

OCD-ARTESIA  
MAR 03 2009

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

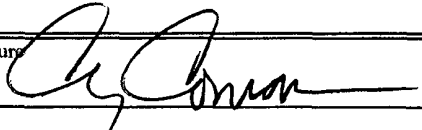
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTER

343  
Split Estate

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No NM-105211
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		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator Yates Petroleum Corporation 025575		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 105 South Fourth Street, Artesia, NM 88210	3b. Phone No. (include area code) 505-748-1471	8. Lease Name and Well No. Pequeno Mike BLU Federal #3H 37219
4. Location of well (Report location clearly and in accordance with any State requirements. *) At surface 3700' FSL & 180' FWL, Sec. 2-16S-29E, Ut L, SWNW At proposed prod. zone 3630' FSL & 330' FWL, Sec. 3-16S-29E, Ut L, SWNW		9. API Well No. 30-015-36985
14. Distance in miles and direction from the nearest town or post office* The well is about 34 miles east of Artesia, NM. UNORTHODOX LOCATION		10. Field and Pool, or Exploratory Abo Wildest Wolfcamp
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 180'		11. Sec., T., R., M., or Blk. And Survey or Area Section 2-16S-29S, S Section 3-16S-29E, B
16. No. of acres in lease 761.50	17. Spacing Unit dedicated to this well Lots 13, 14, 15, & 16 of Sec. 3-16S-29E	12. County or Parish Eddy
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. None	19. Proposed Depth Pilot hole 9 VD-7420' MD-12158'	13. State NM
20. BLM/ BIA Bond No. on file NATIONWIDE BOND #NMB000434	21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3744 GL	22. Aproximate date work will start* ASAP
23. Estimated duration 45 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:

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

25. Signature 	Name (Printed/ Typed) Cy Cowan	Date 1/21/09
Title Regulatory Agent		
Approved By (Signature) /s/ Don Peterson	Name (Printed/ Typed) /s/ Don Peterson	Date FEB 27 2009
Title FOR FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

ROSWELL CONTROLLED WATER BASIN

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED



DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

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

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form 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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015 36985	Pool Code 97197	Pool Name County line Tank; Also (O)
Property Code 37219	Property Name PEQUENO MIKE "BLU" FEDERAL	Well Number 3H
OGRID No. 025575	Operator Name YATES PETROLEUM CORP.	Elevation 3744'

Surface Location

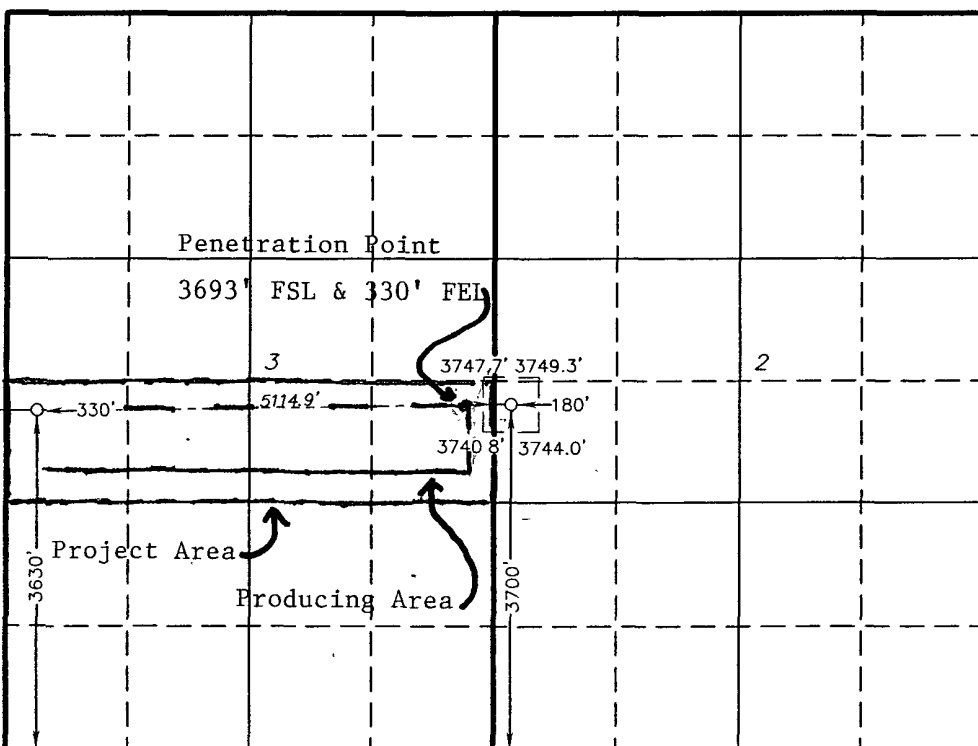
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 13	2	16 S	29 E		3700	SOUTH	180	WEST	EDDY

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
LOT 13	3	16 S	29 E		3630	SOUTH	330	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

 <p><b>BOTTOM HOLE LOCATION</b> Lat - N32°57'12.37" Long - W104°04'12.62" SPC- N.: 710696.762 E.: 622059.448 (NAD-83)</p> <p><b>SURFACE LOCATION</b> Lat - N32°57'13.07" Long - W104°03'12.61" SPC- N.: 710780.584 E.: 627172.347 (NAD-83)</p>	<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 division.</p> <p><i>Cy Cowan</i> 1/21/09 Signature Date Cy Cowan 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>SEPTEMBER 30, 2008 Date Surveyed Signature of State Professional Surveyor Professional Surveyor W.C. Jones Certificate No. Gary L. Jones 7977 BASIN SURVEYS</p>
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# YATES PETROLEUM CORPORATION

