

## OCD-ARTESIA

Form 3160-3  
(August 2008)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTERFORM APPROVED  
OMB NO 1004-0137  
Expires: July 31, 2010

5. Lease Serial No

NM-9402

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No

8. Lease Name and Well No

Cottonwood KI Federal Com. #4H

9. API Well No

30.015.36404

10. Field and Pool, or Exploratory

Wildcat Wolfcamp

11. Sec., T., R., M., or Blk And Survey or Area

Section 18, T16S-R25E

12. County or Parish

Eddy County

13. State

NM

1a. Type of Work. ☒ DRILL☐ REENTER1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone

2. Name of Operator

Yates Petroleum Corporation 025575

3a. Address

105 South Fourth Street, Artesia, NM 88210

3b. Phone No. (include area code)

505-748-1471

4. Location of well (Report location clearly and in accordance with any State requirements. \*)

At surface

760' FSL and 260' FEL Unit P Surface Hole location

At proposed prod zone

760' FSL and 660' FWL Unit M Bottom Hole Location

14. Distance in miles and direction from the nearest town or post office\*

Approximately 6 miles northwest of Artesia, New Mexico

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drlg. unit line, if any)

260'

16. No. of acres in lease

4787.81

18. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft

20'

19. Proposed Depth

9042 4886  
MD 9402 TDV 4000

21. Elevations (Show whether DF, KDB, RT, GL, etc )

3572' GR

22. Approximate date work will start\*

ASAP

23. Estimated duration

60 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

4/28/2008

Title

Regulatory Agent

Approved By (Signature)

/s/ James A. Amos

Name (Printed/ Typed)

/s/ James A. Amos

Date

JUN 26 2008

Title

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to cc 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) C-144 ATTACHED

SEE ATTACHED FOR  
CONDITIONS OF APPROVALApproval Subject to General Requirements  
& Special Stipulations Attached

Roswell Controlled Water Basin

## DISTRICT I

1525 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

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505Form C-102  
Revised October 12, 2005Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-015-36404</b>	Pool Code <b>97489</b>	Pool Name <b>Wildcat Wolfcamp</b>
Property Code <b>12157</b>	Property Name <b>COTTONWOOD "KI" FEDERAL COM.</b>	Well Number <b>4H</b>
OGRID No. <b>025575</b>	Operator Name <b>YATES PETROLEUM CORP.</b>	Elevation <b>3572</b>

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>P</b>	<b>18</b>	<b>16 S</b>	<b>25 E</b>		<b>760</b>	<b>SOUTH</b>	<b>260</b>	<b>EAST</b>	<b>EDDY</b>

## Bottom Hole Location If Different From Surface

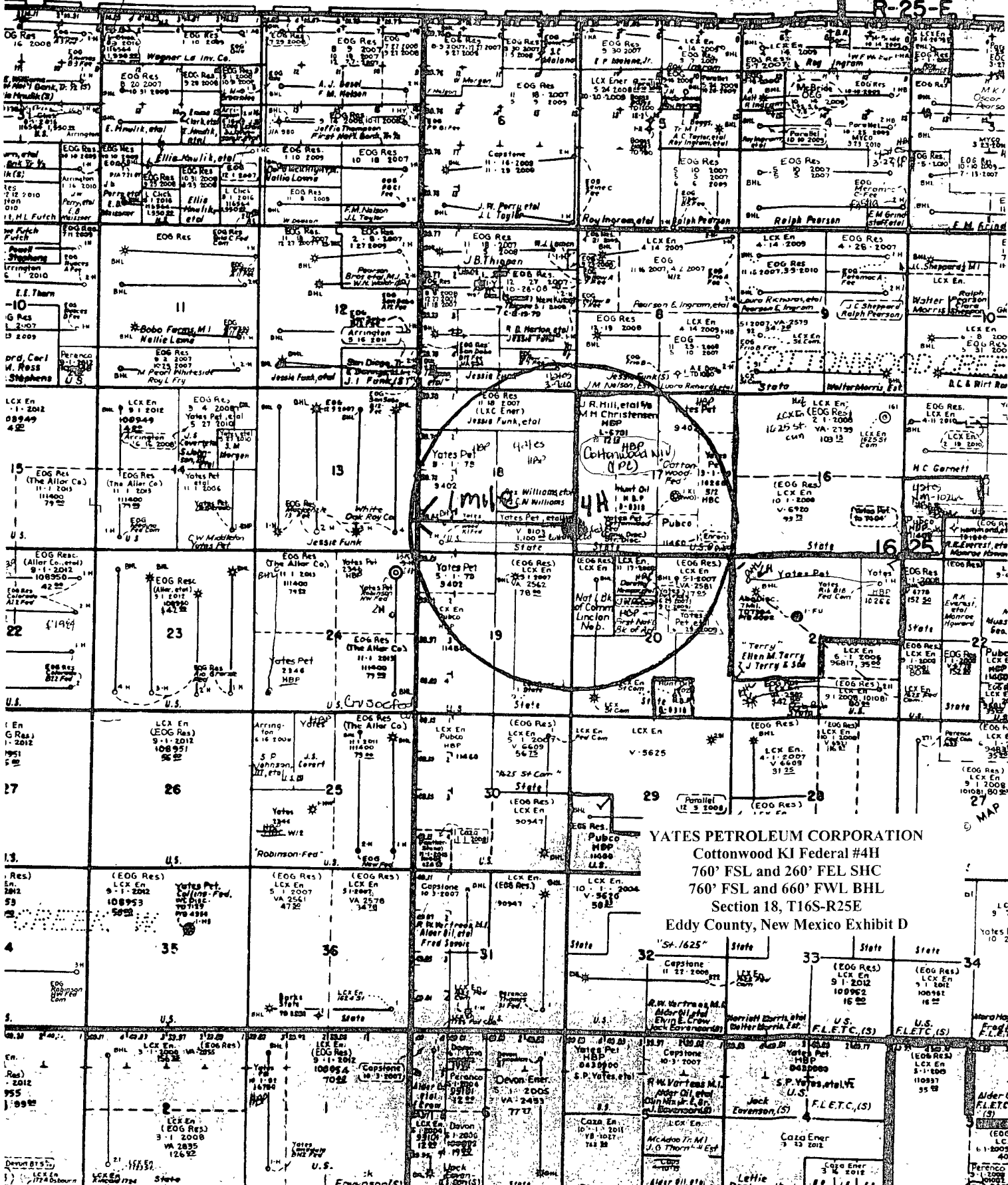
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>M</b>	<b>18</b>	<b>16 S</b>	<b>25 E</b>		<b>760</b>	<b>SOUTH</b>	<b>660</b>	<b>WEST</b>	<b>EDDY</b>
Dedicated Acres <b>160</b>	Joint or Infill	Consolidation Code	Order No.						

