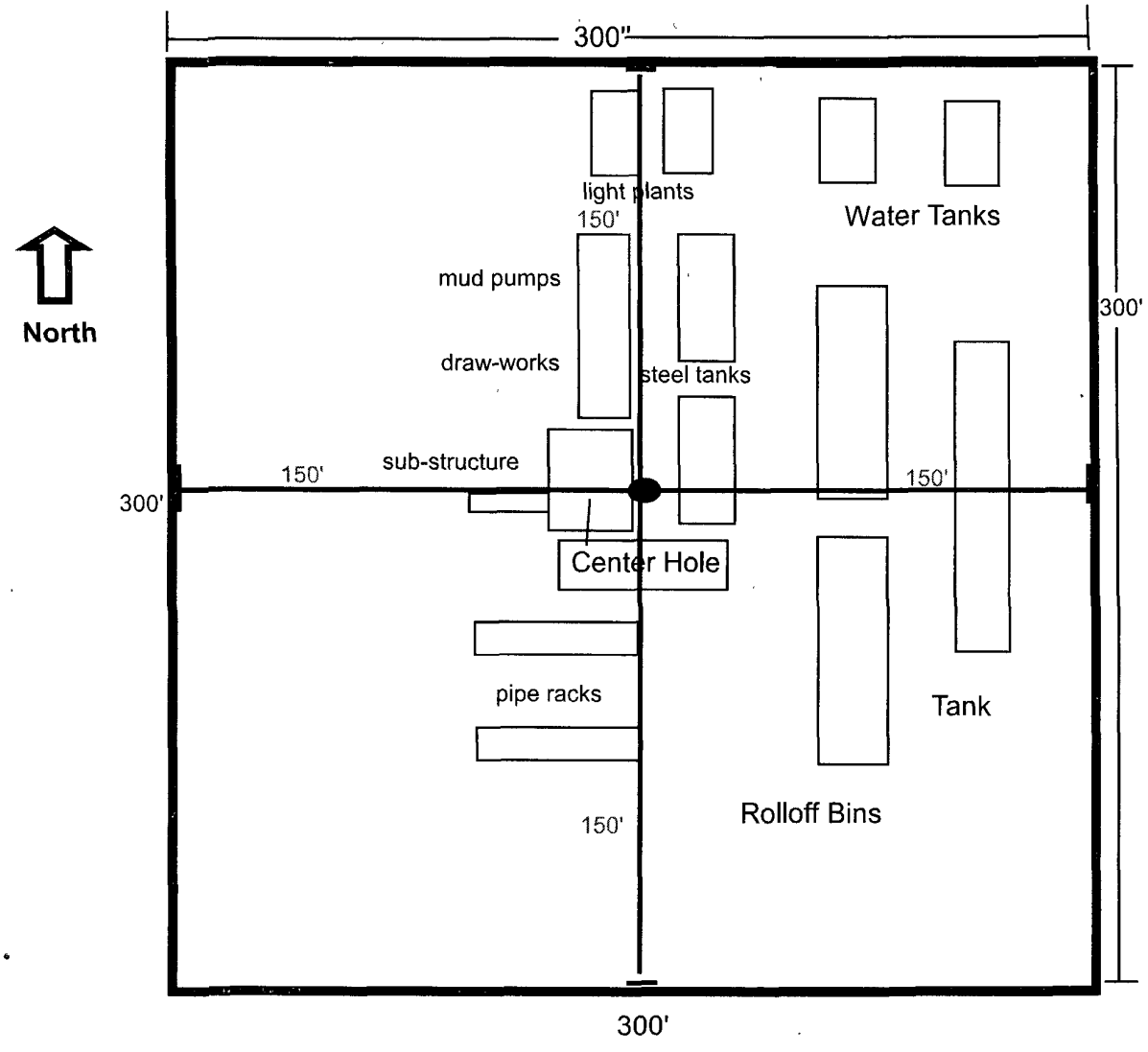
PRESSURE CONTROL EQUIPMENT: WE WILL BE USING A 2M SYSTEM. (SEE EXHIBIT #1)

PAY ZONE WILL BE SELECTIVELY PERFORATED AND STIMULATED AS NEEDED FOR OPTIMUM PRODUCTION.

MASTER SURFACE USE PLAN ON FILE AT BLM ~~ROSWELL~~ Carlsbad

INCLUDED IN THE ATTACHMENT ARE:
1. WELL LOCATION & ACREAGE DEDICATION PLAT
2. DRILLING PROGRAM & SURFACE USE PLAN
3. SUPPLEMENTAL DRILLING DATA (EXHIBITS #1 (4 PGS) - #4)

