

N.M. Oil Cons. DIV-Dist. 2

1301 W. Grand Avenue

Artesia, NM 88210

Form 3160-3  
(August 1999)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT0  
OMB No. 1004-0136  
Expires November 30, 2000

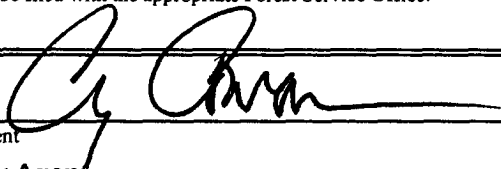
## APPLICATION FOR PERMIT TO DRILL OR REENTER RECEIVED

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		OCT 06 2005	
b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. NM-103594	
2. Name of Operator Yates Petroleum Corporation		6. If Indian, Allottee or Tribe Name	
3A. Address 105 South Fourth Street Artesia, New Mexico 88210		7. If Unit or CA Agreement, Name and No.	
3B. Phone No. (include area code) (505) 748-1471		8. Lease Name and Well No. 35161 Koonunga Hill BGX Federal #1	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1838' FNL and 1072' FWL Surface Location At proposed prod. Zone 990' FNL and 660' FWL Bottom Hole Location		9. API Well No. 30-015-34380	
14. Distance in miles and direction from nearest town or post office* Approximately 13 miles northwest of Carlsbad, New Mexico.		10. Field and Pool, or Exploratory Undesignated Mc Iver Ranch Morrow	
13. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'		11. Sec., T., R., M., or Blk, and Survey or Area Section 19, T22S-R25E	
16. No. of Acres in lease 639.72		12. County or Parish Eddy County	
17. Spacing Unit dedicated to this well W/2		13. State NM	
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft. 2300'		20. BLM/BIA Bond No. on file NM-2811	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3870' GL		22. Approximate date work will start* ASAP	
		23. Estimated duration 45 days	

## 24. Attachments CARLSBAD CONTROLLED WATER BASIN

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

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

25. Signature 	Name (Printed/Typed) Cy Cowan	Date 8/30/2005
Regulatory Agent		
Regulatory Agent		
Approved by (Signature) /s/ Joe G. Lara	Name (Printed/Typed) /s/ Joe G. Lara	Date OCT - 4 2005
Title ACTING	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 1 YEAR

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on reverse)

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

C-144 ATTACHED

WITNESS: 13 3/8" Cement Job

DISTRICT I  
1825 N. French St., Hobbs, NM 88240  
DISTRICT II  
511 South First, Artesia, NM 88210  
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410  
DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised March 17, 1999  
Instruction on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
		Undesignated McIver Ranch Morrow
Property Code	Property Name	Well Number
	KOONUNGA HILL "BGX" FEDERAL	1
OGED No.	Operator Name	Elevation
025575	YATES PETROLEUM CORPORATION	3883

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	19	22S	25E		1838	NORTH	1072	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
D	19	22S	25E		990	NORTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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>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.</p> <p><i>Cy Cowan</i> Signature Cy Cowan Printed Name Regulatory Agent Title August 18, 2005 Date</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>7/07/2005 Date Surveyed</p> <p><i>Herciel L. Jones</i> Signature &amp; Seal of Professional Surveyor HERCIEL L. JONES NEW MEXICO 3640 Certificate No. Herciel L. Jones RLS 3640 KOONUNGA HILL 1 GENERAL SURVEYING COMPANY</p>
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0 330' 660' 990' 1650' 1980' 2310' 2310' 1980' 1650' 990' 660' 330' 0'

State of New Mexico  
Energy Minerals and Natural Resources

Form C-144  
March 12, 2004

N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

For drilling and production facilities, submit to  
appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe  
office

**Pit or Below-Grade Tank Registration or Closure**

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☐

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: **YATES PETROLEUM CORPORATION** Telephone: (505) 748-1471

e-mail address: \_\_\_\_\_

Address: **105 South Fourth Street, Artesia, NM 88210**

Facility or well name: **Koonunga Hill BGX Federal .1** API #: \_\_\_\_\_ U/L or Qtr/Qtr **E** Sec **19** T **22S** R **25E**

County: **Eddy** Latitude **32°22'45.6"** Longitude **E.104°26'23.9"** NAD: 1927 X 1983 ☐ Surface Owner Federal X State Private ☐ Indian ☐

**Pit**

Type: Drilling ☒ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☒ Unlined ☐

Liner type: Synthetic ☒ Thickness **12** mil Clay ☐ Volume  
**20,000** bbl

**Below-grade tank**

Volume: \_\_\_\_\_ bbl Type of fluid: \_\_\_\_\_

Construction material: \_\_\_\_\_

Double-walled, with leak detection? Yes ☐ If not, explain why not.  
\_\_\_\_\_

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet	(20 points)	
	50 feet or more, but less than 100 feet	(10 points)	10
	100 feet or more	( 0 points)	
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)	
	No	( 0 points)	0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)	
	200 feet or more, but less than 1000 feet	(10 points)	10
	1000 feet or more	( 0 points)	0
Ranking Score (Total Points)			20

**If this is a pit closure:** (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location:

onsite ☐ offsite ☐ If offsite, name of facility \_\_\_\_\_. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface \_\_\_\_\_ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit X or an (attached) alternative OCD-approved plan ☐.

