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OCD-ARTESIA

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Form 3160-3  
(August 2007)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

FORM APPROVED  
OMB NO. 1004-0137  
Expires July 31, 2010

|  |                                   |
|--|-----------------------------------|
| 5. Lease Serial No                     | NM-102034                         |
| 6 If Indian, Allottee or Tribe Name    | N/A                               |
| 7 If Unit or CA Agreement, Name and No | N/A                               |
| 8. Lease Name and Well No              | Prop # Banjo BNO Federal #1 37586 |
| 9. API Well No                         | 30-015-36923                      |

|                    |   |
|--------------------|---|
| 1a Type of Work    | <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER  |
| 1b Type of Well    | <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone |
| 2 Name of Operator | Yates Petroleum Corporation 025575  |

|  |                                 |
|--|---------------------------------|
| 3a Address                                 | 3b Phone No (include area code) |
| 105 South Fourth Street, Artesia, NM 88210 | 505-748-1471                    |

|                                   |
|-----------------------------------|
| 10 Field and Pool, or Exploratory |
| Wildcat, Bone Spring              |

|  |
|--|
| 4 Location of well (Report location clearly and in accordance with any State requirements *) |
| At surface   |
| At proposed prod. zone   |
| 510' FSL & 330' FEL  |
| Same   |

|  |
|--|
| 11 Sec, T, R, M, or Blk And Survey or Area |
| Section 5-T26-R30E                         |

|  |
|--|
| 14 Distance in miles and direction from the nearest town or post office* |
| The well is about 38 miles southeast of Carlsbad, NM.                    |

|                     |          |
|---------------------|----------|
| 12 County or Parish | 13 State |
| Eddy                | NM       |

|  |          |                                      |        |   |                            |
|--|----------|--------------------------------------|--------|---|----------------------------|
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg unit line, if any) | 510'     | 16 No. of acres in lease             | 960.00 | 17. Spacing Unit dedicated to this well | SESE of Section 5-26S-30E  |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.           | None     | 19. Proposed Depth                   | 9900'  | 20 BLM/ BIA Bond No. on file            | NATIONWIDE BOND #NMB000434 |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)  | 3097' GL | 22 Approximate date work will start* | ASAP   | 23. Estimated duration                  |                            |

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

|                           |                       |            |
|---------------------------|-----------------------|------------|
| 25 Signature              | Name (Printed/ Typed) | Date       |
|                           | Cy Cowan              | 12/22/2008 |
| Title<br>Regulatory Agent |                       |            |

|                                 |                       |             |
|---------------------------------|-----------------------|-------------|
| Approved By (Signature)         | Name (Printed/ Typed) | Date        |
| 18/ Don Peterson                | 18/ Don Peterson      | JAN 29 2009 |
| Title<br>FIELD MANAGER          |                       |             |
| Office<br>CARLSBAD FIELD OFFICE |                       |             |

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to cc operations thereon.

**APPROVAL FOR TWO YEARS**

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and wilfully 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)

CARLSBAD CONTROLLED WATER BASIN

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED**

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

## DISTRICT I

1636 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 and Natural Resources DepartmentForm C-102  
Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

|                            |  |                                   |
|----------------------------|--|-----------------------------------|
| API Number<br>30-015-36923 | Pool Code                              | Pool Name<br>Wildcat Bone Springs |
| Property Code<br>37586     | Property Name<br>BANJO "BNO" FEDERAL   | Well Number<br>1                  |
| OGRID No.<br>025575        | Operator Name<br>YATES PETROLEUM CORP. | Elevation<br>3097'                |

## Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| P             | 5       | 26 S     | 30 E  |         | 510           | SOUTH            | 330           | EAST           | 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<br>40 | Joint or Infill | Consolidation Code | Order No. |
|-----------------------|-----------------|--------------------|-----------|

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

|   |   |
|---|---|
| <div style="border: 1px dashed black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; bottom: 10px; right: 10px;"> <p><b>SURFACE LOCATION</b><br/> Lat - N32°03'57.19"<br/> Long - W103°53'45.37"<br/> SPC- N.: 387980.373<br/> E.: 676831.385<br/> (NAD-83)</p> </div> </div> | <p><b>OPERATOR CERTIFICATION</b></p> <p>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 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 state.</p> <p><i>Cy Cowan</i> 12/22/08<br/> Signature Date</p> <p>Cy Cowan<br/> Printed Name</p> |
|   | <p><b>SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>DECEMBER 16, 2008<br/> Date Surveyed</p> <p><i>Gary L. Jones</i><br/> Signature &amp; Seal<br/> Professional Surveyor</p> <p>W.O. 2005</p> <p>Certificate No. Gary L. Jones 7977</p> <p><b>BASIN SURVEYS</b></p>   |

712

# YATES PETROLEUM CORPORATION

Banjo BNO Federal #1  
510' FSL and 330' FEL  
Section 5-T26S-R30E  
Eddy County, New Mexico

- The estimated tops of geologic markers are as follows:

|               |             |                |           |
|---------------|-------------|----------------|-----------|
| Rustler       | 330' → 950' | Brushy Canyon  | 5650'-oil |
| Top of Salt   | 710' →      | Bone Springs 1 | 8150'-oil |
| Base of Salt  | 2945'       | Bone Springs 2 | 8850'-oil |
| Bell Canyon   | 3480'       | TD             | 9900'     |
| Cherry Canyon | 4350'-oil   |                |           |

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

Water: 184'  
Oil or Gas: Oil Zones: 4350', 5650', 8150', and 8850'

- Pressure Control Equipment: BOPE will be installed on the 8 5/8" casing and rated for 3000# BOP System. Pressure tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

- Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment, and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when Kelly is not in use.