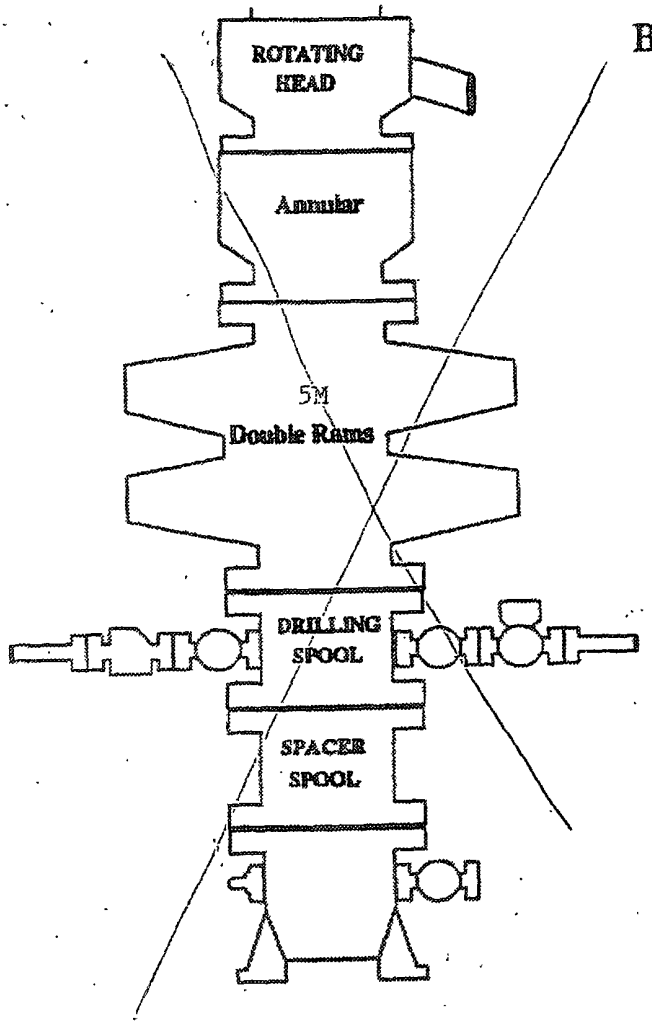
Well Site Lay-Out Plat

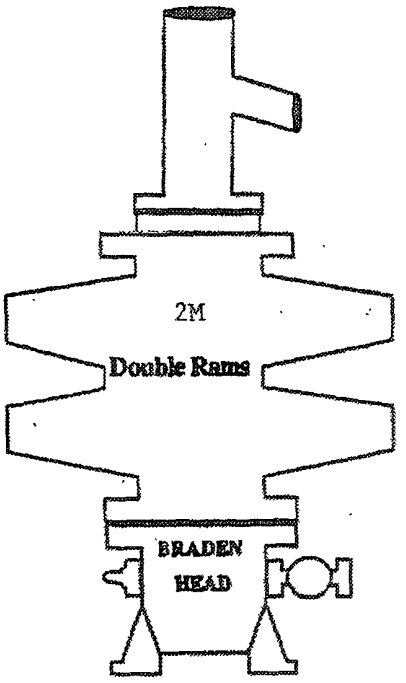


Burch Keely Unit #921
660' FNL & 660' FWL
Section 25-17S-29E
Eddy County, New Mexico

EXHIBIT THREE

BOPE SCHEMATIC





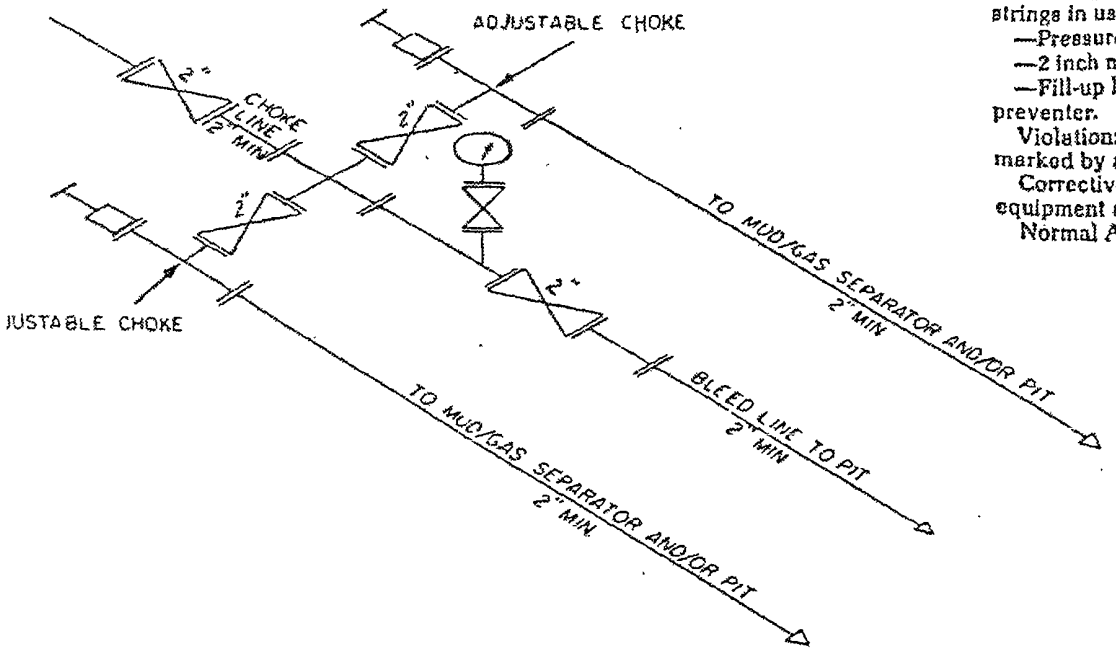
ONSHORE OIL AND GAS ORDER NO. 2

2M system:
—Annular preventer, or, double ram, or two rams with one being blind and one being a pipe ram *
—Kill line (2 inch minimum)
—1 kill line valve (2 inch minimum)
—1 choke line valve
—2 chokes (refer to diagram in Attachment 1)
—Upper kelly cock valve with handle available
—Safety valve and subs to fit all drill strings in use
—Pressure gauge on choke manifold
—2 inch minimum choke line
—Fill-up line above the uppermost preventer.

Violation: Minor (all items unless marked by asterisk).

Corrective Action: Install the equipment as specified.

Normal Abatement Period: 24 hours.



Revise - Closed Loop

2M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION OF CHOKES MAY VARY

Exhibit One

Attachment to Exhibit #1

NOTES REGARDING THE BLOWOUT PREVENTERS

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

2. Wear ring to be properly installed in head.

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

4. All fittings to be flanged.

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

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

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

8. Kelly cock on kelly.

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

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

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

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:

1. The hazards and characteristics of hydrogen sulfide (H_2S).
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

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

1. The effects of H_2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

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

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

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

contain H_2S.