Date: **8/30/05**

Printed Name/Title **Cy Cowan, Regulatory Agent**

Signature 

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval **OCT 6 2005**

Date: \_\_\_\_\_

Field Supervisor 

Printed Name/Title \_\_\_\_\_

Signature \_\_\_\_\_

**As a condition of approval, a  
closure plan must be submitted  
and approved prior to the  
commencement of closure  
procedures.**

As a condition of approval, if during  
pit construction water is  
encountered or if water seeps in pits  
after construction the **OCD MUST  
BE CONTACTED IMMEDIATELY!**

**YATES PETROLEUM CORPORATION**  
**Koonunga Hill BGX Federal #1**  
1838' FNL and 1072' FWL Surface Location  
990' FNL and 660' FWL BHL  
Section 19-T22S-R25E  
Eddy County, New Mexico

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

San Andres	1145'	Strawn	9085'
1 <sup>st</sup> Bone Spring Sand	2625'	Atoka	9875'
Bone Spring Lime	3775'	Upper Morrow	10280'
2 <sup>nd</sup> Bone Spring Sand	4995'	Middle Morrow	10325'
3 <sup>rd</sup> Bone Spring Sand	7325'	Lower Morrow	10525'
Wolfcanp	7625'	Base of Morrow Clastics	10615'
Cisco Canyon Dolomite	8055'	TD	10750'
Base of Domomite	8765'		

2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:  
Water: 60'  
Oil or Gas: All potential zones.
3. Pressure Control Equipment: BOPE will be installed on the 9 5/8" casing and rated for 5000 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>Coupling</u>	<u>Interval</u>	<u>Length</u>
17 1/2"	13 5/8"	48#	H-40	ST+C	0-400' <sup>1500'</sup>	400' <sup>1500'</sup>
12 1/4"	9 5/8"	36#	J-55	ST+C	0-2700'	2700'
8 3/4"	7"	26#	L-80	LT+C	0-1700'	1700'
8 3/4"	7"	26#	J-55	LT+C	1700'-7000'	5200'
8 3/4"	7"	26#	L-80	LT+C	7000'-9200'	2200'
8 3/4"	7"	26#	HCP-110	LT+C	9200'-10750'	1550'

If lost circulation is encountered in the Canyon Formation 7" casing will be set to approximately 9150'. Hole size will be reduced to 6 1/8" and 4 1/2" casing will be set to TD.

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 1000# 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.

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

**B. CEMENTING PROGRAM:**

Surface casing: 400 sx Class "C" (YLD 1.32 WT 14.8).

Intermediate casing: 825 sx Lite "C" (YLD 2.06 WT 12.6). Tail in with 250 sx Class "C" + 2% CaCl<sub>2</sub> (YLD 1.32 WT 14.8).

Production casing: Stage I: 875 sx Super "C" Modified (YLD 1.63 WT 13.0). DV tool @6000'.

Production casing: Stage II: 550 sx Lite 'C' (YLD 2.05 WT 12.7).

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

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-400'	Fresh Water	8.4	28	N/C
400'-2700'	Fresh Water	8.4	28	N/C
2700'-9150'	Fresh Water	8.4-8.5	28	<20
9150'-9850'	Cut Brine	9.4-9.7	3.4-3.6	<10
9850'-TD	Salt Gel/Starch/4%-6% KCL	9.4-9.8	3.4-3.6	<10

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' samples from intermediate casing to TD.

Logging: Platform Express HRLA/NGT/FMI

Coring: None anticipated.

DST's: Possible from Wolfcamp to TD.

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

Anticipated BHP:

From: 0	To: 400'	Anticipated Max. BHP	175 PSI.
From: 400'	To: 2700'	Anticipated Max. BHP	1180 PSI.
From: 2700'	To: 10750'	Anticipated Max. BHP	5475 PSI.

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: Possible Canyon.

H<sub>2</sub>S Zones Anticipated: Possible in Canyon.

Maximum Bottom Hole Temperature: 178 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.

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

**Yates Petroleum Corporation**

**Koonunga Hill BGX Federal #1**

1838' FNL and 1072' FWL Surface Location

990' FNL and 660' FWL Bottom Hole Location

Sec. 19-T22S-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 13 miles southwest of Carlsbad, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

### **DIRECTIONS:**

Go north of Carlsbad on Highway 285 for approximately 9.5 miles to Waterhole Road. Turn right on Waterhole Road and go approximately 9.2 miles. Turn left here and follow lease road for approximately .8 of a mile to Nearburg's McKittrick 24 Federal #1 well. Continue south past the #1 well going south to the McKittrick 24 Federal #2. From the northeast corner of the #2 well pad a new portion of road will be built going south for approximately 400 feet to an old two track road. Turn left here on the two track and go approximately .2 of a mile to a cattle guard. Cross cattleguard and follow two track road for approximately .1 of a mile. The new road will start here going southeast up the hill to the northwest corner of the proposed well pad.

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

The new access road will be approximately .1 of a mile in length from the point of origin to the northwest corner of the well pad.