- THE PROPOSED CASING AND CEMENTING PROGRAM:

## A. Casing Program: All new casing to be used

See COA ←

| Hole Size                  | Casing Size | Wt./Ft | Grade | Coupling | Interval             | Length        |
|----------------------------|-------------|--------|-------|----------|----------------------|---------------|
| 17 1/2"                    | 13 3/8"     | 48#    | H-40  | ST&C     | 0-350'               | 350'          |
| 11"                        | 8 5/8"      | 32#    | J-55  | ST&C     | 0-100'               | 100'          |
| 11"                        | 8 5/8"      | 24#    | J-55  | ST&C     | 100-2200'            | 2100'         |
| 11"                        | 8 5/8"      | 32#    | J-55  | ST&C     | 2200-3400'           | 1200'         |
| * add 5th segment → 7 7/8" | 5.5"        | 17#    | J-55  | LT&C     | 100' - 1200' → 1100' | 1200' → 1100' |
| 7 7/8"                     | 5.5"        | 15.5#  | J-55  | LT&C     | 1200'-6900'          | 5700'         |
| 7 7/8"                     | 5.5"        | 17#    | J-55  | LT&C     | 6900'-8700'          | 1800'         |
| 7 7/8"                     | 5.5"        | 17#    | L-80  | LT&C     | 8700'-9900'          | 1200'         |
| * 7 7/8"                   | 5.5"        | 17#    | L-80  | LT&C     | 0-100'               | 100'          |

\* add 5th segment  
26th 1/27/09  
change per operator email  
attached

- Minimum Casing Design Factors: Burst 1.0, Tensile Strength 1.8, Collapse 1.125

- A 3000 psi BOPE will be nipped up on the 13 3/8" casing and tested to 3000 psi,

## B. CEMENTING PROGRAM:

Surface Casing: 360 sacks Premium Plw/CaCl<sub>2</sub> (WT 14.80 YLD 1.35). TOC surface.

Intermediate Casing: 750 sacks of Hal LtPr+Cw/CaCl<sub>2</sub> (WT 12.50 YLD 1.97) Tail in with 200 sacks Premium Pl w/CaCl<sub>2</sub> (WT 14.80 YLD 1.35). TOC surface

Production Casing: Stage One: 825 sacks Super H (WT 13.00 YLD 1.66). Top of Cement approx. 6000'. DV Tool set about 6000'

Second Stage: Lead with 375 sacks Hal LtPr+C (WT 12.45 YLD 1.98). Tail in with 200 sacks Super H (WT 13.00 YLD 1.66). Top of Cement approximately 2900'.

6. MUD PROGRAM AND AUXILIARY EQUIPMENT:

| <u>Interval</u>  | <u>Type</u>     | <u>Weight</u> | <u>Viscosity</u> | <u>Fluid Loss</u> |
|------------------|-----------------|---------------|------------------|-------------------|
| See COA<br>0-350 | Fresh Water Gel | 8.60-9.20     | 32-34            | N/C               |
| 350-3400         | Brine Water     | 10.00-10.20   | 28-28            | N/C               |
| 3400-9800        | Cut Brine       | 9.00-9.30     | 28-28            | N/C               |
| 9800-9900        | Cut Brine       | 9.30-9.40     | 28-32            | 15.0-20.0         |

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Rig personnel will check mud hourly.

7. EVALUATION PROGRAM:

Samples: Thirty foot samples to 3000'. Every 10' from 3000' to TD

Logging: Platform Express; CMR; 1

Coring: None anticipated

DST's: None Anticipated

Mudlogging: Yes

8. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE, AND POTENTIAL HAZARDS:

Maximum Anticipated BHP:

0'-350' 240 PSI

350'-3400' 1640 PSI

3400'-9900' 4500 PSI

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None.