1. Well Control Equipment:

   A. Flare line with electronic igniter or continuous pilot.

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

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

   D. Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head, and flare gun with flares.

2. Protective equipment for essential personnel:

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

3. H_2S detection and monitoring equipment:

   A. 2 - portable H_2S 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.

   B. 1 - portable SO2 monitor positioned near flare line.

4. Visual warning systems:

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

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

5. Mud Program:

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

   B. A mud-gas separator and an H_2S gas buster will be utilized.

6. Metallurgy:

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

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

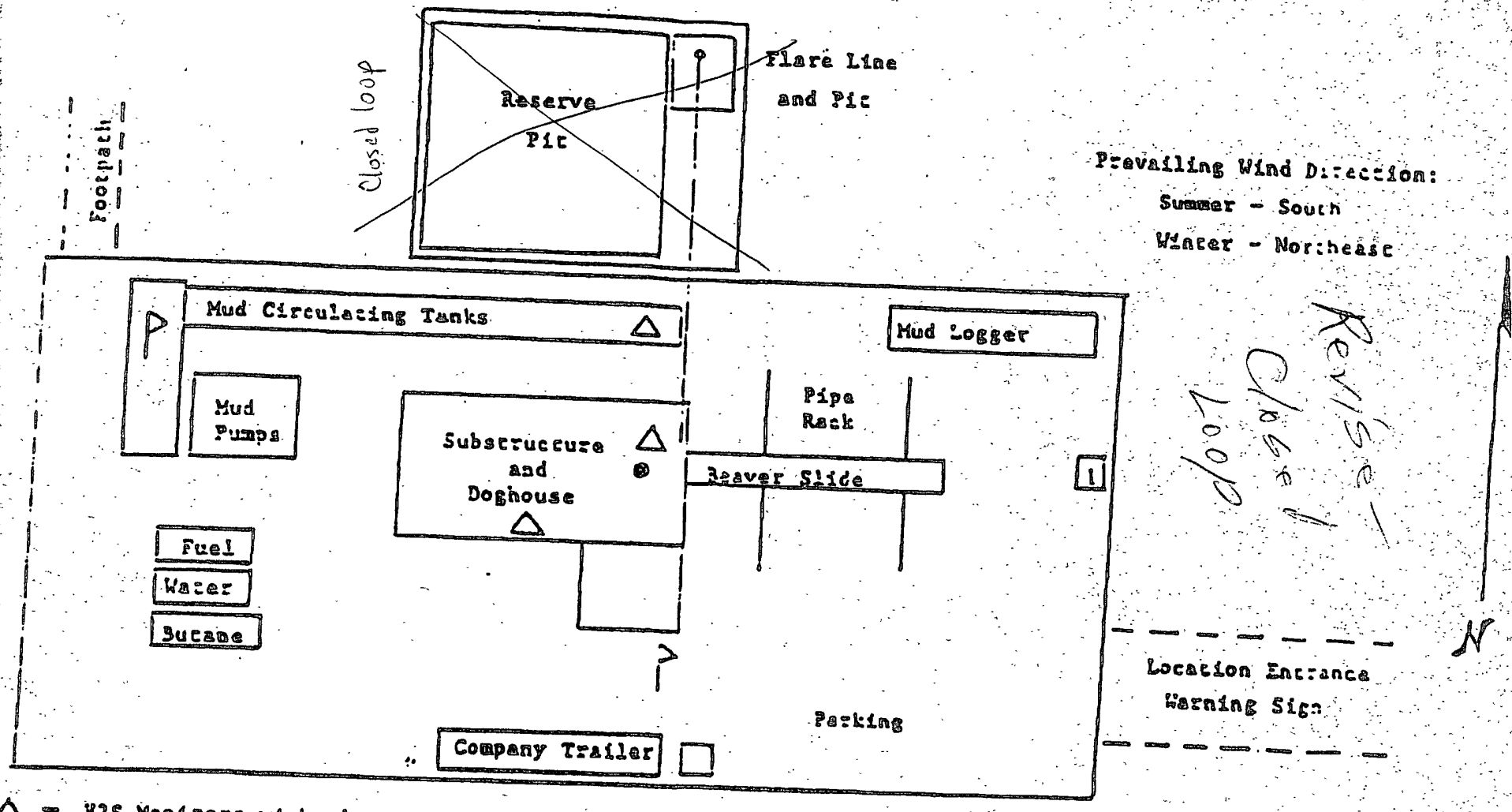
7. Communication:

   A. Radio communications in company vehicles including cellular telephone and 2-way radio.

   B. Land line (telephone) communications at field office.

8. Well testing:

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



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

— Wind Direction Indicators

□ — Safe briefing areas with caution signs and protective breathing equipment min. 150 feet from wellhead, 1 designates primary area