### **3. LOCATION OF EXISTING WELL**

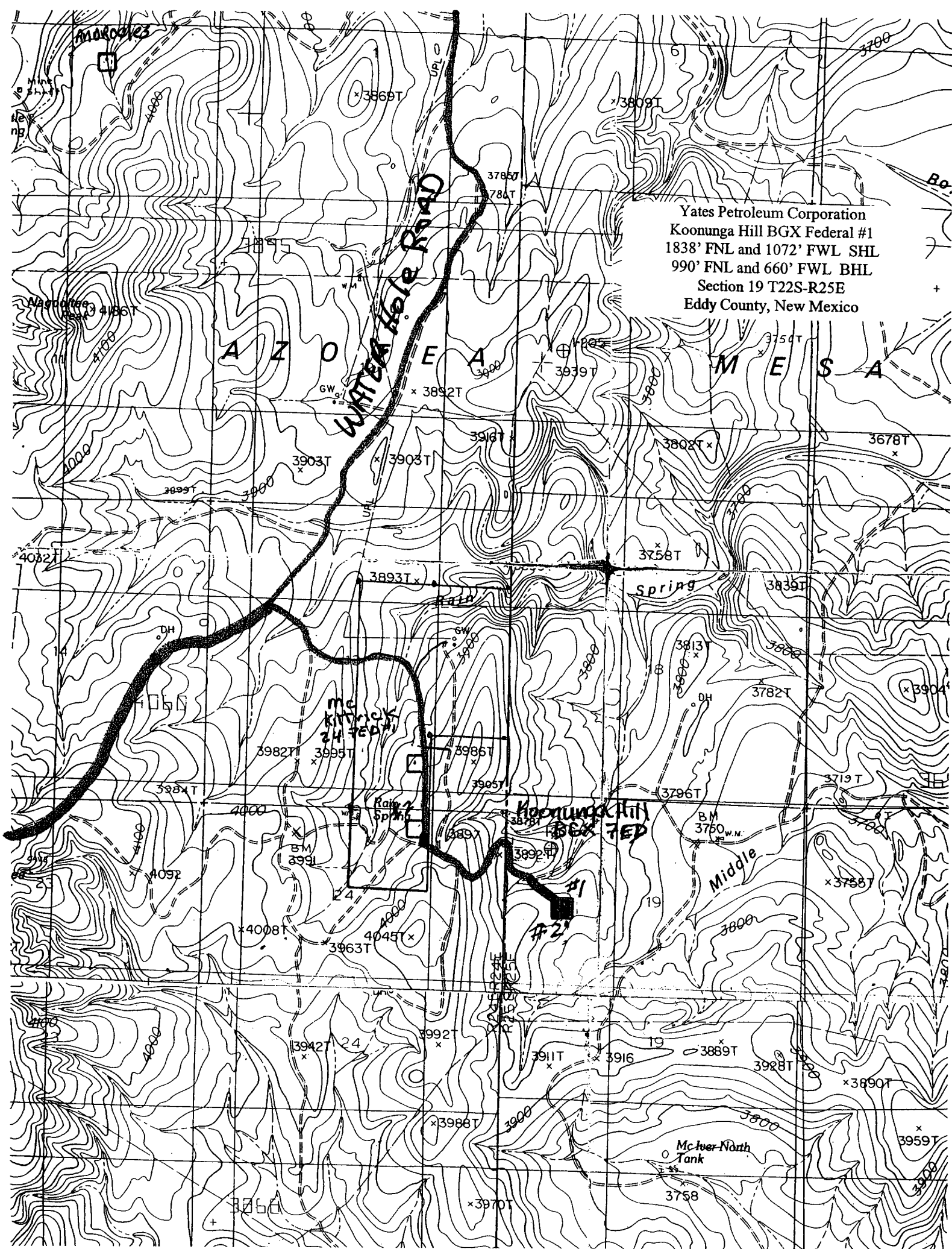
- A. There is drilling activity within a one-mile radius of the wellsite.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed wellsite.

### **4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES**

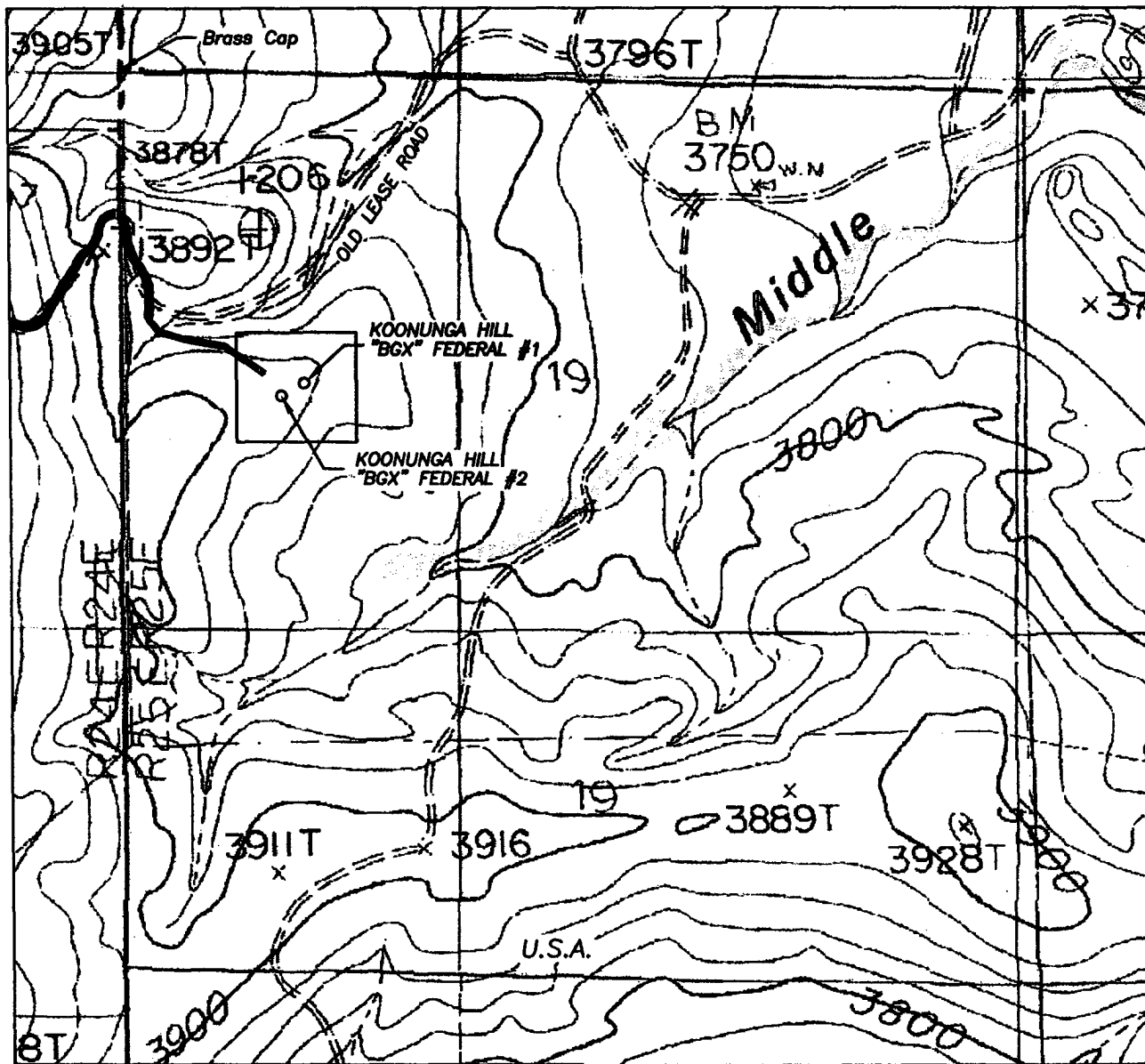
- A. There are no production facilities on this lease at the present time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power. 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.