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

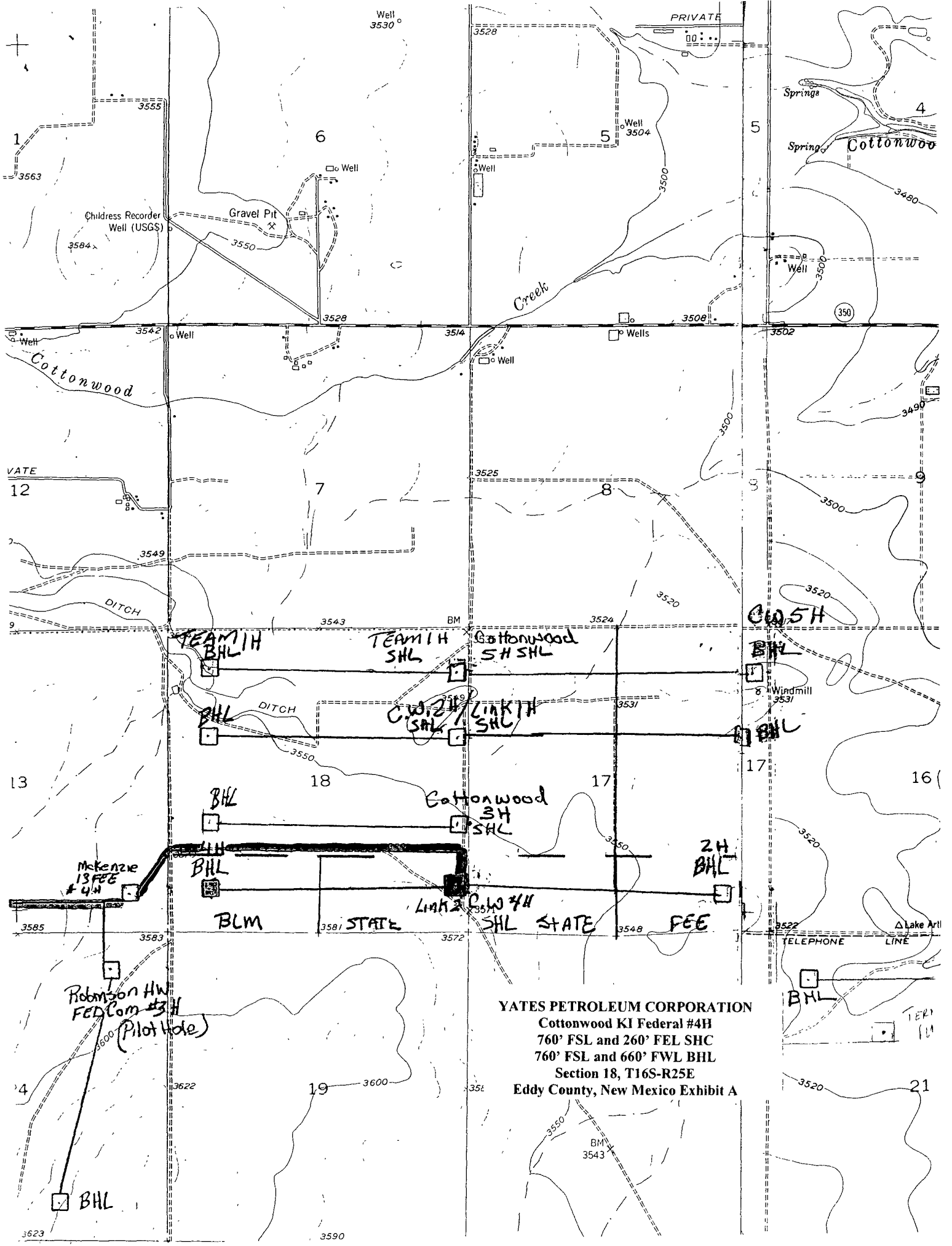
<p><b>BOTTOM HOLE LOCATION</b>          Lat - N32°55'04.33"          Long - W104°31'52.87"          SPC- N.: 697712.173          E.: 480572.838          (NAD-83)</p>		<p><b>SURFACE LOCATION</b>          Lat - N32°55'04.38"          Long - W104°31'01.37"          SPC- N.: 697709.874          E.: 484963.064          (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> 4/28/08          Signature Date</p> <p>Cy Cowan, Regulatory          Printed Name Agent</p>
<p><b>BOTTOM HOLE LOCATION</b>          Lat - N32°55'04.33"          Long - W104°31'52.87"          SPC- N.: 697712.173          E.: 480572.838          (NAD-83)</p>		<p><b>SURFACE LOCATION</b>          Lat - N32°55'04.38"          Long - W104°31'01.37"          SPC- N.: 697709.874          E.: 484963.064          (NAD-83)</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>FEBRUARY 27 2008          Date Surveyed</p> <p>Signature of State Professional Surveyor          W.O. Jones</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>

David Livingston

R-25-E



YATES PETROLEUM CORPORATION  
Cottonwood KI Federal #4H  
760' FSL and 260' FEL SHC  
760' FSL and 660' FWL BHL  
Section 18, T16S-R25E  
Eddy County, New Mexico Exhibit D



YATES PETROLEUM CORPORATION  
Cottonwood KI Federal #4H  
760' FSL and 260' FEL SHC  
760' FSL and 660' FWL BHL  
Section 18, T16S-R25E  
Eddy County, New Mexico Exhibit A

**YATES PETROLEUM CORPORATION**  
**Cottonwood KI Federal Com. #4H**  
760' FSL and 260' FEL (Surface Hole Location)  
760' FSL and 660' FWL (Bottom Hole Location)  
Section 18, T16S-R25E  
Eddy County, New Mexico

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

San Andres	560'	No Pay	Wolfcamp	4875'	Gas Pay
Glorietta	1810'	No Pay	TVD Pilot Hole	5200'	No Pay
Tubb	3110'	No Pay	MD Lateral Hole	9402'	Gas Pay
Abo	3810'	No Pay			

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

Water: 100'  
Oil or Gas: Gas--Wolfcamp

**3. Pressure Control Equipment:** BOPE will be installed on the 8 5/8" casing and rated for 3000 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)

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft</u>	<u>Grade</u>	<u>Thread</u>	<u>Interval</u>	<u>Length</u>
12 1/4"	8 5/8"	24#	J-55	ST&C	0-1000'	1100'
7 7/8"	5 1/2"	17#	HCP-110	LT&C	0-9402' MD	9402'

Pilot hole will be drilled to 5200'. Well will be then plugged back and kicked off at approximately 4409' at 12 degrees per 100' with a 7 7/8" hole to a TVD of 4810' with a MD of 9042'. 5 1/2" casing will then be set and cemented.