## Pequeno Mike BLU Federal #3H

3700' FSL and 180' FWL, Section 2-16S-29E (Surface Hole Location)

3630' FSL and 330' FWL, Section 3-16S-29E (Bottom Hole Location)

Eddy County, New Mexico

### 1. The estimated tops of geologic markers are as follows:

Yates	1000'	Glorieta	4020'
Seven Rivers	1219'	Tubb	5292'
Queen	1732' Oil/Gas	ABO	6008' Gas
Grayburg	2148' Oil	Wolfcamp	7280' Oil
San Andres	2514' Oil	TVD	7420'
		TMD	12158'

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

Water: 110'

Oil or Gas: Queen, Grayburg, San Andres, ABO & Wolfcamp

3. **Pressure Control Equipment:** BOPE will be installed on the 8 5/8" casing and rated for 3000 psi BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout Preventor controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventors 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:

- A. 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.

### 4. THE PROPOSED CASING AND CEMENTING PROGRAM:

#### A. Casing Program: (All New)

Hole Size	Casing Size	Wt./Ft	Grade	Thread	Interval	Length
14 3/4"	11 3/4"	42#	H-40	ST&C	0-400'	400'
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	2200-2600'	400'
7 7/8"	5 1/2"	17#	HCP-110	LT&C	0-12158' MD	12158'

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

#### B. CEMENTING PROGRAM:

Surface Casing: 275 sx "C" w/CaCl<sub>2</sub> (WT 14.80 YLD 1.34). TOC at surface.

Intermediate Casing: 525 sx C Lite (Wt. 12.50 YLD 2.04). Tail in with 200 sx C w/CaCl<sub>2</sub> (Wt 14.80 YLD 1.33). TOC at surface.

## Pequeno Mike BLU Federal #3H

### Page Two

Production Casing: TOC 2100', Lead w/ 600 sx 50:50:10C (WT 11.60 YLD 2.43).  
Tail in with 1425 Sx 50:50:4C (WT 13.50 YLD 1.46)

#### 5. Mud Program and Auxiliary Equipment:

Interval	Type	Weight	Viscosity	Fluid Loss
Spud to 400'	Fresh Water Gel	8.60-9.00	32-34	N/C
400'-2600'	Brine Water	10.00-10.20	28-28	N/C
2600'-6000'	Cut Brine	8.70-9.20	28-28	N/C
6000'-7420'	Cut Brine	8.70-9.20	28-28	10-15
6755'-12158'	Cut Brine (Lateral Section)	8.70-9.20	28-28	10-12

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. Mud will be checked hourly by rig personnel.

#### 6. EVALUATION PROGRAM:

Samples: 10' out from under intermediate casing to TD.

Logging: CNL/LDT/NGT TD to surface, DLL-MSFL TD to surface casing, BHC-Sonic TD to surface casing, & Horizontal MWD / GR.

Coring: None anticipated.

DST's: None anticipated.

MUDLOGGING: Yes

H2S: None anticipated.

#### 7. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE AND POTENTIAL HAZARDS:

##### Anticipated BHP:

From: 0 TO 400' TVD	Anticipated Max. BHP: 190	PSI
From: 400' TO 2600' TVD	Anticipated Max. BHP: 1010	PSI
From: 2600' TO 7420' TVD	Anticipated Max. BHP: 3550	PSI

Pilot hole will be drilled to 7420'. Well will then be plugged back and kicked off at approx. 6755' at 12 degrees per 100' to 12158' MD with a TVD of 7193' at TD. The penetration point of producing formation will be encountered at 3693' FSL & 330' FEL, 3-16S-29E. Deepest TVD of the well will be in the pilot hole @ 7420'. The deepest TVD in the lateral will be 7240'.

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None

H2S Zones Anticipated: None

Maximum Bottom Hole Temperature: 120° F

#### 8. ANTICIPATED STARTING DATE:

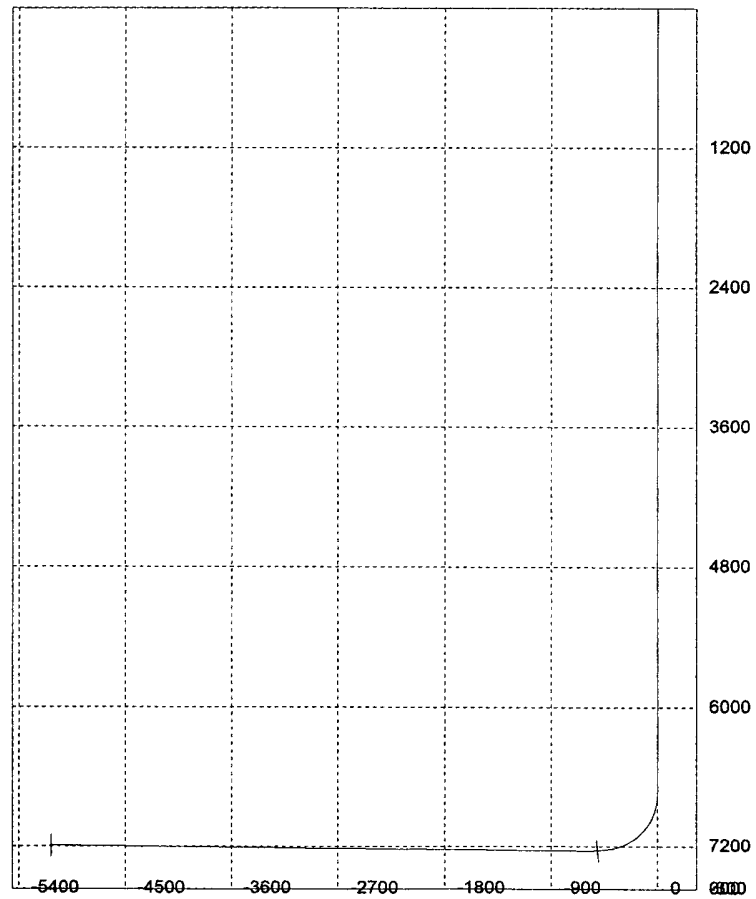
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 45 days to drill the well with completion taking another 30 days.