SECTION 19, TOWNSHIP 22 SOUTH, RANGE 25 EAST, NMPM, EDDY COUNTY, NEW MEXICO.



1000' 0 1000' 2000'  
Scale 1" = 1000'

THE PREPARATION OF THIS PLAT AND THE PERFORMANCE OF THE SURVEY UPON WHICH IT IS BASED WERE DONE UNDER MY DIRECTION AND THE PLAT ACCURATELY DEPICTS THE RESULTS OF SAID SURVEY AND MEET THE REQUIREMENTS OF THE STANDARDS FOR LAND SURVEYS IN NEW MEXICO AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS.

HERSCHEL L. JONES, P.E. No. 3640

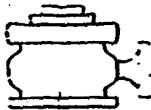
GENERAL SURVEYING COMPANY, P.O. BOX 1928  
LOVINGTON, NEW MEXICO 88260

## YATES PETROLEUM CORP.

LEASE ROAD TO ACCESS THE YATES KOONUNGA HILL "BGX" FEDERAL #1 AND #2 WELLS, LOCATED IN SECTION 19, TOWNSHIP 22 SOUTH, RANGE 25 EAST, NMPM, EDDY COUNTY, NEW MEXICO.

Survey Date: 7/07/2005	Sheet 1 of 1 Sheets
Drawn By: Ed Blevins	W.O. Number
Date: 7/08/05	Scale 1" = 1000' KOONUNGA