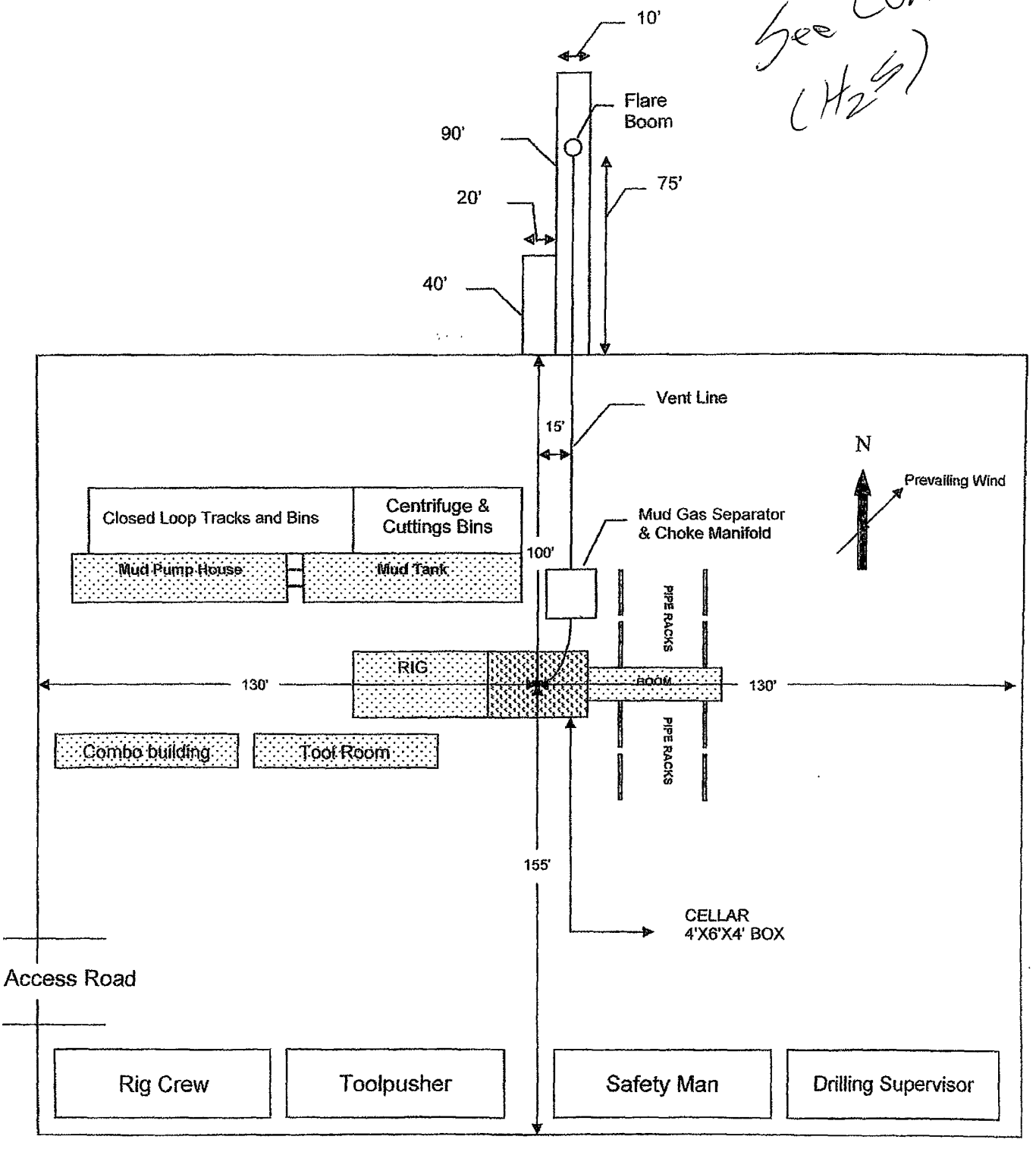
MARBOB ENERGY CORPORATION

Drilling Rig Layout with H_2S monitors and wind direction indicators.