Yates Petroleum Corporation requests a variance to install a rotating head on the surface casing strings when intermediate casing will be set. If a BOP system is required then we wish to install a 2M system and receive a variance to test the system to 500# using the rig pumps. The test will be held for 30 minutes on each system component. Components to be tested include pipe rams, blind rams, and annular preventer.

see  
COA

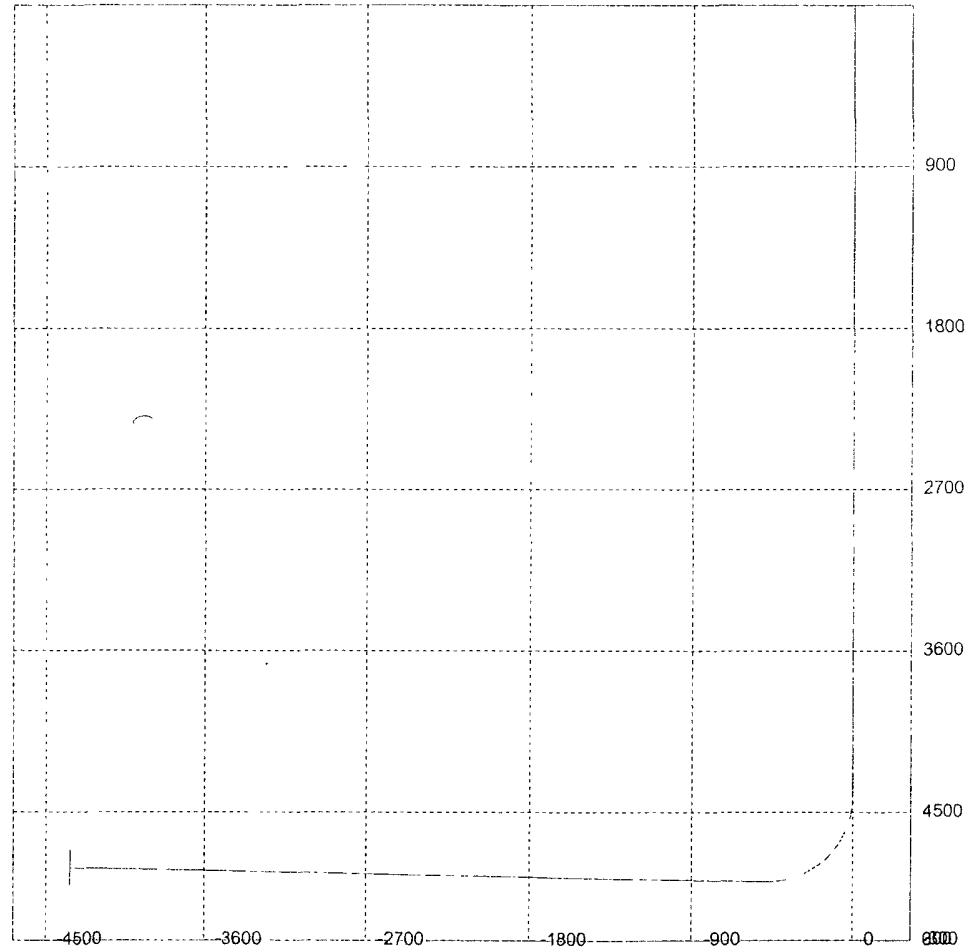
Minimum Casing Design Factors: Burst 1.0, Tensile Strength 1.8, Collapse 1.125

MD	Inclination	Azimuth	MD	N/S	E/W	Toolface	Rate	HS	GN
0	0	0	0	0	0	0			
560	0	0	560	0	0	0			SAN ANDRES
1810	0	0	1810	0	0	0			GLORIETA
3110	0	0	3110	0	0	0			TUBB
3810	0	0	3810	0	0	0			ABO
4409	0	0	4409	0	0	12	270	GN	KOP
4425	1.92	270	4425	0	-0.27	12	0	HS	
4450	4.92	270	4449.95	0	-1.76	12	0	HS	
4475	7.92	270	4474.79	0	-4.55	12	0	HS	
4500	10.92	270	4499.45	0	-8.65	12	0	HS	
4525	13.92	270	4523.86	0	-14.02	12	0	HS	
4550	16.92	270	4547.96	0	-20.67	12	0	HS	
4575	19.92	270	4571.68	0	-28.57	12	0	HS	
4600	22.92	270	4594.95	0	-37.7	12	0	HS	
4625	25.92	270	4617.71	0	-48.03	12	0	HS	
4650	28.92	270	4639.9	0	-59.54	12	0	HS	
4675	31.92	270	4661.45	0	-72.2	12	0	HS	
4700	34.92	270	4682.32	0	-85.97	12	0	HS	
4725	37.92	270	4702.43	0	-100.81	12	0	HS	
4750	40.92	270	4721.74	0	-116.68	12	0	HS	
4775	43.92	270	4740.2	0	-133.54	12	0	HS	
4800	46.92	270	4757.74	0	-151.35	12	0	HS	
4825	49.92	270	4774.33	0	-170.05	12	0	HS	
4850	52.92	270	4789.92	0	-189.59	12	0	HS	
4875	55.92	270	4804.46	0	-209.92	12	0	HS	
4900	58.92	270	4817.92	0	-230.98	12	0	HS	
4925	61.92	270	4830.26	0	-252.72	12	0	HS	
4950	64.92	270	4841.45	0	-275.08	12	0	HS	
4975	67.92	270	4851.45	0	-297.99	12	0	HS	
5000	70.92	270	4860.23	0	-321.39	12	0	HS	
5025	73.92	270	4867.78	0	-345.22	12	0	HS	
5050	76.92	270	4874.08	0	-369.41	12	0	HS	
5075	79.92	270	4879.1	0	-393.9	12	0	HS	
5081	80.64	270	4880	0	-400	12	0	HS	WOLFCAMP
5100	82.92	270	4882.82	0	-418.61	12	0	HS	
5125	85.92	270	4885.26	0	-443.49	12	0	HS	
5150	88.92	270	4886.38	0	-468.47	12	0	HS	
5168.42	91.13	270	4886.37	0	-486.88	12	0	HS	
9042.29	91.13	270	4810	0	-4360	0			LATERAL TD