0	0	0	0	0	0	0			
1,000	0	0	1,000	0	0	0			YATES
1,219	0	0	1,219	0	0	0			SEVEN RIVERS
1,732	0	0	1,732	0	0	0			QUEEN
2,148	0	0	2,148	0	0	0			GRAYBURG
2,514	0	0	2,514	0	0	0			SAN ANDRES
4,020	0	0	4,020	0	0	0			GLORIETA
5,292	0	0	5,292	0	0	0			TUBB
6,008	0	0	6,008	0	0	0			ABO
6755	0	0	6755	0	0	12	269	GN	KOP
6775	2.4	269.21	6774.99	-0.01	-0.42	12	360	HS	
6800	5.4	269.21	6799.93	-0.03	-2.12	12	0	HS	
6825	8.4	269.21	6824.75	-0.07	-5.12	12	0	HS	
6850	11.4	269.21	6849.37	-0.13	-9.42	12	360	HS	
6875	14.4	269.21	6873.74	-0.21	-15	12	360	HS	
6900	17.4	269.21	6897.78	-0.3	-21.85	12	0	HS	
6925	20.4	269.21	6921.43	-0.41	-29.94	12	0	HS	
6950	23.4	269.21	6944.62	-0.54	-39.27	12	360	HS	
6975	26.4	269.21	6967.3	-0.68	-49.79	12	360	HS	
7000	29.4	269.21	6989.39	-0.84	-61.48	12	360	HS	
7025	32.4	269.21	7010.84	-1.02	-74.32	12	0	HS	
7050	35.4	269.21	7031.59	-1.21	-88.26	12	360	HS	
7075	38.4	269.21	7051.58	-1.42	-103.27	12	360	HS	
7100	41.4	269.21	7070.75	-1.64	-119.3	12	360	HS	
7125	44.4	269.21	7089.06	-1.87	-136.32	12	360	HS	
7150	47.4	269.21	7106.46	-2.12	-154.27	12	0	HS	
7175	50.4	269.21	7122.89	-2.38	-173.1	12	0	HS	
7200	53.4	269.21	7138.32	-2.65	-192.77	12	360	HS	
7225	56.4	269.21	7152.69	-2.93	-213.22	12	360	HS	
7250	59.4	269.21	7165.97	-3.22	-234.39	12	360	HS	
7275	62.4	269.21	7178.13	-3.52	-256.23	12	360	HS	
7300	65.4	269.21	7189.13	-3.83	-278.68	12	0	HS	
7325	68.4	269.21	7198.94	-4.14	-301.67	12	360	HS	
7350	71.4	269.21	7207.53	-4.46	-325.14	12	360	HS	
7375	74.4	269.21	7214.88	-4.79	-349.03	12	0	HS	
7400	77.4	269.21	7220.97	-5.12	-373.27	12	0	HS	
7425	80.4	269.21	7225.78	-5.46	-397.8	12	360	HS	
7450	83.4	269.21	7229.3	-5.8	-422.55	12	360	HS	
7458.03	84.36	269.21	7230.16	-5.91	-430.53	12	360	HS	
7537.89	84.36	269.21	7238	-7	-510	12	0		TOP OF PAY
7537.89	84.36	269.21	7238	-7	-510	12	0	HS	
7550	85.82	269.21	7239.04	-7.17	-522.06	12	0	HS	
7575	88.82	269.22	7240.21	-7.51	-547.03	12	0	HS	
7589.8	90.59	269.22	7240.28	-7.71	-561.83	0			
12158.64	90.59	269.22	7193	-70	-5130	0			Lateral TD

Pilot hole will be drilled to 7420'. Well will then be plugged back and kicked off at approx. 6755' at 12 degrees per 100' to 12,158' MD with a TVD of 7,193'. Penetration point of producing formation will be encountered at 3693' FSL and 330' FEL, 3-16S-29E. Deepest TVD of the well will be in the pilot hole @ 7,420'. Deepest TVD in the lateral will be 7240.28'.

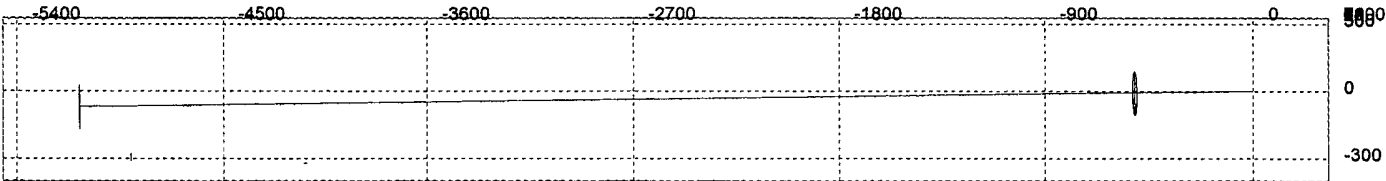
### 3D<sup>3</sup> Directional Drilling Planner - 3D View

Company: **Yates Petroleum Corporation**  
Well: **Pequeno Mike BLN Federal #3H**