See COA

H2S Zones Anticipated: None Anticipated

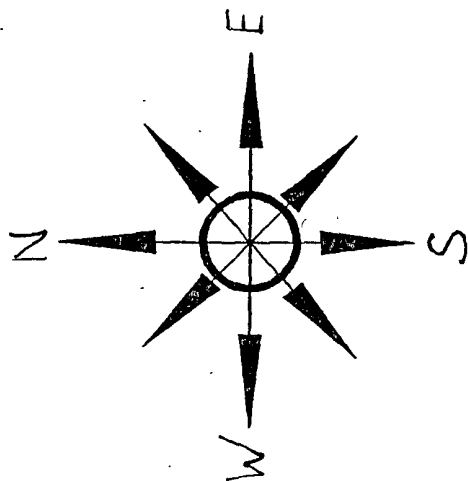
Maximum Bottom Hole Temperature: 150 F

9. ANTICIPATED STARTING DATE:

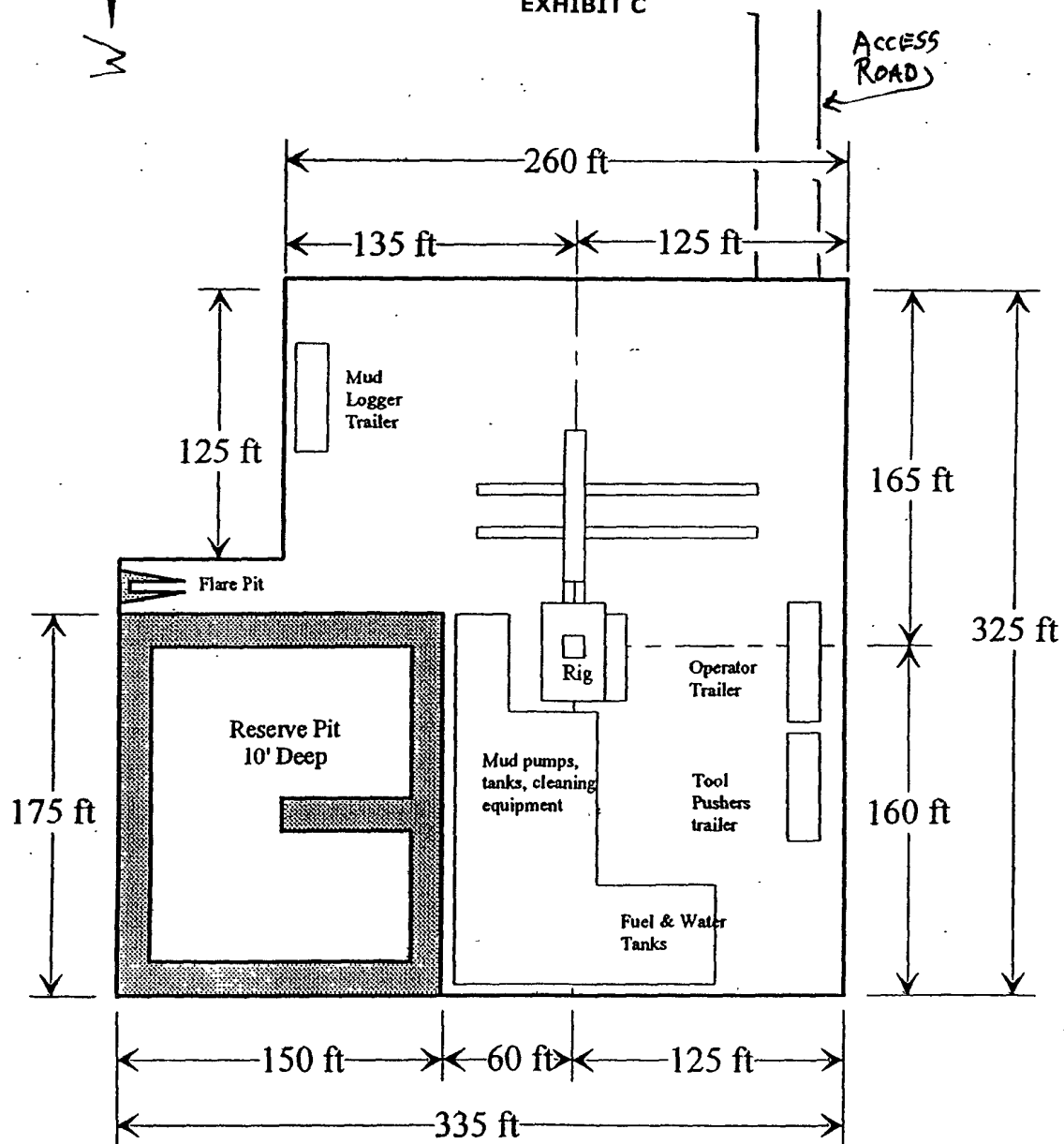
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 45 days to drill the well with completion taking another 20 days.

# Yates Petroleum Corporation

Location Layout for Permian Basin  
Up to 12,000'



Banjo BNO Federal #1  
510' FSL & 330' FEL  
Section 5, T26S-R30E  
Eddy County, New Mexico  
**EXHIBIT C**