Pilot hole will be drilled to 5200'. Well will then be plugged back and kicked off at approx. 4409' at 12 degrees per 100' with a 7 7/8" hole to 9,042' MD with a TVD of 4,810'.

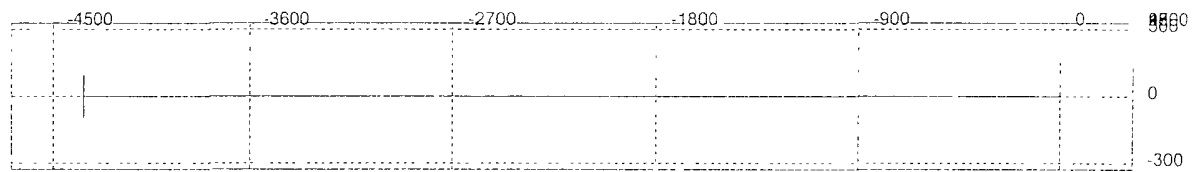
### 3D<sup>3</sup> Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation  
Well: Cottonwood KI Federal Com. #4H



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

Company: Yates Petroleum Corporation  
Well: Cottonwood KI Federal Com. #4H





**B. CEMENTING PROGRAM:**

Surface Casing: TOC Surface, 300 sx Lite "C" (WT 12.50 YLD 2.00 ) tail in w/ 200 sx "C" (WT 14.80 YLD 1.35)

Production Casing: TOC Surface', Lead w/ 675 sx Lite "C" (WT 12.50 YLD 2.05). Tail in w/675 sx Acid Solution (WT 11.15 YLD 2.60).

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

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
Surface to 1000'	Fresh Water Gel	8.60-8.80	28-28	N/C
1000'-4300'	Cut Brine	8.80-9.20	28-32	N/C
4300'-5200'	Cut Brine	8.80-9.20	28	10-15
4409'-9042'	Cut Brine (Horizontal Section)	8.80-9.20	40-45	10.15

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 Surface casing to TD.

Logging: Pilot Hole: CNL/LDT/NGT TD to surface casing CNL/GR – TD to surface.  
Horizontal Hole: MWD/GR.

Coring: None anticipated.

DST's: None anticipated.

**7. Abnormal Conditions, Bottom hole pressure and potential hazards:****Anticipated BHP:**

From: 0	TO 1000'	Anticipated Max. BHP: 460	PSI
From: 1000'	TO 5200' TVD	Anticipated Max. BHP: 2490	PSI

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None

H2S Zones Anticipated: See attached H2S Contingency Plan.

Maximum Bottom Hole Temperature: 168° F

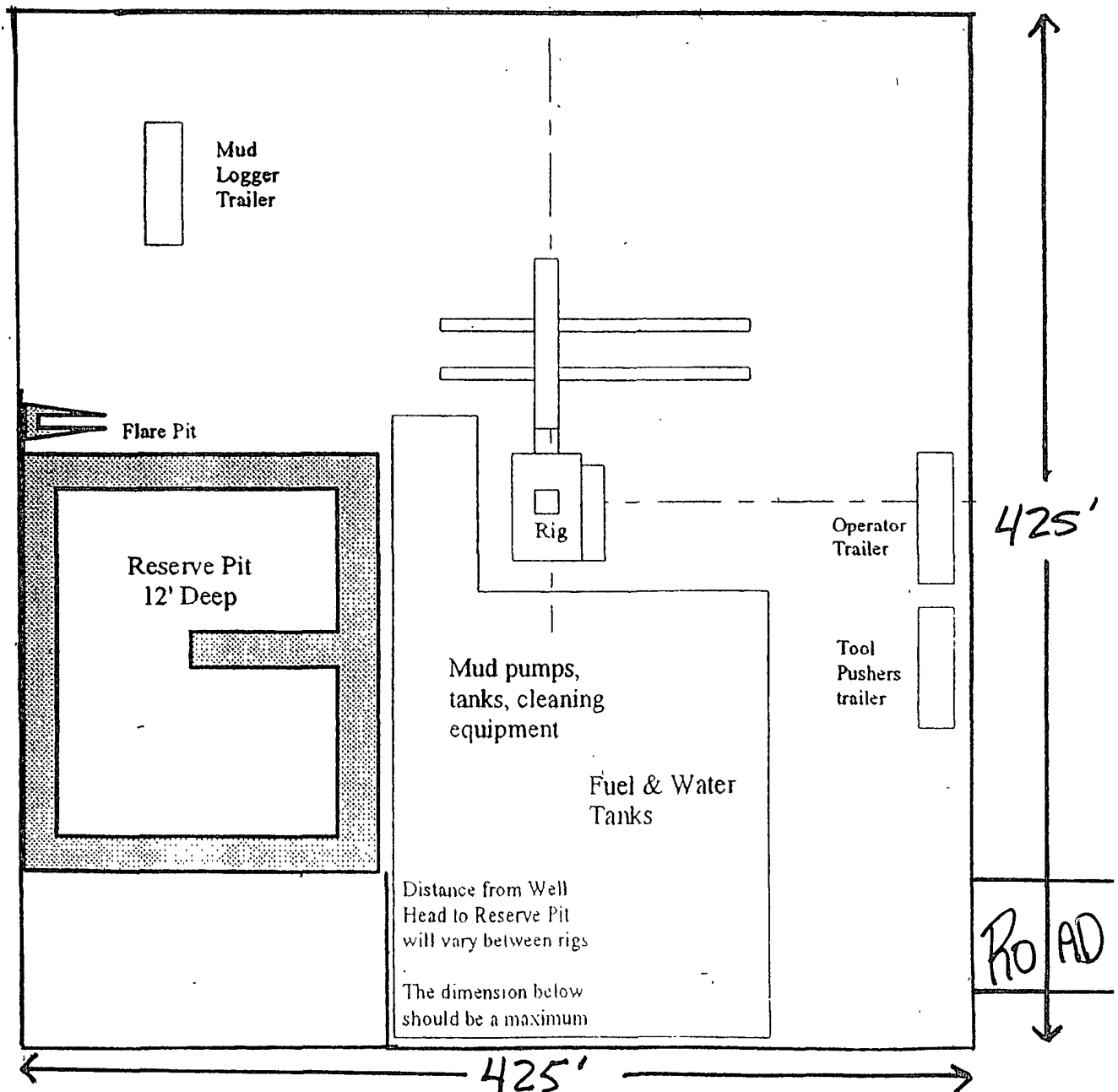
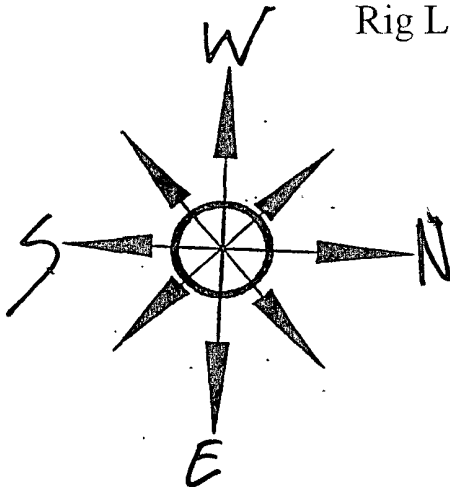
**8. ANTICIPATED STARTING DATE:**