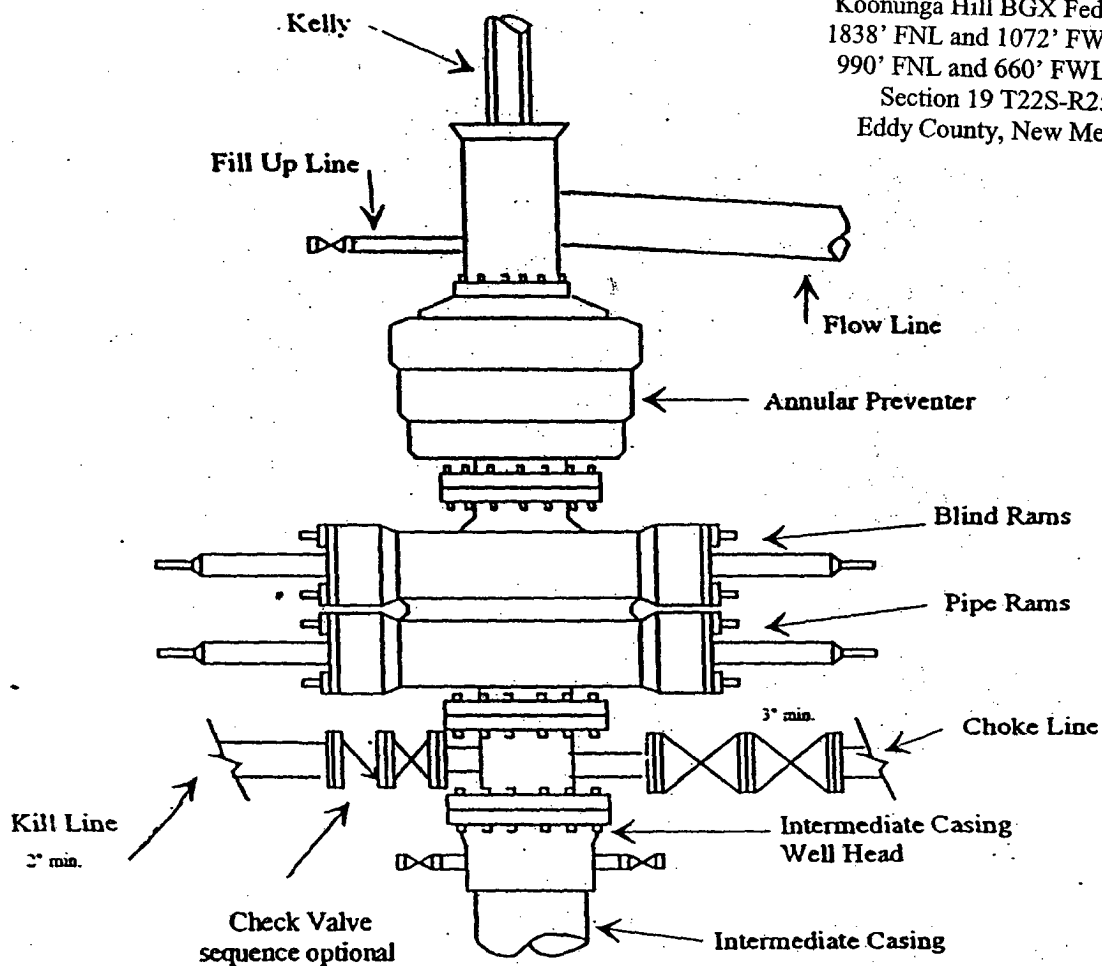


# Yates Petroleum Corporation

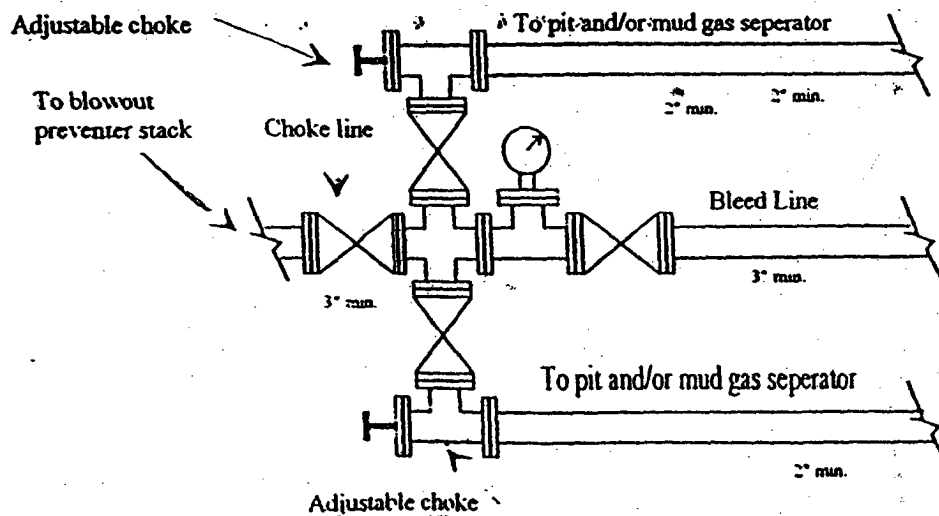
BOP-3

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

Yates Petroleum Corporation  
Koonunga Hill BGX Federal #1  
1838' FNL and 1072' FWL SHL  
990' FNL and 660' FWL BHL  
Section 19 T22S-R25E  
Eddy County, New Mexico



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



**6. SOURCE OF CONSTRUCTION MATERIALS:**

The dirt contractor will locate closest pit and will obtain any permits and materials for needed for construction.

**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 land fill. 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 after they have evaporated and dried.

**11. SURFACE OWNERSHIP: Federal surface, Administered by the Bureau of Land Management, Carlsbad, New Mexico.**

**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.

13. OPERATOR'S REPRESENTATIVE

A. Through A.P.D. Approval:

Cy Cowan, Regulatory Agent  
Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, New Mexico 88210  
Phone (505) 748-1471

B. Through Drilling Operations,  
Completions and Production:

Pinson Mc Whorter, Operations Manager  
Yates Petroleum Corporation  
105 South Fourth Street  
Artesia, New Mexico 88210  
Phone (505) 748-1471

14. CERTIFICATION:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and , that the work associated with the operations proposed herein will be performed by Yates Petroleum Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