Distance from Well  
Head to Reserve Pit  
will vary between rigs

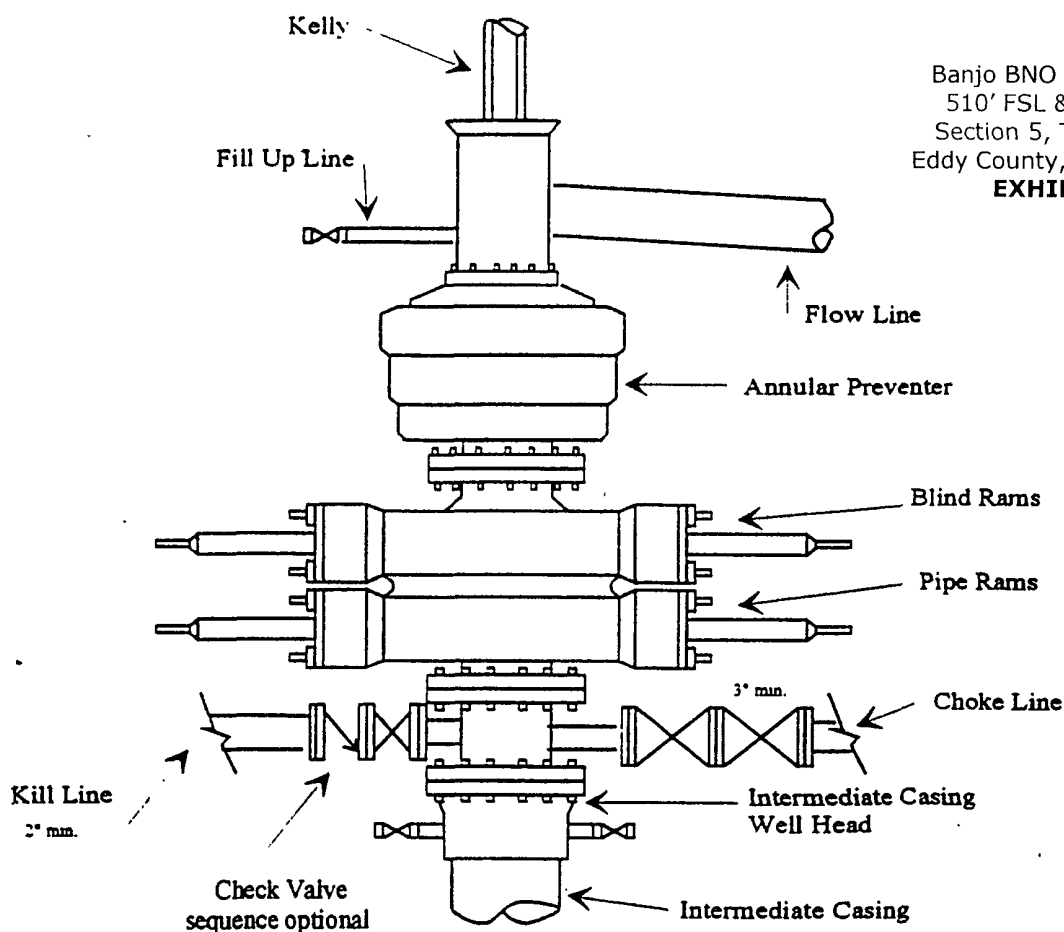
The above dimension  
should be a maximum



# Yates Petroleum Corporation

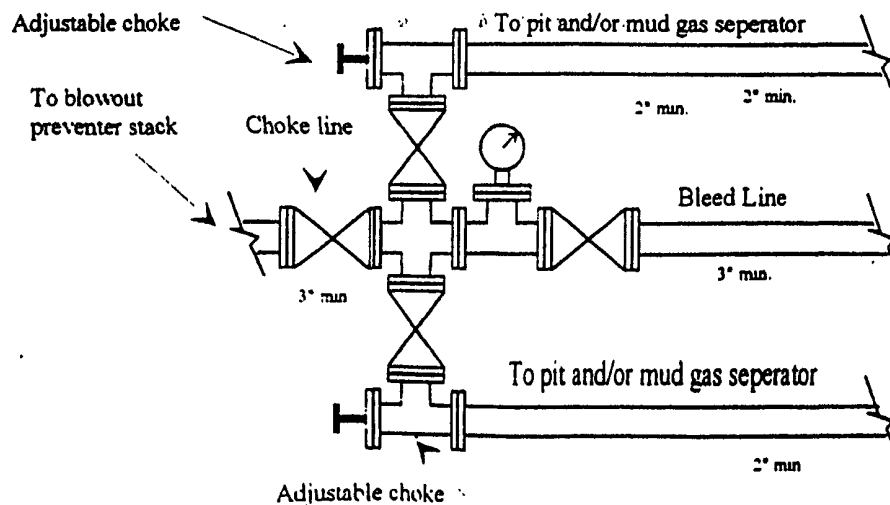
BOP-3

## Typical 3,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack



Banjo BNO Federal #1  
510' FSL & 330' FEL  
Section 5, T26S-R30E  
Eddy County, New Mexico  
**EXHIBIT B**

## Typical 3,000 psi choke manifold assembly with at least these minimum features



MULTI-POINT SURFACE USE AND OPERATIONS PLAN  
YATES PETROLEUM CORPORATION  
Banjo BNO Federal #1  
510' FSL & 330' FEL  
Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Exhibit A is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 38 miles east of Calsbad, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS: Go south out of Carlsbad, New Mexico on the Pecos Highway (285) for approximately 28.5 miles to Whitehorn Road (CR-725). Turn left on Whitehorn and go 3.9 miles. At this point there will be a sign that says CRW SWD. Turn left here off of CR-725 on a pipeline road going east. Go east on this road for approximately 5.8 miles. At this point there will be a cross roads and some pipeline headers. Turn left here on a two track road going north. Follow the two track road for approximately 375 feet. The new road will start here going to the left for approx. 200' to the southeast corner of the proposed location.