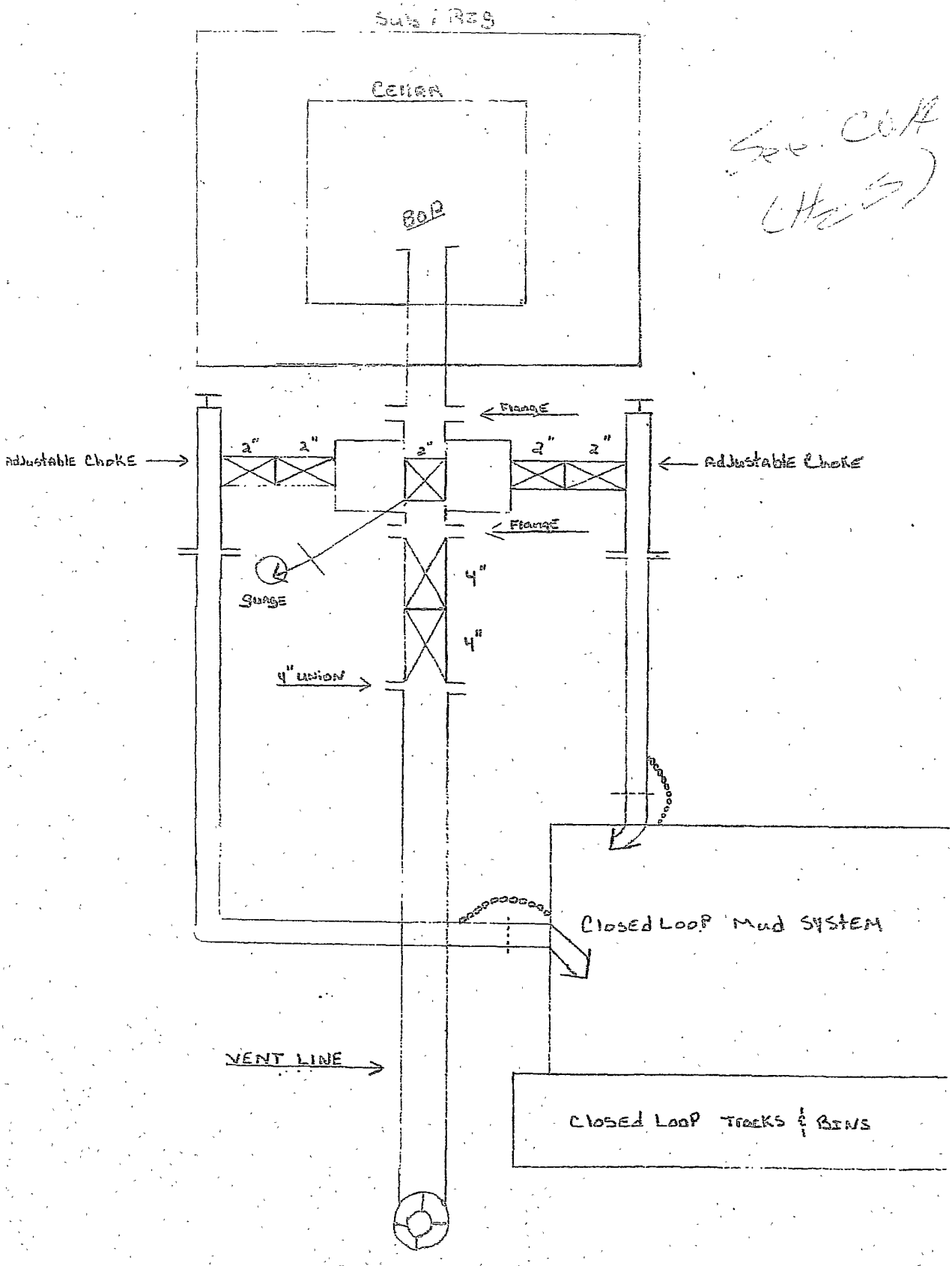
3M Choke Manifold Equipment

2

See COA (H2S)



2M Choke Manifold Equipment



W A R N I N G

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-~~505~~ 575-748-3303

SURFACE USE AND OPERATING PLAN

Burch Keely Unit No. 921
660' FNL and 660' FwL
Section 25-17S-29E
Eddy County, New Mexico

1.(c) Directions to Locations: From Loco Hills, proceed west on U.S. 82 for 3 miles. Turn south on lease road and proceed 7/10 miles. Turn east on lease road and proceed 4/10 miles to location.

2. No new access road will be necessary.

4.(a) If productive, this well will use Satellite "E".

MARBOB ENERGY CORPORATION
MASTER SURFACE USE AND OPERATING PLAN
BURCH-KEELY UNIT

Attached to Form 3160-3

T-17S, R-29E		T-17S, R-30E	
SE/4SE/4	Section 12	ALL	Section 18
ALL	Section 13	ALL	Section 19
ALL	Section 23	ALL	Section 30
ALL	Section 24		
ALL	Section 25		
ALL	Section 26		

Eddy County, New Mexico

1. Existing Roads:

(A) The well site and elevation plat for the proposed well is shown. It was staked by John West Engineering.

(B) All roads to the location are shown on Exhibit #2 of each individual application. The existing roads are illustrated in red and are adequate for travel during drilling and production operations. Upgrading of the road prior to drilling will be done where necessary as determined during the onsite inspection.

(C) Directions to location will be provided for each individual well application.

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

2. Proposed Access Road:

Exhibit #2 of each application will show the new access road (if necessary) to be constructed and will be illustrated in yellow. The road will be constructed as follows:

(A) The maximum width of the running surface will be 10'. The road will be crowned and ditched and constructed of 6" of rolled and compacted caliche. Ditches will be at 3:1 slope and 4' wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns. BLM may specify any additions or changes during the onsite inspection.

1-24-08

(B) The average grade will be less than 1%.
(C) No turnouts are planned.
(D) No culverts, cattle guards, gates, low-water crossings, or fence cuts are necessary.
(E) Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit. Any additional materials that are required will be purchased from the dirt contractor.

3. Location of Existing Wells:

Exhibit #3 will show all existing wells within a one-half mile radius of the well.

4. Location of Existing and/or Proposed Facilities:

(A) Marbob Energy Corporation already has a collection facility set up for this lease. There are seven satellite collection points which separate the gas from the production string before sending the fluids to one of two tank batteries. The satellites are located:

Satellite A	NE/4SE/4	24-17S-29E
Satellite B	SE/4NW/4	19-17S-30E
Satellite C	SE/4NE/4	13-17S-29E
Satellite D	SE/4NE/4	23-17S-29E
Satellite E	SW/4SE/4	23-17S-29E
Satellite F	SW/4NW/4	25-17S-29E
Satellite G	SE/4NW/4	30-17S-30E

The tank batteries are located:

Central Tank Battery	NW/4SE/4	24-17S-29E
Satellite E Tank Battery	SE/4SW/4	23-17S-29E

Each new well will use the Satellite facility nearest to it.

(B) If the well is productive, a 2" or 3" plastic flowline (grade SDR 7 @ 265 psi) will be laid on the surface following the existing lease road Right-of-Way to the Satellite or to the Central Tank Battery if the production from the well exceeds the capacity of the Satellite vessel. Anticipated pressures in the flowline should not exceed 75 psi.

(C) If the well is productive, power will be obtained from Central Valley Electric. Central Valley Electric will apply for ROW for their power lines.

1-24-08

If the well is productive, rehabilitation plans are as follows:

(1) Topsoil removed from the drill site will be used to recontour the pit area and any unused portions of the drill pad to the original natural level, as nearly as possible, and reseeded as per BLM specifications.

5. Location and Type of Water Supply:

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

6. Source of Construction Materials:

All Caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

7. Methods of Handling Water Disposal:

a. All trash, junk and other waste material will be removed from the wellsite within 30 days after finishing drilling and/or completion operations. All waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.

b. The supplier, including broken sacks, will pick up slats remaining after completion of well.

1-24-08

c. A porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

d. Disposal of fluids and cuttings below the fresh water zone will be transported by an approved disposal company.