3D<sup>s</sup> Directional Drilling Planner - 3D View

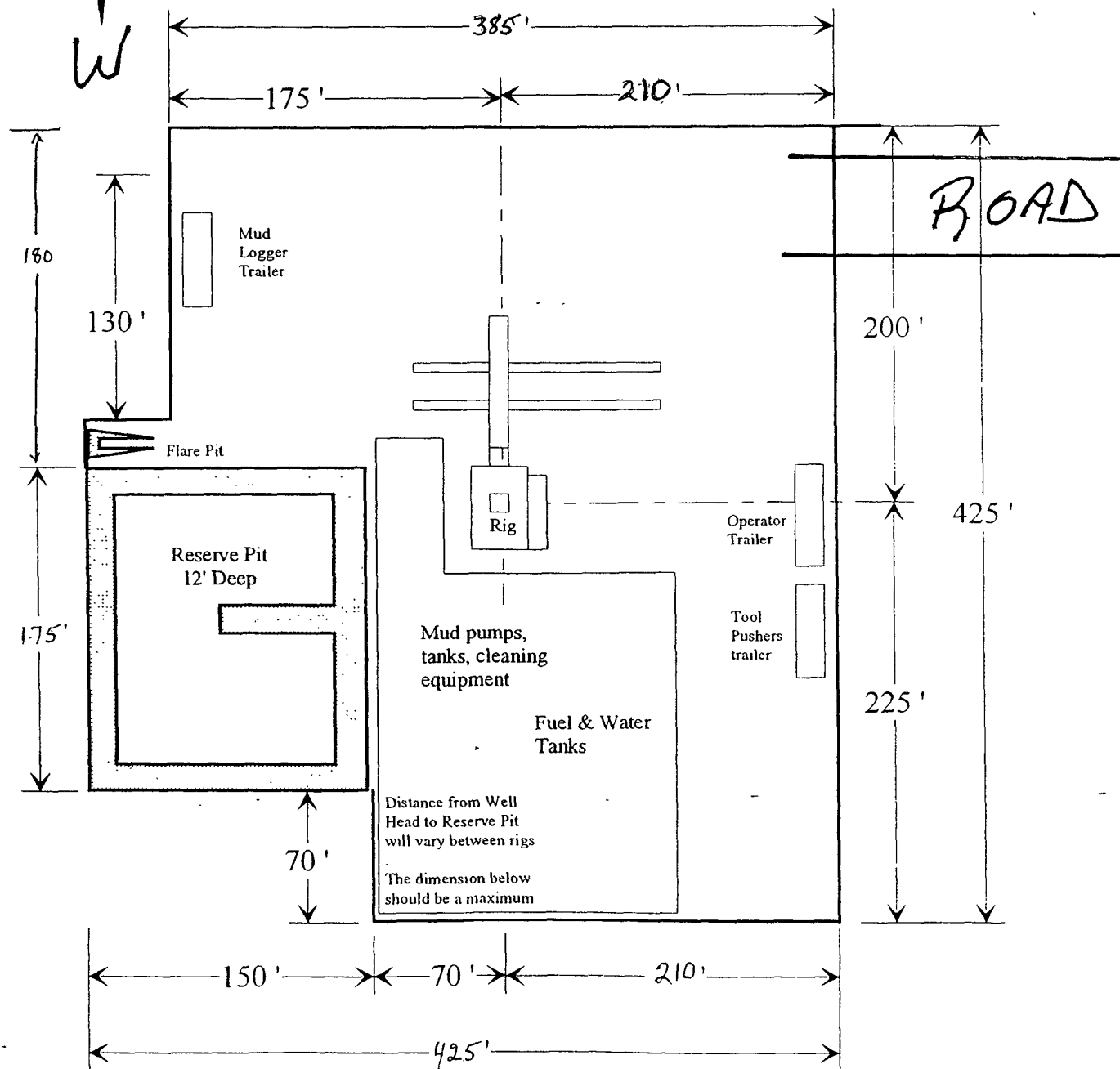
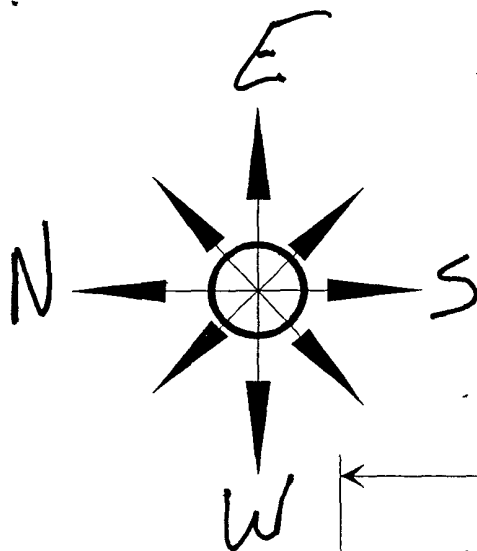
Company: Yates Petroleum Corporation  
Well: Pequeno Mike BLN Federal #3H



# Yates Petroleum Corporation

Location Layout for Permian Basin  
Horizontal Drill Site

Pequeno Mike BLU Federal #3H  
3700' FSL & 180' FWL, 2-16S-29E, Surface  
3630' FSL & 330' FWL, 3-16S-29E, Bottom  
Eddy County, New Mexico  
EXHIBIT B