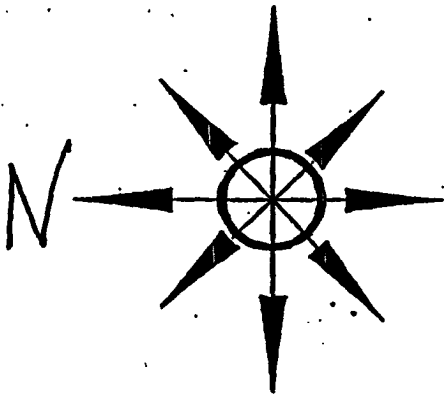
8/30/05

  
Regulatory Agent

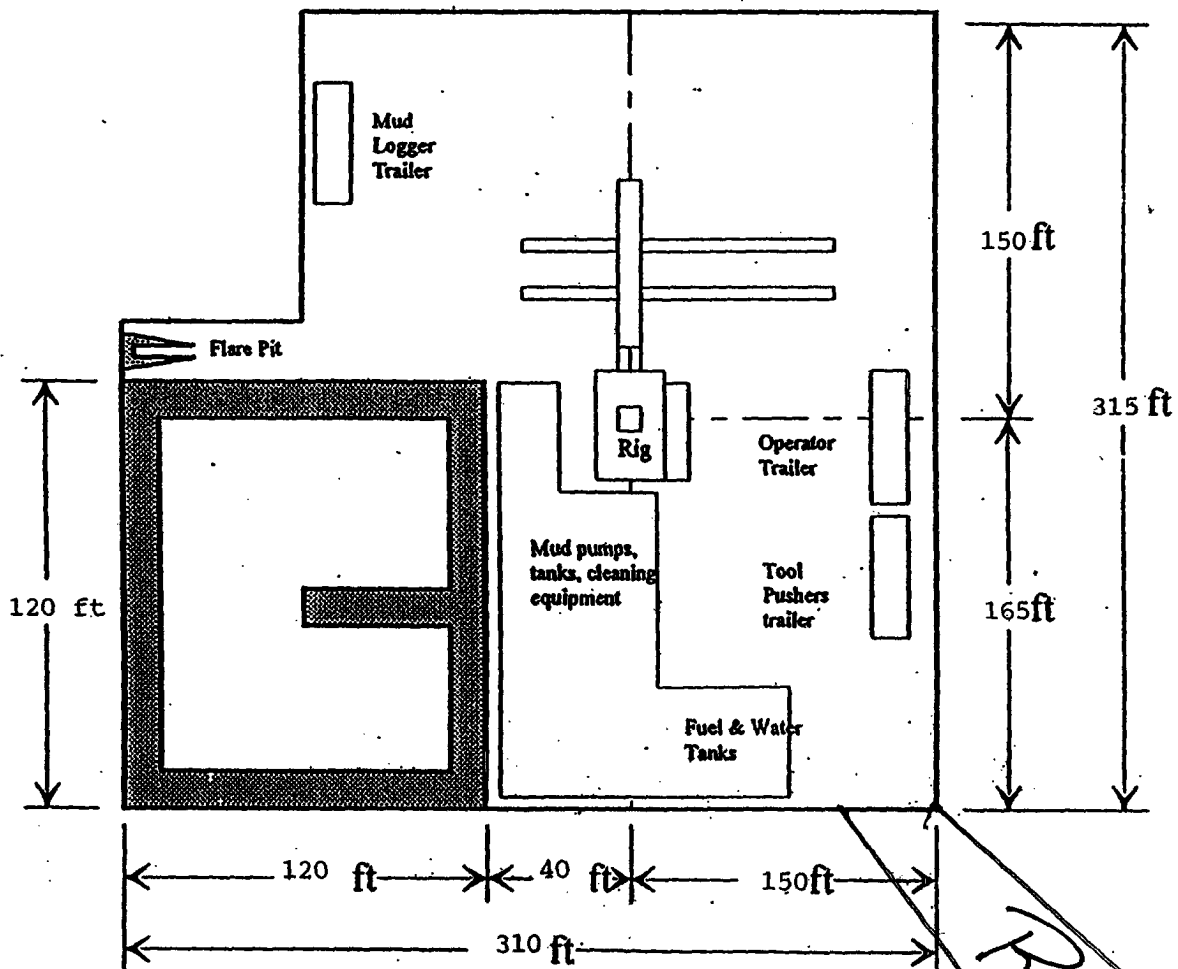
PB - L1

**Yates Petroleum Corporation**  
Location Layout for Permian Basin  
Up to 12,000'

*Pits North/Northeast*



Yates Petroleum Corporation  
Koonunga Hill BGX Federal #1  
1838' FNL and 1072' FWL SHL  
990' FNL and 660' FWL BHL  
Section 19 T22S-R25E  
Eddy County, New Mexico