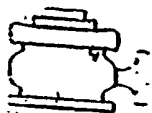
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 30 days to drill the well with completion taking another 15 days.

YATES PETROLEUM CORPORATION  
Rig Layout for Horizontal Well Locations

*Pits South*

YATES PETROLEUM CORPORATION  
Cottonwood KI Federal #4H  
760' FSL and 260' FEL SHC  
760' FSL and 660' FWL BHL  
Section 18, T16S-R25E  
Eddy County, New Mexico Exhibit B





# Yates Petroleum Corporation

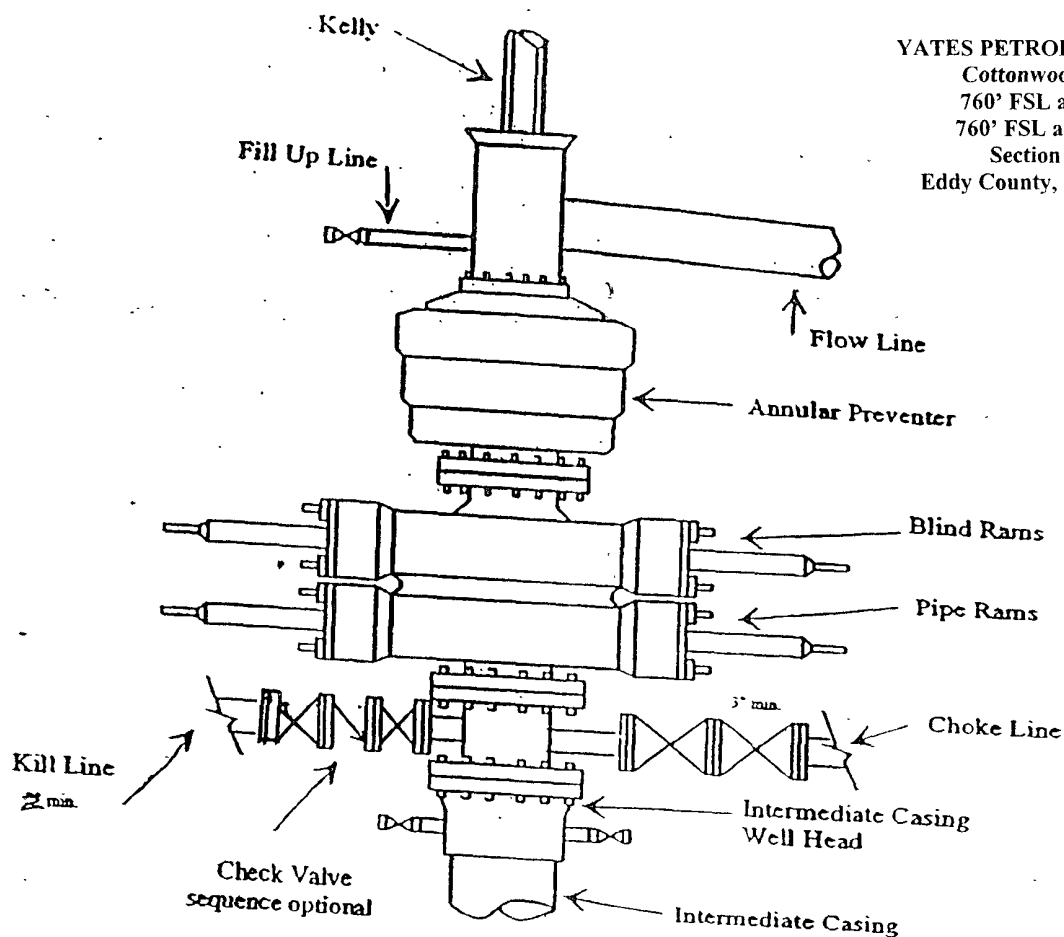
## Typical 3,000 psi Pressure System

### Schematic

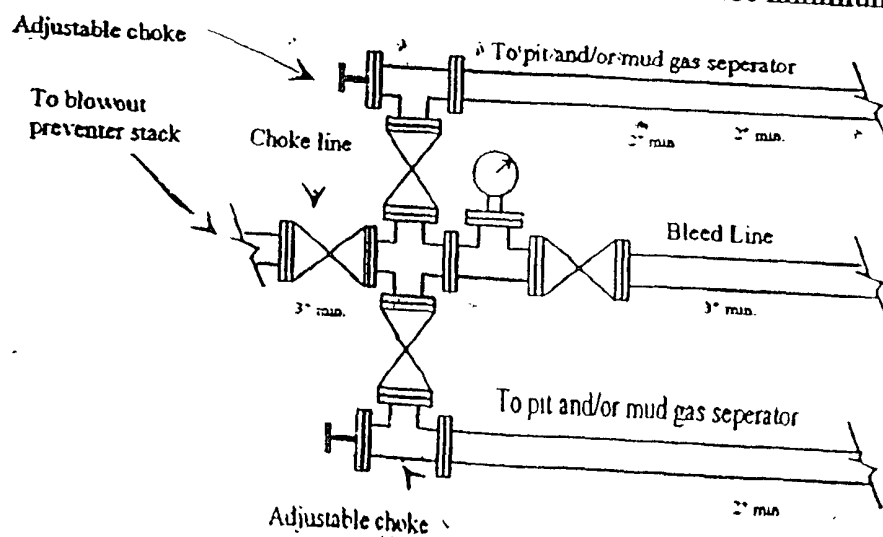
#### Annular with Double Ram Preventer Stack