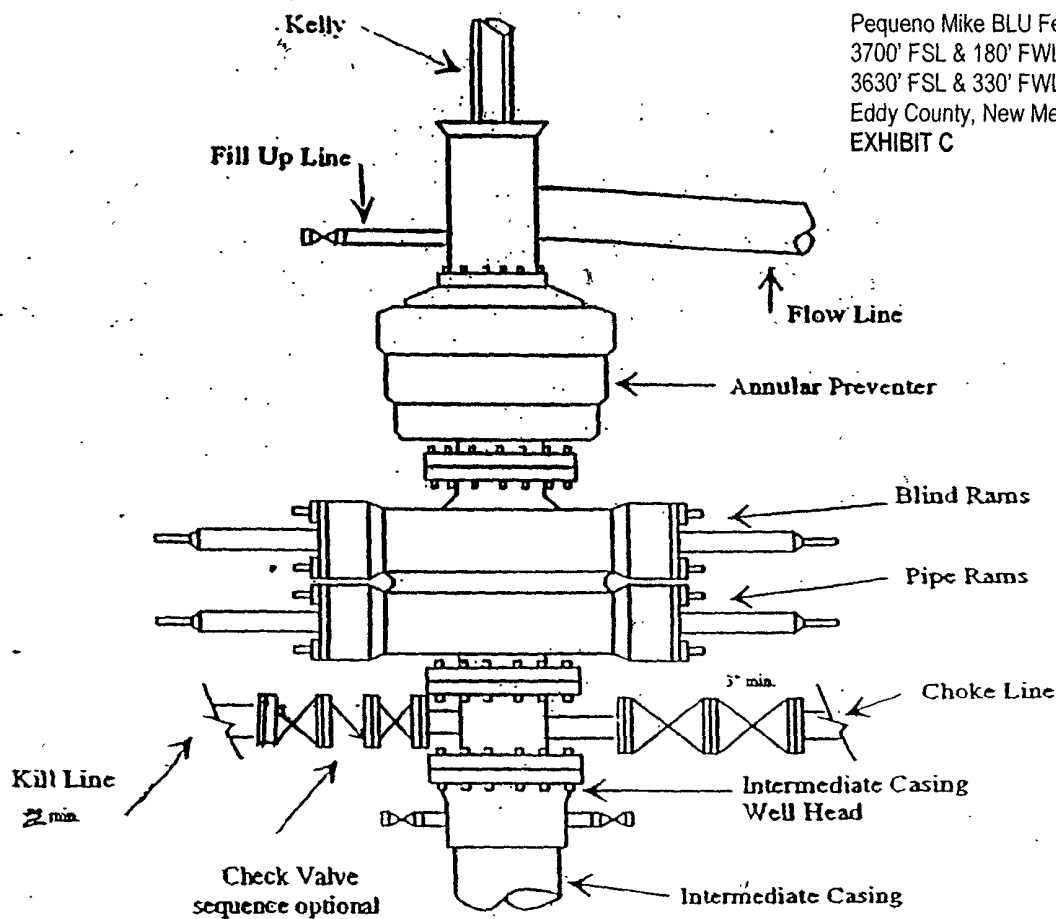




# Yates Petroleum Corporation

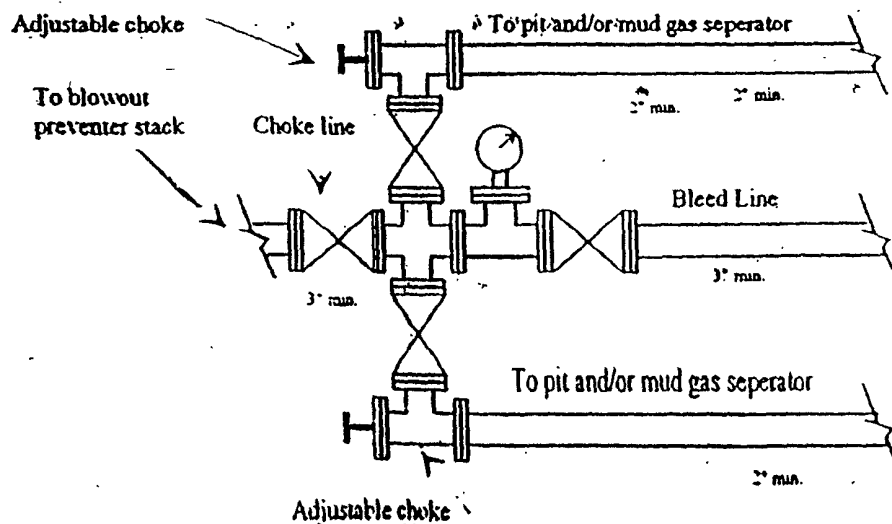
BOP-3

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



Pequeno Mike BLU Federal #3H  
3700' FSL & 180' FWL, 2-16S-29E, Surface  
3630' FSL & 330' FWL, 3-16S-29E, Bottom  
Eddy County, New Mexico  
EXHIBIT C

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



## **MULTI-POINT SURFACE USE AND OPERATIONS PLAN**

**Yates Petroleum Corporation**

**Pequeno Mike BLU Federal Com. #3H**

3700' FSL and 180' FWL, Lot 13, 2-16S-29E (Surface Hole Location)

3630' FSL and 330' FWL, Lot 13, 3-16S-29E (Bottom Hole Location)

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 34 miles east of Artesia, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

#### **DIRECTIONS:**

Go east of Artesia, NM on highway 82 for approximately 23 miles to Barnaval Draw Road, CR-214. (across from the Arrow Gas storage site). Turn left on Barnaval Draw Road and go north for approximately 6.3 miles. At this point the road will fork. Take the right fork and go about 0.6 of a mile. Turn left and go about 0.2 of a mile. Turn right here and go about 2.4 miles on lease road. The proposed well location will be on the left. The access road will start from the existing lease road and go left for a short distance to the southeast corner of the proposed well location.

### **2. PLANNED ACCESS ROAD:**

- A. The proposed new road will go north for about 300' to the southeast corner of the drilling pad. The road will lie in an east to west direction.
- B. The new road will be 14' 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 one side. One traffic turnout may built.
- 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 no 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 power line can be built if needed.