2. PLANNED ACCESS ROAD:

- A. The proposed new access will be approximately 200' in length from the point of origin to the southeast corner of the drilling pad.
- B. The new road will be 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The new road will be bladed with drainage on both sides. No traffic turnout may be needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

- A. There is drilling activity within a one-mile radius of the well site.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There are production facilities on this lease at the present time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a brine water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

6. SOURCE OF CONSTRUCTION MATERIALS:

The dirt contractor will be responsible for finding a source of material for construction of road and pad and will obtain any permits that may be required.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. The temporary drilling pit will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
- C. Drilling fluids will be removed after drilling and completions are completed.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: NONE

9. WELLSITE LAYOUT:

- A. Exhibit C shows the relative location and dimensions of the well pad, the reserve pits, the location of the drilling equipment, pulling unit orientation and access road approach. Note: Pits to north.
- B. The temporary reserve pit will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
- C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION:

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible.
- B. Unguarded pits, if any, containing fluids will be fenced until they have dried and have been leveled.
- C. If the proposed well is plugged and abandoned, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits, if any, will be filled level after they have evaporated and dried. Pit reclamation will meet 19.15.17 requirements.



Bingo BNO Federal #1  
Page Three

11. SURFACE OWNERSHIP:

Federal Lands under the supervision of the Carlsbad BLM. .

12. OTHER INFORMATION:

- A. The primary use of the surface is for grazing.
- B. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, and historical and cultural sites.

CERTIFICATION  
YATES PETROLEUM CORPORATION  
**Banjo BNO Federal #1**

I hereby certify that I or the company I represent, have inspected the drill site and access route proposed herein; that the company I represent is familiar with the conditions which currently exist; that full knowledge of state and federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that the company I represent is responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 22nd day of December, 2008.