BOP-3

YATES PETROLEUM CORPORATION  
Cottonwood KI Federal #4H  
760' FSL and 260' FEL SHC  
760' FSL and 660' FWL BHL  
Section 18, T16S-R25E  
Eddy County, New Mexico Exhibit C



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



# **Yates Petroleum Corporation**

**105 S. Fourth Street  
Artesia, NM 88210**

## **Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan**

**For**

**Cottonwood KI Federal Com. #4H**

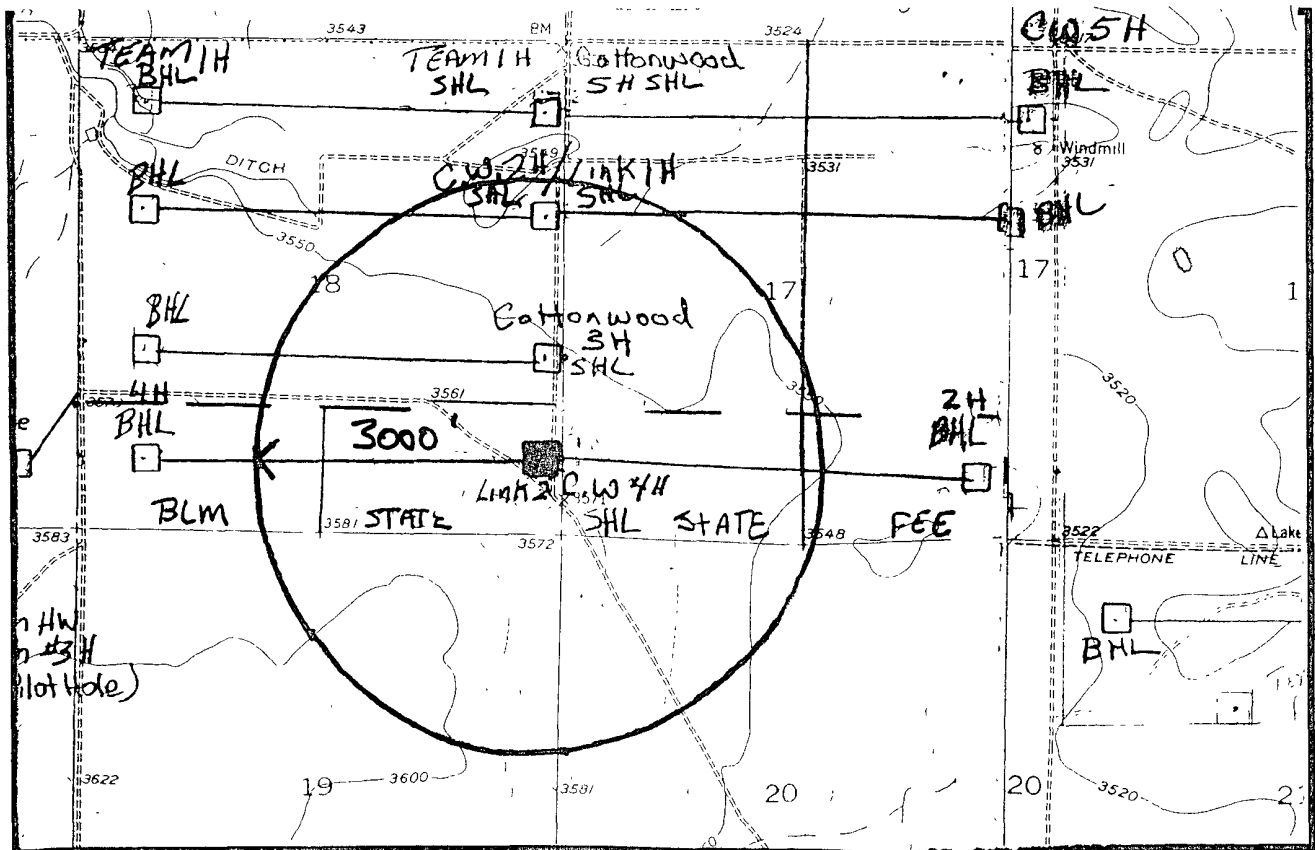
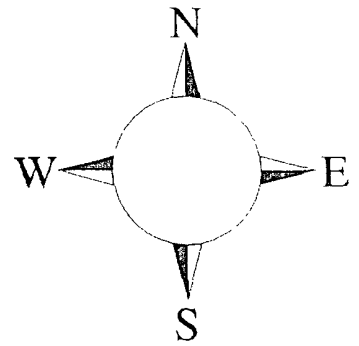
**760' FNL, 260' FEL Surface Hole Location**

**Section 18, T-16S, R-25E**

**Eddy County NM**

## Cottonwood KI Federal Com. #4H

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



Assumed 100 ppm ROE = 3000'

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

## Emergency Procedures

In the case of a release of gas containing H<sub>2</sub>S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H<sub>2</sub>S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H<sub>2</sub>S monitors and air packs in order to control the release. Use the “buddy system” to ensure no injuries during the response.

## Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

## Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

## Contacting Authorities

YPC personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. YPC Company response must be in coordination with the State of New Mexico’s ‘Hazardous Materials Emergency Response Plan’ (HMER)

## ***Yates Petroleum Corporation Phone Numbers***

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YPC Office .....	(505) 748-1471
Paul Ragsdale/Operations Manager.....	(505) 748-4520
Ron Beasley/Production Manager .....	(505) 748-4210
Wade Bennett/Prod Superintendent .....	(505) 748-4236
Mike Lankin/Drilling .....	(505) 748-4222
Paul Hanes/Prod. Foreman/Roswell .....	(505) 624-2805
Tim Bussell/Drilling Superintendent.....	(505) 748-4221
Artesia Answering Service .....	(505) 748-4302
(During non-office hours)	

### **Agency Call List**

#### **Eddy County (505)**

##### **Artesia**

State Police .....	746-2703
City Police.....	746-2703
Sheriff's Office .....	746-9888
Ambulance .....	911
Fire Department .....	746-2701
LEPC (Local Emergency Planning Committee) .....	746-2122
NMOCD.....	748-1283

##### **Carlsbad**

State Police .....	885-3137
City Police.....	885-2111
Sheriff's Office .....	887-7551
Ambulance .....	911
Fire Department .....	885-2111
LEPC (Local Emergency Planning Committee).....	887-3798
US Bureau of Land Management.....	887-6544

New Mexico Emergency Response Commission (Santa Fe)	(505)476-9600
24 HR .....	(505) 827-9126
New Mexico State Emergency Operations Center.....	(505) 476-9635
National Emergency Response Center (Washington, DC)	...(800) 424-8802

##### **Other**

Boots & Coots IWC .....	1-800-256-9688 or (281) 931-8884
Cudd Pressure Control.....	(915) 699-0139 or (915) 563-3356
Halliburton .....	(505) 746-2757
B. J. Services.....	(505) 746-3569
Flight For Life -4000 24th St, Lubbock, TX .....	(806) 743-9911
Aerocare -Rr 3 Box 49f, Lubbock, TX .....	(806) 747-8923
Med Flight Air Amb 2301 Yale Blvd SE #D3, Albuq, NM .....	(505) 842-4433
S B Air Med Svc 2505 Clark Carr Loop SE, Albuq, NM .....	(505) 842-4949

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

**Yates Petroleum Corporation**

**Cottonwood KI Federal Com. #4H**

760' FSL and 260' FEL (Surface Hole Location)

760' FSL and 660' FWL (Bottom Hole Location)

Section 18, T16S-R25E

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 wellsite is located approximately 6 miles northwest of Artesia, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

### **DIRECTIONS:**

Go west of Artesia on highway 82 for approximately 10 miles to Joy Road. Turn right on Joy Road and go approx. 6.7 miles to Bittersweet Road. Turn right on Bittersweet and go approx. .2 of a mile. Turn right here on lease road going south. Follow lease road south for approx. 1.1 miles then go left for .9 of a mile to EOG's Mackenzie 13 Fee #4H well location. The new road will start here going northeast on a two track road following some flowlines for .2 of a mile to a fence corner. Turn right and follow two track road along the fence line for one mile. Turn right here and go south through the fence for a approximately .1 of a mile to the northeast corner of the proposed well location.

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

- A. The proposed new access will be approximately 1.3 miles in length from the point of origin to the northeast 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. Traffic turnouts 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 wellsite.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed wellsite.

### **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. No power will be required if the well is productive of gas.



**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. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- 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 reserve pits will be plastic lined. Yates Petroleum Corporation is in full compliance with the OCD General Plan for Drilling Pits approved on April 15, 2004.
- 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 wellsite 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:** State of New Mexico Grazees:  
Johnny Joy  
667 Joy Road  
Lake Arthur, NM 88253

**MINERAL OWNER SHIP:** Bureau of Land Management  
620 East Greene Street  
Carlsbad, New Mexico 88210

State of New Mexico  
1301 Grand Street  
Artesia, New Mexico 88210

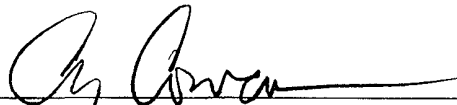
**12. OTHER INFORMATION:**

- 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

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 28th day of April 20 08

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) \_\_\_\_\_

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Yates Petroleum Corporation
LEASE NO.:	NM-9402
WELL NAME & NO.:	Cottonwood KI Fed. Com. #4H
SURFACE HOLE FOOTAGE:	760' FSL & 260' FEL
BOTTOM HOLE FOOTAGE	760' FSL & 660' FWL
LOCATION:	Section 18, T. 16 S., R 25 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**
  - Aplomado Falcon
- ☐ **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)

### Stipulations for Drilling in Aplomado Falcon Habitat

The following well pad construction and reclamation measures will be implemented to provide for minimal long-term disturbance:

No Yuccas over 5 feet in height will be damaged by vehicular use or any other activity associated with this project.

Remove all caliche from well pads and roads that are plugged and abandoned. Reclamation will consist of disking, mulching, seeding with a drill (See seed mixture below), and application of water to encourage seed germination.

Well pad size will not exceed 300 ft. x 390 ft. (unless multiple wells are drilled from the same well pad). All unused portions of the well pad associated with producing wells will be reclaimed using the seed mixture below:

Buffalograss ( <i>Buchloe dactyloides</i> )	4 lbs/acre
Blue grama ( <i>Bouteloua gracilis</i> )	1 lbs/acre
Cane bluestem ( <i>Bothriochloa barbinodis</i> )	5 lbs/acre
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5 lbs/acre
Plains bristlegrass ( <i>Setaria macrostachya</i> )	6 lbs/acre

**Reserve pits for drilling and disposal are not allowed unless the pit can be effectively netted to the satisfaction of the BLM. Steel tank circulation system must be used if the reserve pit is not netted.**

All active raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete.

All inactive raptor nests will be avoided by a minimum of 200 meters by all activities.

All roads associated with well development will not exceed 30 ft in width

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

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

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

### **B. TOPSOIL**

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 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 150' X 175' on the South side of the well pad.

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

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

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

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

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

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

#### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

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

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

#### **F. ON LEASE ACCESS ROADS**

##### **Road Width**

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

##### **Surfacing**

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

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

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

##### **Crowning**

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

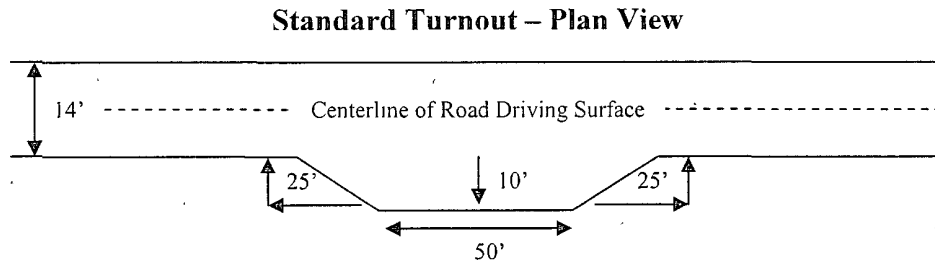
##### **Ditching**



Ditching shall be required on both sides of the road.