**5. LOCATION AND TYPE OF WATER SUPPLY:**

- A. It is planned to drill the proposed well with a fresh 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 acquire any materials from the closest source at the time of construction of the well pad.

**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. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- F. 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, rig orientation and access road approach.
- 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. Form C-144 attached.
- 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 been leveled.
- C. If the proposed well is non-productive, 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 will be filled level within 90 days after abandonment.

**11. SURFACE OWNERSHIP:** <sup>STATE</sup> Federal Surface leased for grazing.

*per phone call to BLM 2/23/05 SA*

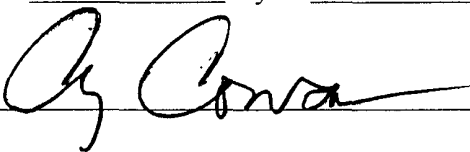
**12. OTHER INFORMATION:**

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

CERTIFICATION  
YATES PETROLEUM CORPORATION  
**Pequeno Mike BLU Federal #3H**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; and an someone under employment of Yates Petroleum Corporation has 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 I, or the company I represent, am 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 21st day of January 2009

Signature 

Name Cy Cowan

Position Title Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

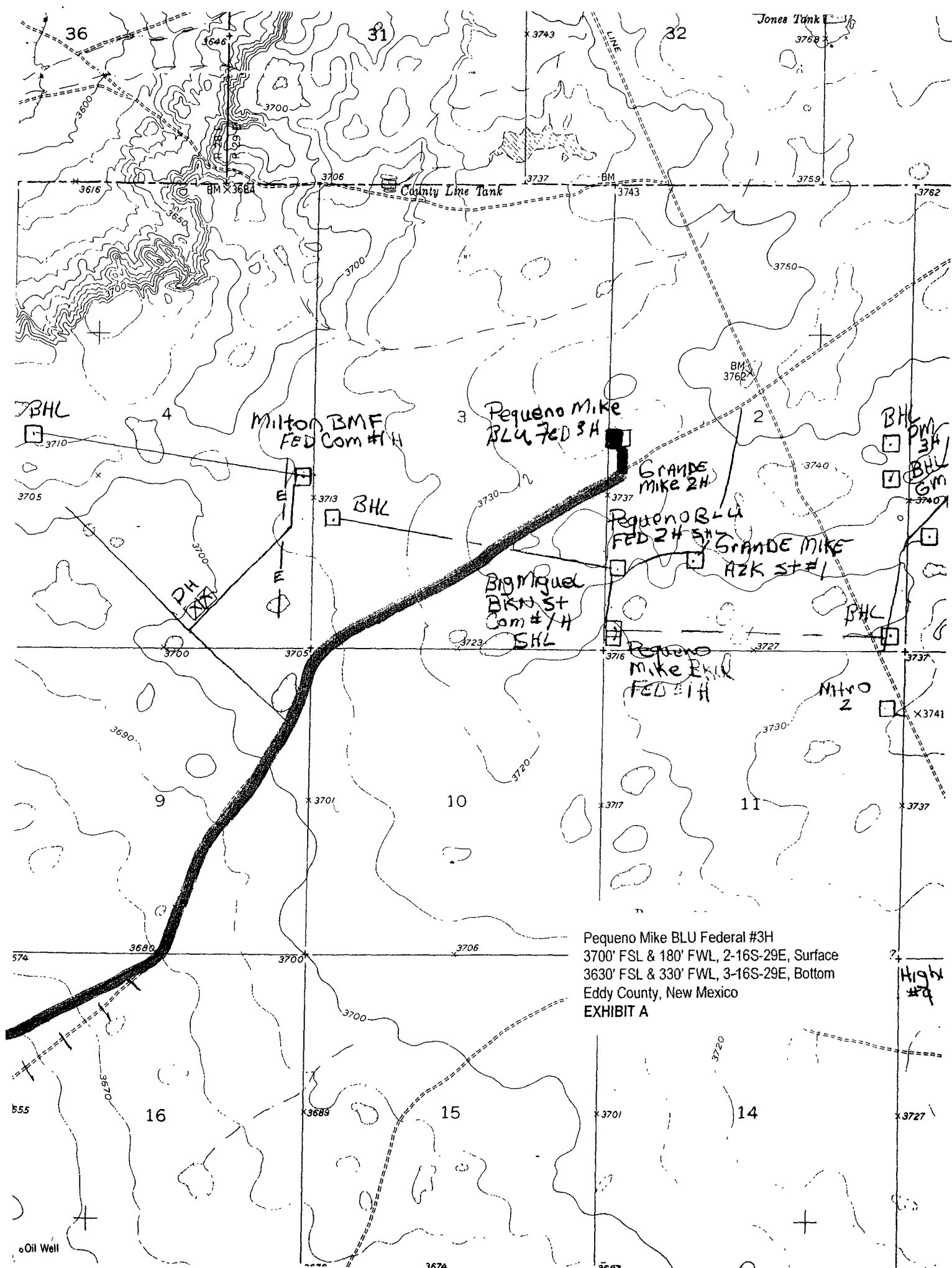
Telephone (505) 748-4372

Field Representative (if not above signatory) Tim Bussell, Drilling Supervisor

Address (if different from above) Same as above.