Printed Name Cy Cowan

Signature \_\_\_\_\_

Position Title Regulatory Agent

Address 105 South Fourth Street, Artesia, NM 88210

Telephone 575-748-4372

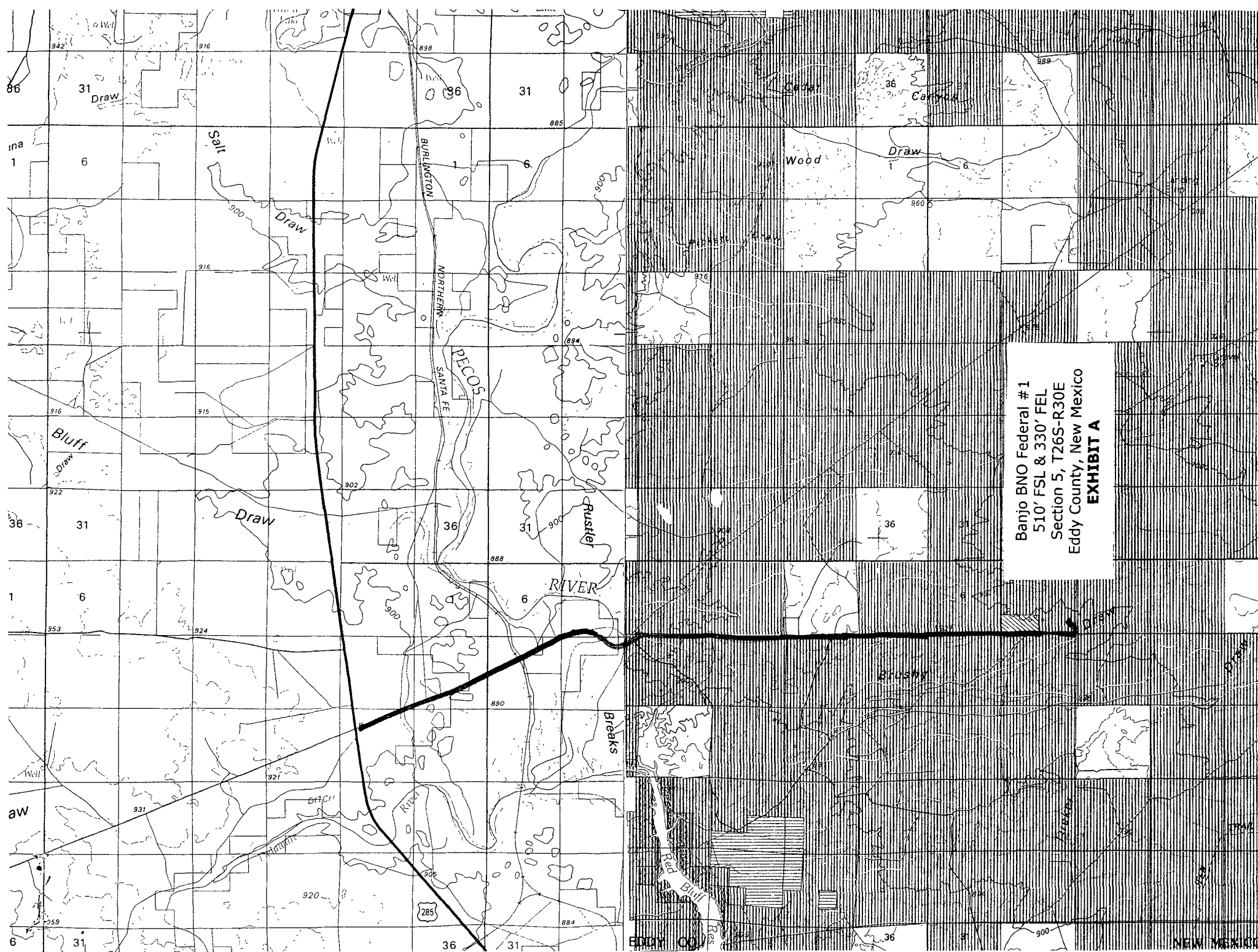
E-mail (optional) cy@yatespetroleum.com

Field Representative (if not above signatory) Tim Bussell

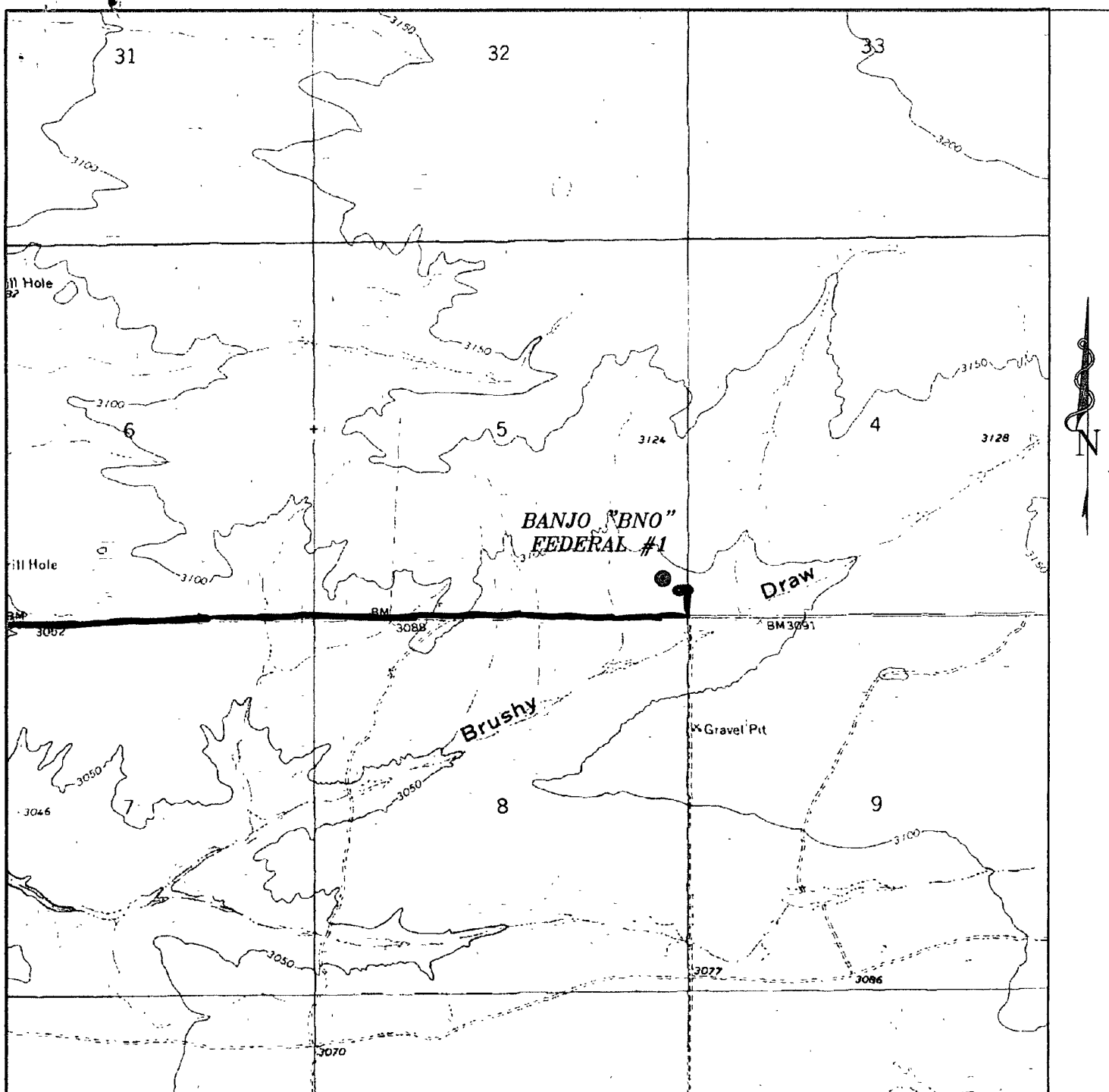
Address (if different from above) Same

Telephone (if different from above) 575-748-4221

E-mail (optional) \_\_\_\_\_



Banjo BNO Federal #1  
510' FSL & 330' FEL  
Section 5, T26S-R30E  
Eddy County, New Mexico  
**EXHIBIT A**



**BANJO "BNO" FEDERAL #1**  
 Located at 510' FSL AND 330' FEL  
 Section 5, Township 26 South, Range 30 East,  
 N.M.P.M., Eddy County, New Mexico.