8. Ancillary Facilities:

No campsite or other facilities will be constructed as a result of this well.

9. Well Site Layout:

a. Exhibit 3 shows the proposed well site layout with dimensions of the pad layout.

b. This exhibit indicates proposed location of fresh water sump pits if utilized and living facilities.

c. Mud pits in the active circulating system will be steel pits and a closed loop system will be utilized.

d. A fresh water/Cement Pit will be on the pad and will be closed at the end of drilling operations.

10. Plans for Restoration of the Surface:

a. After finishing drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original state.

b. The location and road will be rehabilitated as recommended by the BLM.

c. If the well is deemed commercially productive, the reserve pit will be restored as described in 10(A) within 120 days subsequent to the completion date. Caliche

1-24-08

d. from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

11. Surface Ownership:

The wellsite and lease is located on federal surface.

(A) The area around the well site is grassland and the topsoil is sandy. The vegetation is native scrub grasses with abundant oakbrush, sagebrush, yucca, and prickly pear.

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

(C) A Cultural Resources Examination had been requested and will be forwarded to the BLM office for each location staked.

1-24-08

12. **Lessee's and Operator's Representative:**

The Marbob Energy Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Johnny C. Gray
Marbob Energy Corporation
324 West Main, Suite 103
Post Office Box 227
Artesia, New Mexico 88211-0227
Phone: 505/748-3303 (office)
505/885-3879 (home)

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 currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Marbob Energy Corporation and its contractors and subcontractors in conformity with this plan and the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Signed:

Date: 5-25-95

Johnny C. Gray, Vice-President

COPY

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office

Refer To: 3160-3

May 07, 2009

To: AFM, Lands & Minerals, CFO

From: Geologist, CFO

Subject: Geologic Review of Application for Permit to Drill

Operator: Marbob Energy Corporation

Well Name and Number: Burch Keely Unit #921

Location: 660' FNL & 660' FWL

Section: 25, T. 17 S., R. 29 E., NMPM

County: Eddy State: NM

Lease No.: LC-028784B Date Rec'd: 05/07/09

1. Surface Elevation **3,593'** Surface Geology **Quaternary Aeolian**

2. Geologic Marker Tops (from reports on surrounding wells):

Geologic Marker	Depth
Rustler	348'
T/Salt	515'

Marker tops taken from the well log of the Atalaya No. 2 well located in the NE¼SE¼ sec. 34, T. 17 S., R. 30 E., NMPM

Geologic Marker	Depth
Rustler	302'
Yates	1145'
Seven Rivers	1404'
Bowers Sand (SR)	1788'
Queen	2016'
San Andres	2713'
Lovington Sand	2820'
Glorieta	4131'
Yeso	4188'

Marker tops taken from the Burch Keely Unit No. 404 well located in the SE¼NE¼, sec. 18, T. 17 S., R. 30 E., NMPM

Geologic Marker	Depth
Grayburg Loco Hills	2456'
Upper Metex	2546'
Middle Metex	2590'
Premier Sand	2648'
San Andres	2713'
Lovington Sand	2807'
Keely	3260'

Marker tops taken from the Burch Keely Unit No. 25 well located in the NW¼SE¼, sec. 18, T. 17 S., R. 30 E., NMPM

Geologic Marker	Depth
Yates	1130'
Queen	2005'
San Andres	2701'
Glorieta	4124'

Marker tops taken from the Burch Keely Unit No. 303 well located in the NE¼SE¼, sec. 18, T. 17 S., R. 30 E., NMPM.

Geologic Marker	Depth
Yates	1106'
Queen	1970'
San Andres	2670'
Glorieta	4063'

Marker tops taken from the Burch Keely Unit No. 313 well located in the NW¼SW¼, sec. 18, T. 17 S., R. 30 E., NMPM

Geologic Marker	Depth
Yates	1153'
Seven Rivers	1414'
Bowers Sand	1796'
Queen	2024'
San Andres	2717'
Lovington Sand	2821'
Glorieta	4154'
Yeso Group	4216'

Marker tops taken from the Burch Keely Unit No. 396 well located in the SE¼NE¼ sec. 18, T. 17 S., R. 30 E., NMPM.

3. Fresh Water Information: Fresh water can be found in the strata above the Rustler Fm. Originally in this area it was required to set surface casing down to the base of the Rustler Formation based on water depths in sec. 21 and 27 at 425' and 390', respectively. This requirement opened discussions with an operator in the area who questioned the issue of useable water occurrence because some of the casing depths seemed too deep in relation to the top of the anhydrite. The operator stated that the water they have been encountering in the anhydrite appears to be break through water from secondary recovery projects (possibly because the anhydrite may be degrading into gypsum). An ex- employee of Dowell now employed by the State Engineers Office has also indicated that this is the case. Due to these discussions, the unknown quality of the waters cited above and the lack of water wells in the Rustler Fm. for the following twp. T. 17 S., Rgs. 29, 30 and 31 E., NMPM, the surface casing for O&G wells need only to be set in the top 25 ft. Rustler Formation. The Burch No. 8 Well is producing water from 315 to 320 feet located in Section 19, T. 17S., R. 30E.

Deepest Expected Fresh Water: 320'

Does Surface Casing cover all anticipated usable fresh water zones? Yes, but operator may be setting casing in salt. In this case, surface casing should be set approximately 345 feet as there appears to be a water bearing zone within the upper portion of the Rustler Anhydrite. In this area, the operator should avoid setting casing in the very base of the Rustler Anhydrite as it appears that possibly the Rustler in this zone may consist of Gypsum ($CaSO_4 * 2H_2O$) with a hardness of "2" on Mohs Hardness Scale instead of anhydrite ($CaSO_4$) with a hardness of "3.0 – 3.5". If this has occurred, the Rustler Anhydrite will be softer and less competent to set surface casing if there is brine in the top of the Salado Formation. If this is the case, then the base of the Rustler Anhydrite should be avoided as far as being the depth of setting surface casing. Other formations to be avoided in setting casing is the Salado Group, the Yates Formation, the Bowers Sand Member of the Seven Rivers Formation, and the Queen Formation.