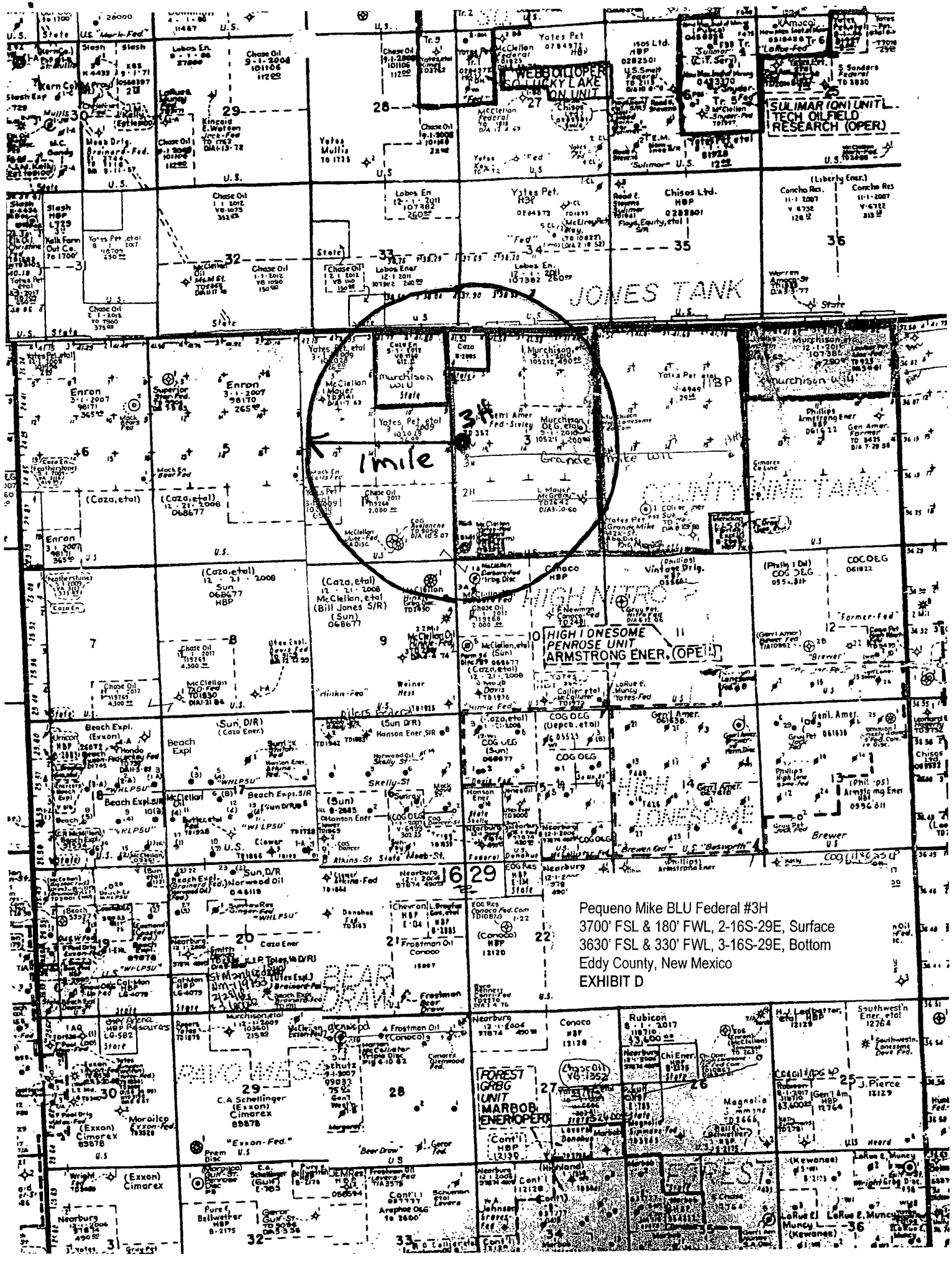
Telephone (if different from above) (505) 748-4221

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



Pequeno Mike BLU Federal #3H  
3700' FSL & 180' FWL, 2-16S-29E, Surface  
3630' FSL & 330' FWL, 3-16S-29E, Bottom  
Eddy County, New Mexico  
EXHIBIT A

High  
#2



Pequeno Mike BLU Federal #3H  
3700' FSL & 180' FWL, 2-16S-29E, Surface  
3630' FSL & 330' FWL, 3-16S-29E, Bottom  
Eddy County, New Mexico  
EXHIBIT D

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Yates Petroleum Corp
LEASE NO.:	NM105211
WELL NAME & NO.:	3H Pequeno Mike BLU Federal
SURFACE HOLE FOOTAGE:	3700' FSL & 180' FWL
BOTTOM HOLE FOOTAGE:	3630' FSL & 330' FWL
LOCATION:	Section 2, T. 16 S., R 29 E., NMPM
COUNTY:	Eddy County, New Mexico

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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.

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## **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)**

### **HYDROLOGY:**

- DUE TO THE CLOSE PROXIMITY TO PLAYAS NO RESERVE PITS ARE ALLOWED. THE WELL WILL BE DRILLED UTILIZING A CLOSED LOOP SYSTEM.
- THE ROAD WILL BE CONSTRUCTED TO AVOID PLAYA FEATURE.

## **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**

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

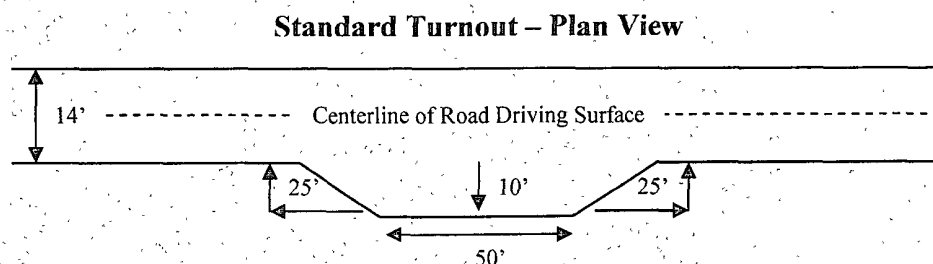
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