Distance from Well  
Head to Reserve Pit  
will vary between rigs

The above dimension  
should be a maximum

# **Yates Petroleum Corporation**

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

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

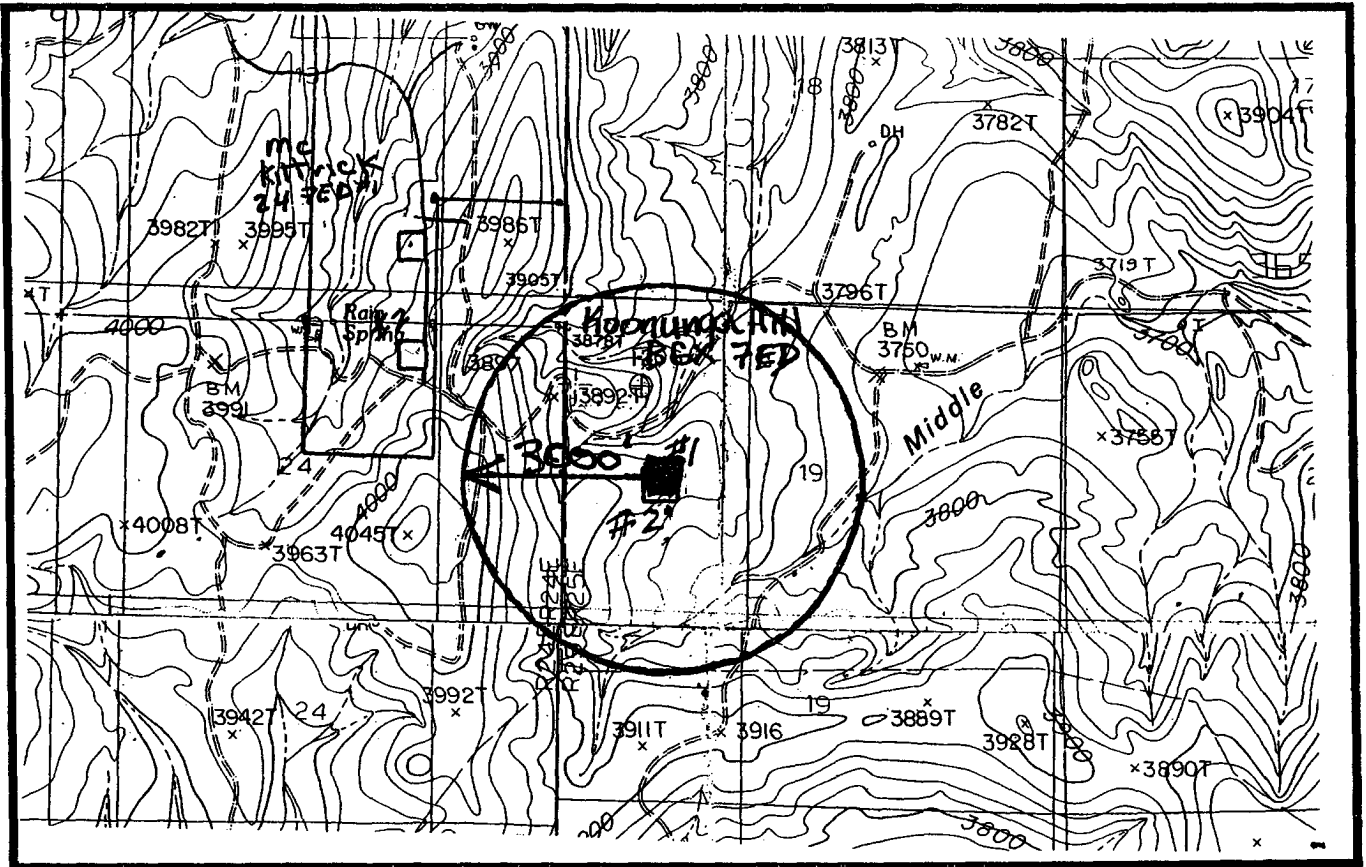
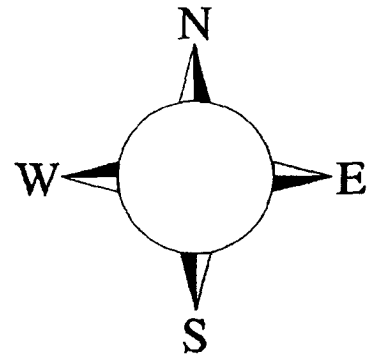
**For**

### **Koonunga Hill BGX Federal 1**

**1838' FNL and 1072' FWL Surface Location  
990' FNL and 660' FWL Bottom Hole Location  
Section-19, T-22S, R-25E  
Eddy County NM**

## Koonunga Hill BGX Federal #1 Location

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' R.O.E = 100'

## 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
Pinson McWhorter/Operations Manager .....	(505) 748-4189
Darrel Atkins/Production Manager .....	(505) 748-4204
Ron Beasley/Prod Superintendent .....	(505) 748-4210
Al Springer/Drilling .....	(505) 748-4225
Paul Hanes/Prod. Foreman/Roswell .....	(505) 624-2805
Jim Krogman/Drilling Superintendent.....	(505) 748-4215
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



**Conditions of Approval  
for Cave/Karst Resources  
and Visual on  
Yates Petroleum  
Lease #'s NM 103594**

**Koonunga Hill BGX Fed. #1**

**Surface Hole: 1838 FNL & 1072 FWL, Section 19, T. 22 S., R. 24 E.**

**Bottom Hole: 990 FNL & 660 FWL, Section 19, T. 22 S., R. 25 E.**

**Koonunga Hill BGX Fed. #2**

**Surface Hole 1914 FNL & 940 FWL, Section 19, T., 22 S., R. 25 E**

**Bottom Hole 1980 FNL & 660 FWL, Section 19, T 22 S., R. 25 E**

**Surface Mitigation**

The following stipulations will apply to minimize impacts during construction, drilling and production.

1. Two 100X70 cuttings pits will be allowed, one on the south and one on the north side of the pad. All fluids will be hauled off site for disposal.
2. Pad size will be limited to a maximum size of 200' X 415' for a double well location.
3. Upon completion of the well(s) the location will be reclaimed back to the anchors.
4. All above ground facilities, structures, appurtenances, and pipelines will be low profile (less than 8 feet in height)
5. All above ground facilities, structures, appurtenances, and pipelines will be painted a non-reflective (Flat) Shale Green.

**Subsurface Mitigation**

The following stipulations will be applied to protect cave/karst resources and ground water concerns.

1. Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst are expected. Below those zones, the operator may use whatever drilling fluid is approved in the drilling plan.
2. All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.
3. A cave protection casing will be required. The cave-protection casing string would be set at the base of the Capitan or at the deepest known cave-bearing zone as determined by drilling at approximately 2,000 feet. See attached diagram as an example.
4. All casing strings will be cemented to the surface.
5. **Regardless of the type of drilling machinery used, if a bit drops of four feet or more and circulation losses greater than 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the Operator. In the event that such an incident occurs contact Jim Goodbar at 505 234-5929 or 505 236-1016 after hours and Jim Amos at (505) 234-5909 or 706-2775. The BLM will assess the consequences of the situation and work with Operator on corrective actions to resolve the problem. If corrective actions fail, the well will be plugged.**

**Any corrective actions proposed to resolve problems related to bit drops or lost circulation will require BLM concurrence prior to implementation. A decision on how to proceed will be reached within 24 hours of notification.**

6. Any blasting will be a phased and time delayed.
7. Upon well abandonment the well bore will be cemented completely from the base of the cave bearing zone to the surface.