If no, set surface casing to feet.

Controlled Water Basin: Yes

Capitan Carlsbad Roswell **X** Lea No basin

Remarks: Witness setting surface casing at approximately 345 feet in the tight section of the Rustler Anhydrite and above the salt. Avoid setting surface casing in the lower part of the Rustler Formation in this area as it appears to be subject to washing out. Data from wells to NW/SW/SE support 345'

4. Geologic Hazards? Yes All wells in 25-17S-29E, 30-015-03089/30-015-03127/30-015-03111

H_2S **X** Karst Abnormal Pressures Other **X**

Remarks: H_2S has been reported five times in Federal X lease well completed in the Fren (?), Fren Seven Rivers and Grayburg Jackson, located in the NE¼SW¼ Marbob Energy Corporation, Randy Federal #1 of Sec. 21, T. 17 S., R. 30 E., NMPM, Eddy County; measuring 1,900 in the Gas Streams and 20 ppm. in STVs. H_2S has been reported numerous times in an ETZ State Unit well completed in the Grayburg Jackson, San Andres and Queen, located in the NE¼NE¼ of Sec. 17, T. 17 S., R. 30 E., NMPM; measuring 1,600 ppm. in the Gas Streams and 1,500 ppm. in STVs. H_2S has also been reported five times in a McIntyre A lease well (four times in the Grayburg Jackson and once in the South Loco Hills Morrow), located in the NW¼SE¼ of Sec. 20, T. 17 S., R. 30 E., NMPM; measuring 10,000 ppm. in the Gas Streams and 4,000 ppm. in STVs. Possible loss of circulation in the Grayburg in the Loco Hills, Metex, and Premier Sand Members. Possible loss of circulation in the Lovington Sand Member of the upper San Andres Formation. Possible loss of circulation in the porous Slaughter Zone of the San Andres Formation. Possible brine and water flows in the Salado and Artesia Groups especially in the Bowers Sand of the Seven Rivers Formation. There is a low potential for the occurrence of karst type features in this area. **The total depth for this well is proposed at 4,800 feet which will make this well a Yeso test as the Yeso Group comes in at approximately 4,310 feet according to the Polaris B Federal No. 4 Well located in the NE¼NW¼, sec. 17, T. 17S., R. 30E., NMPM. Based on this information, the proposed well location will probably reach total depth at 4,800 feet within the Blinebry Formation of the Yeso Group.** There is some indication that there may be some faulting in the area shown on the log of the Burch Keely No. 380 well. It appears that some of the shallow formations as old as the Salado Formation may appear to repeat themselves when this well is drilled.

Note: a well in sec. 35 lost circulation at 435 to 600 ft. in the Rustler Formation possibly from the Rustler Anhydrite degrading into gypsum. Lost circulation in the Rustler Anhydrite in Section 35 could have also occurred as a result of disruption of the anhydrite by faulting forming breccia and cracks in the anhydrite, particularly on the upthrown side of the possibly existing fault.

5. Other Mineral Deposits: Possible Halite and other associated salts in the Rustler Formation, and the Castile and Salado Groups. Extensive sand deposits present.

6. Potash:

Secretary's Oil-Potash Area	R-111-P Area	Not Applicable **X**

7. References:

New Mexico State Engineer's Water Well Listings;

Eddy County H_2S List;

Hendrickson, G.E. and R.S. Jones. Geology and Ground-Water Resources of Eddy County, New Mexico, Ground Water Report No. 3. 1952. New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico.

Oil and Gas P&A Files

8. No active mining claims are located in this vicinity.

Geologist Signature: Jerry B. Fant Date: 05/07/09

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MARBOB ENERGY CORPORATION
LEASE NO.:	LC028784B
WELL NAME & NO.:	BURCH KEELY UNIT # 921
SURFACE HOLE FOOTAGE:	669' FNL & 660' FWL
BOTTOM HOLE FOOTAGE	SAME
LOCATION:	Section 25, T. 17 S., R 29 E., NMPM
COUNTY:	Eddy 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.

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.

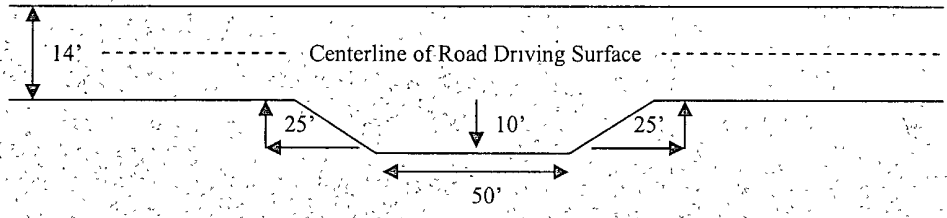
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

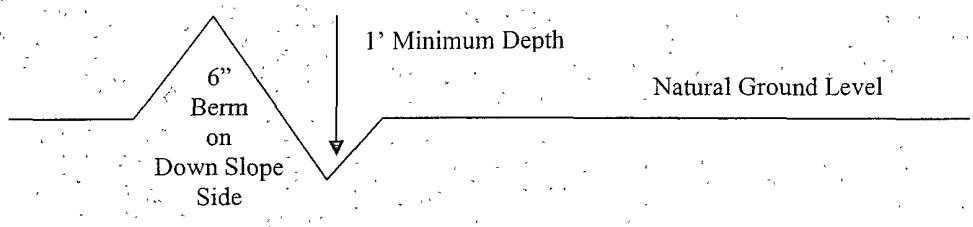
Standard Turnout – Plan View



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 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:

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

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.