**EXHIBIT A1**

**basin**  
**surveys**  
 focused on excellence  
 in the oilfield

P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (575) 393-7316 - Office  
 (575) 392-2206 - Fax  
 basinsurveys.com

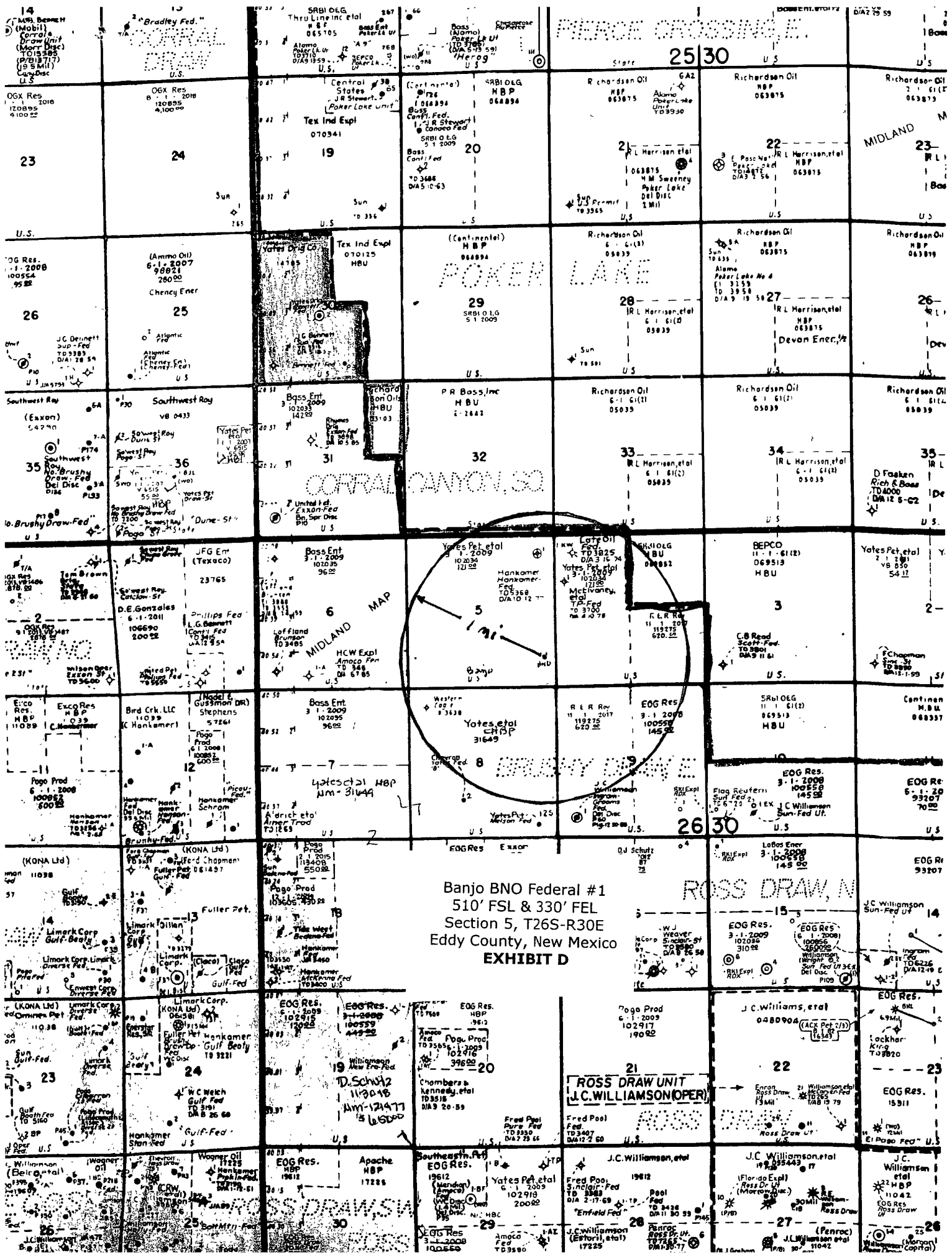
W.O. Number: 20955

Survey Date: 12-16-2008

Scale: 1" = 2000'

Date: 12-17-2008

**YATES**  
**PETROLEUM**  
**CORP.**



# PECOS DISTRICT CONDITIONS OF APPROVAL

|                       |                                    |
|-----------------------|------------------------------------|
| OPERATOR'S NAME:      | Yates Petroleum Corporation        |
| LEASE NO.:            | NM102034                           |
| WELL NAME & NO.:      | Banjo BNO Federal # 1              |
| SURFACE HOLE FOOTAGE: | 510' FSL & 330' FEL                |
| BOTTOM HOLE FOOTAGE:  | Same                               |
| LOCATION:             | Section 5, T. 26 S., R 30 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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Muffled pump jack engine
- ☐ **Construction**
  - Notification
  - Topsoil
  - Reserve Pit
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
- ☐ **Reserve Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

## **I. GENERAL PROVISIONS**

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

## **II. PERMIT EXPIRATION**

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

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

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

## **IV. NOXIOUS WEEDS**

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

## **V. SPECIAL REQUIREMENT(S)**

### **Heronries Noise Special Requirement**

Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.



## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (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. RESERVE PITS**

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

The reserve pit shall be constructed 175' X 150' on the North side of the well pad.

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

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

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

### **D. FEDERAL MINERAL MATERIALS PIT**

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

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

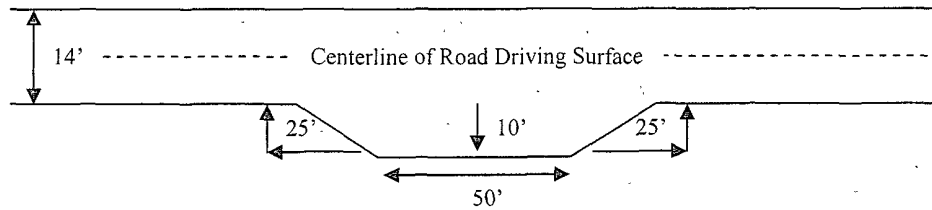
##### **Ditching**

Ditching shall be required on the uphill side 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**

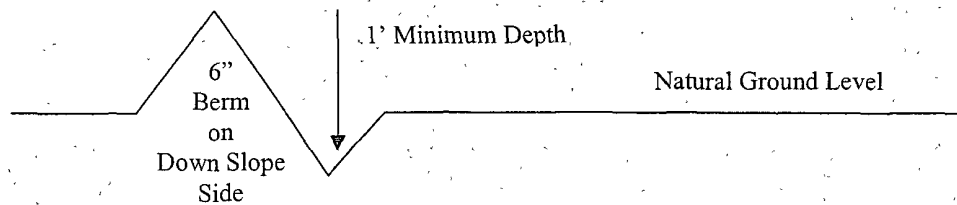


### Drainage

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

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

**Cross Section of a Typical Lead-off Ditch**



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

### **Formula for Spacing Interval of Lead-off Ditches**

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

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

### **Culvert Installations**

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

### **Cattleguards**

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

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

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

### **Fence Requirement**

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

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

### **Public Access**

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

OF ROADWAY

SHOULDER

TURNOUT 10'

TRANSITION 25'

50'

TRANSITION 25'

FULL TURNOUT WIDTH

TYPICAL TURNOUT PLAN

TURNOUTS SHALL BE CONSTRUCTED ON ALL SINGLE LANE ROADS ON ALL BLIND CURVES WITH ADDITIONAL TURNOUTS AS NEEDED TO KEEP SPACING BELOW 1000 FEET.

TOP WIDTH

2' CROWN

NATURAL GROUND

| HEIGHT OF FILL AT SHOULDER | EMBANKMENT SLOPE |
|----------------------------|------------------|
| 0' - 6"                    | 2:1              |
| ABOVE 6"                   | 2.1              |

EMBANKMENT SECTION

| ROAD TYPE         | CROWN           |
|-------------------|-----------------|
| EARTH SURFACE     | 22 - 24 FT / FT |
| AGGREGATE SURFACE | 22 - 24 FT / FT |
| PAVED SURFACE     | 22 - 24 FT / FT |

THE DEPTH OF MEASURED FROM THE BOTTOM OF THE DITCH

3:1 CORNER

3:1 CORNER

3:1 CORNER

3:1 CORNER

NATURAL GROUND

SIDE HILL SECTION

NATURAL GROUND

TOP WIDTH

2' CROWN

CUT SLOPE ROUNDING

NATURAL GROUND LINE

BACK SLOPE

TRAVEL SURFACE

(SLOPE 2 - 43)

TYPICAL OUTSLOPED SECTION

NATURAL GROUND LINE

BACK SLOPE

TRAVEL SURFACE

(SLOPE 2 - 43)

TYPICAL INSLOPED SECTION

## 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. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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.

### 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.**

**Medium cave/karst.**

**Possible Rustler debris flow.**

**Possible lost circulation in the Delaware and Bone Spring formations.**

1. The 13-5/8 inch surface casing shall be set **at approximately 1000 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **If the Salado is penetrated, the operator should set surface casing approximately 25 feet above the Salado Formation. Fresh water mud to be used to setting depth. Additional cement will be required due to additional depth.**

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 8-5/8 inch intermediate casing shall be set **at approximately 3550 feet (a minimum of 25 feet into the Lamar) and cemented to surface.**

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

**If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.**

3. 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 500 feet into previous casing string. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
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.

**RGH 012709**



## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

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

#### **Containment Structures**

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

#### **Painting Requirement**

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

## **IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE**

### **A. INTERIM RECLAMATION**

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

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

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

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

### **B. RESERVE PIT CLOSURE**

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

## Seed Mixture 2, for Sandy Sites

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

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

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

| <u>Species</u>                                      | <u>lb/acre</u> |
|---|----------------|
| Sand dropseed ( <i>Sporobolus cryptandrus</i> )     | 1.0            |
| Sand love grass ( <i>Eragrostis trichodes</i> )     | 1.0            |
| Plains bristlegrass ( <i>Setaria macrostachya</i> ) | 2.0            |

\*Pounds of pure live seed:

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

## **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

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

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