### 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:

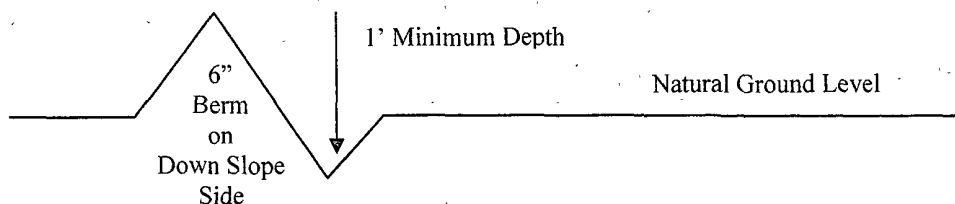


### **Drainage**

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

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

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



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

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

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

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

### **Culvert Installations**

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

### **Cattleguards**

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

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

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

**Fence Requirement**

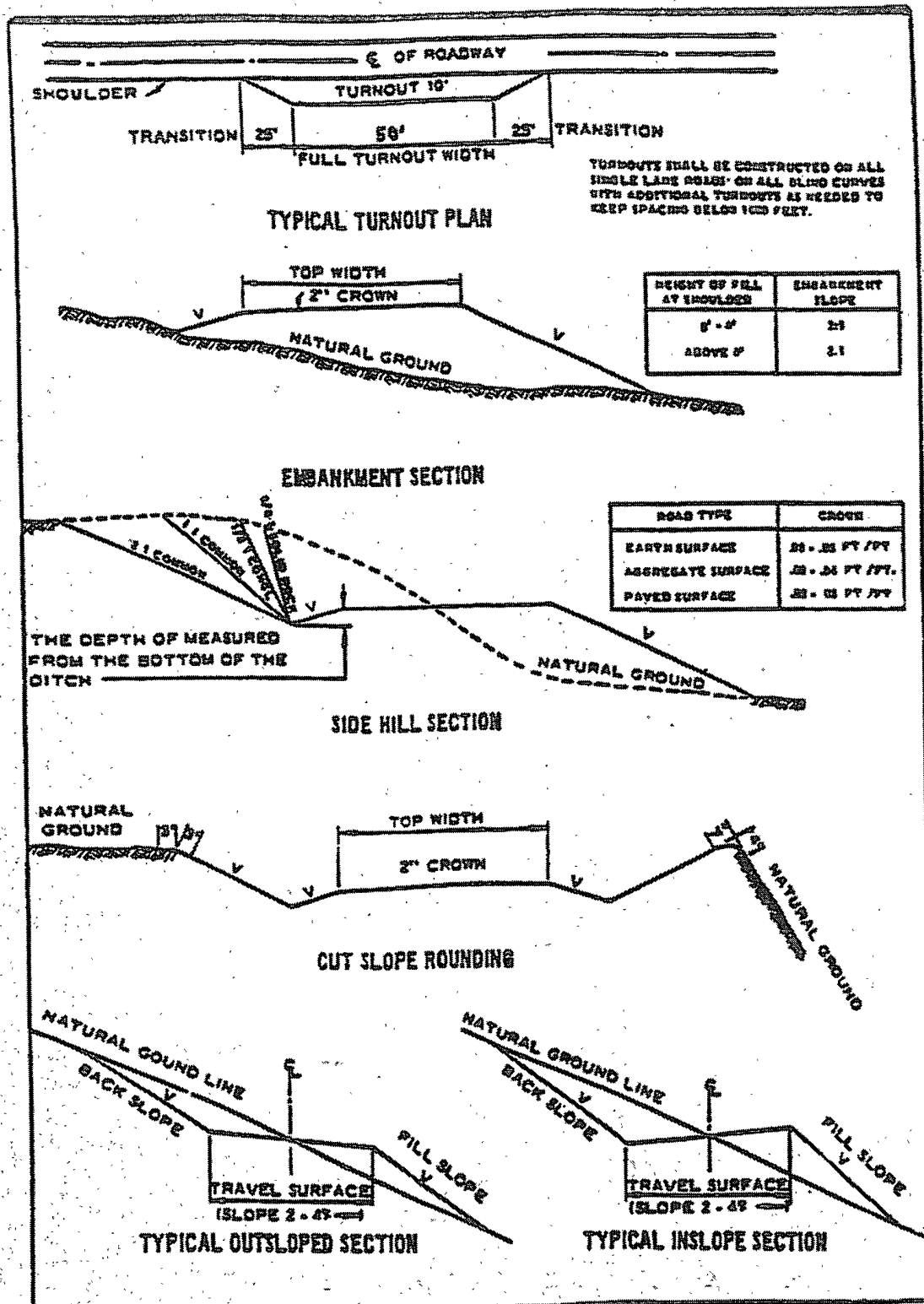
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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

**Public Access**

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **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. It has been reported in Section 12. Therefore, it is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. 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.**

**Possible lost circulation in the Grayburg and San Andres formations.**

**Possible brine/water flows in the Salado and Artesia Groups.**

**Possible high pressure gas in the Wolfcamp – applicable to pilot hole.**

1. The 11-3/4 inch surface casing shall be set at approximately 400 feet (a minimum of 25 feet into the Rustler Anhydrite and 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. Not applicable if proposed cementing program is followed.**
  - 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 8-5/8 inch intermediate casing is:
  - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.

**Pilot hole plug to be set from bottom of pilot hole.**



**Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.**

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - ☒ 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 **2000 (2M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8"** intermediate casing shoe shall be **3000 (3M)** psi.
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

- e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### **D. DRILLING MUD**

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

#### **E. DRILL STEM TEST**

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

**WWI 022109**

## **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.

The 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.

## Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

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

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass ( <i>Eragrostis intermedia</i> )	0.5
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5.0

\*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.