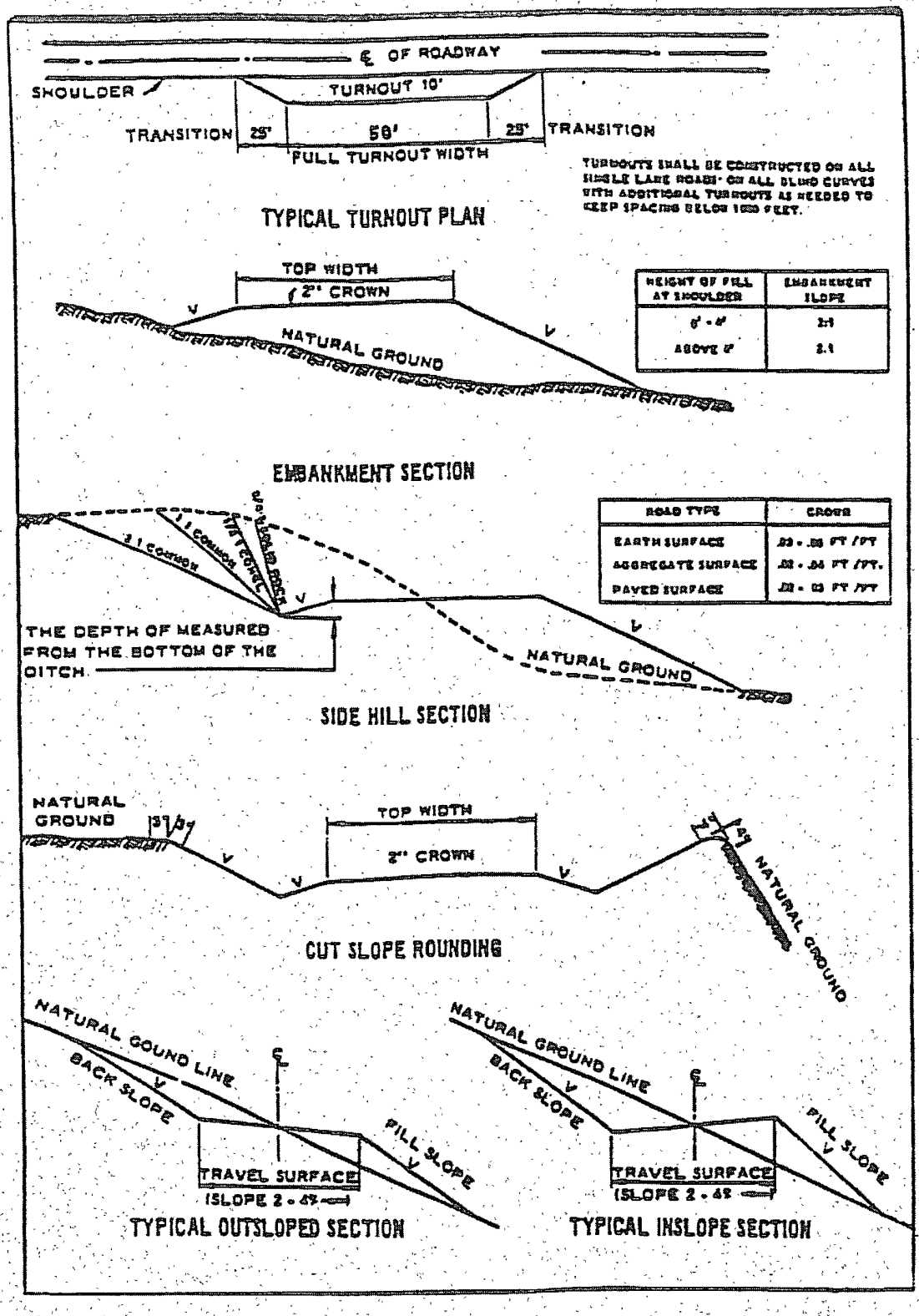
A gate shall be constructed and fastened securely to H-braces.

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

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Yates** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values 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. Report Rustler and Top of Salt on Completion Report.

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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 for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possible lost circulation in the Grayburg and San Andres formations.
Possible water flows in the Salado and Artesia Groups.

1. The **8-5/8** inch surface casing shall be set **at approximately 345 feet (a minimum of 25 feet into the Rustler Anhydrite and 25 feet above the salt)** and cemented to the surface.

    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 is to include the lead cement slurry.

    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 cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 5-1/2 inch production casing is:

    a. **First stage to DV tool, cement shall:**

    ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office, before proceeding with second stage cement job.

    b. **Second stage above DV tool, cement shall:**

    ☒ Cement should tie-back at least 200 feet into previous casing string. Operator estimating TOC of 100'. **Operator shall provide method of verification.**

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.

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. 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. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILL STEM TEST

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

E. MASTER DEVELOPMENT PLAN

The master development plan should be revised to reflect the Upper Yeso as part of the formation list. The amendment to the Unit Agreement stated the Upper 500' of the Paddock. This should be the Yeso as the Paddock formation is not 500' thick. The Geological Name of the surface formation should be defined more clearly since "Permian" includes formations from the Rustler to the Wolfcamp. The APD states 3M BOPE, but the inside cover page states that a 2M will be used. In addition, the plan should be revised with regards to closed loop systems in main plan and H2S plan.

WWI 060109

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

VRM Facility Requirement

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full

expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

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, 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.

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.