### Turnouts

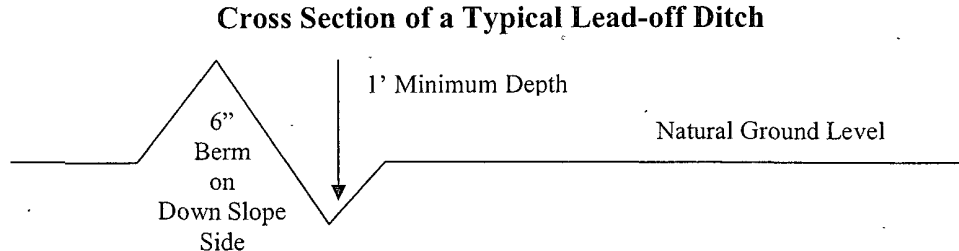
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



### 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.



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**

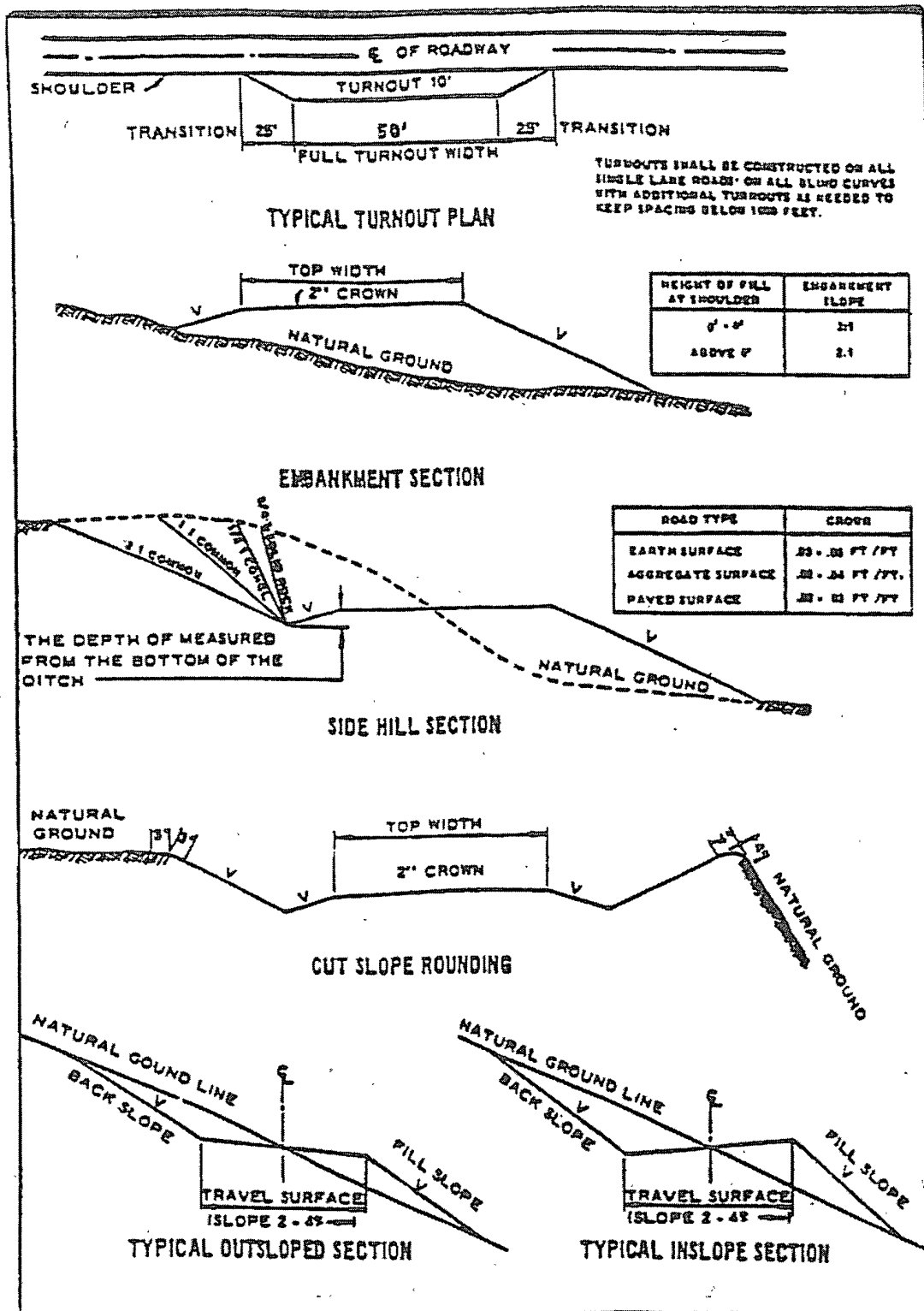
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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 possible hazard. It has been reported in Section 17 with measured values of 5600 ppm in the gas stream. 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.**

**Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.**

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

**Possible lost circulation in Grayburg & San Andres Formations**  
**Possibility of encountering high pressure gas pockets in the Wolfcamp**

1. The 8-5/8 inch surface casing shall be set at approximately 1000 feet 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 will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
  - 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.

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

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

2. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - ☒ Cement should tie-back at least **200** feet into previous casing string. **Operator shall provide method of verification.**
3. 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. 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.
  - f. **No variance granted on BOP/BOPE test when running only two casing strings.**

#### **D. RILLING 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.

**LB 6/20/08**

## **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:



Buffalograss ( <i>Buchloe dactyloides</i> )	4 lbs/acre
Blue grama ( <i>Bouteloua gracilis</i> )	1 lbs/acre
Cane bluestem ( <i>Bothriochloa barbinodis</i> )	5 lbs/acre
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5 lbs/acre
Plains bristleglass ( <i>Setaria macrostachya</i> )	6 lbs/acre

(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.