#### **Monitoring Production Operations**

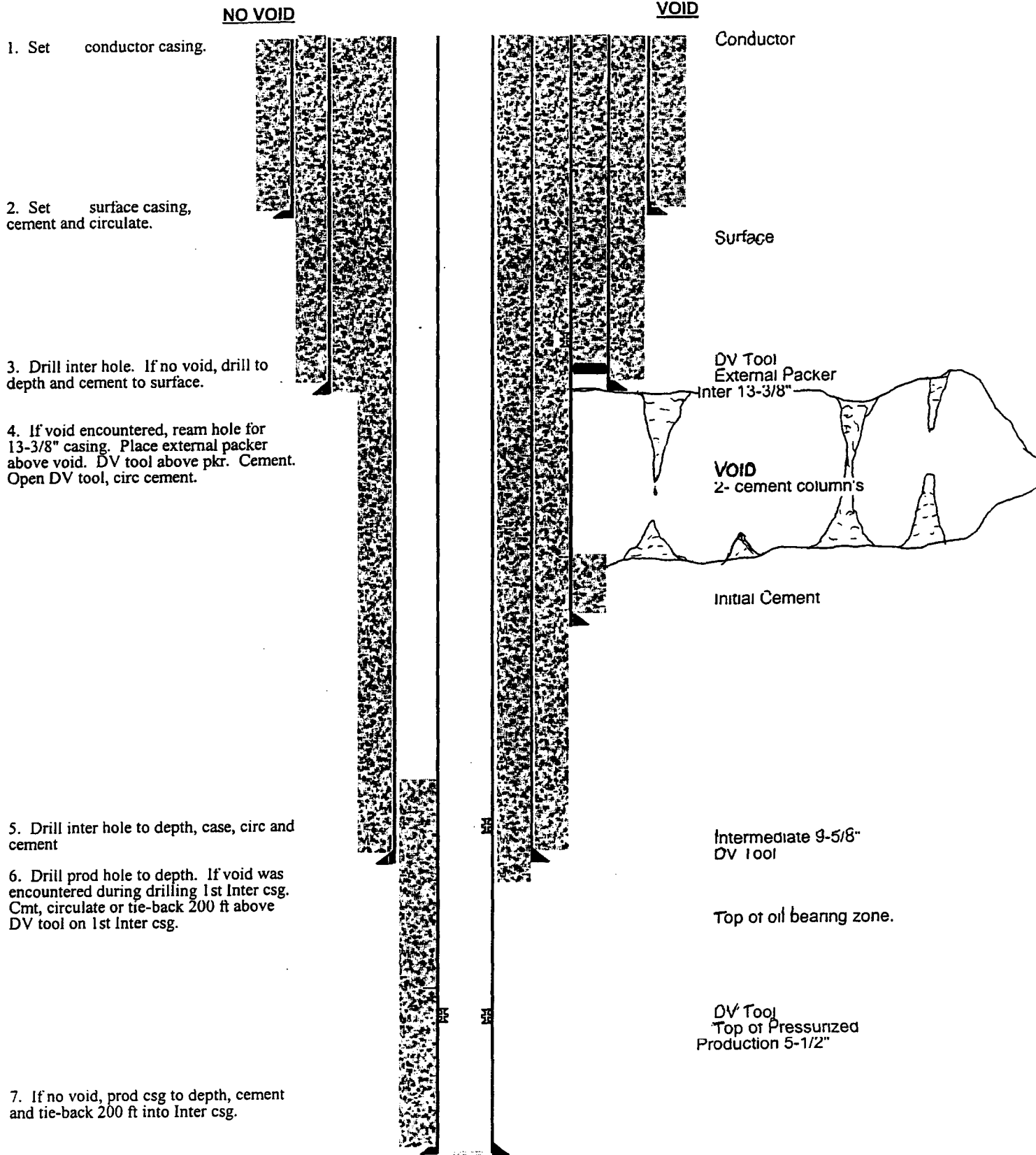
1. Annual pressure tests will be performed by the Operator on all casing annuli. If the test results indicated a casing failure, remedial actions approved by the BLM will be undertaken to correct the problem.

#### **Record Keeping**

1. The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence or absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.
2. The BLM may review data held by companies on wells drilled in cave or karst areas, to gain information about impacts to caves and karst. This information will be used to categorize lost-circulation zones on the basis of depth, relative volume, and severity, and to evaluate and compare the relative success or failure of different remedies attempted to combat lost-circulation problems while drilling and cementing casing in these zones. This information also will be used to update information about the occurrence of cave and karst features. Information concerning cave resources gathered during drilling will be submitted and be retained by the BLM in accordance with The Carlsbad Field Office Cave Management Plan and the regulations implementing the Federal Cave Resources Protection Act.

# WELLBORE SCHEMATIC

## "CAVE PROTECTION"



## CONDITIONS OF APPROVAL - DRILLING

**Operator's Name:** YATES PETROLEUM CORPORATION  
**Well Name & No.** 1 - KOONUNGA HILL BGX FEDERAL  
**Location:** 1838' FNL & 1072' FWL - SEC 19 - T22S - R25E - EDDY COUNTY (SHL)  
990' FNL & 660' FWL - SEC 19 - T22S - R25E - EDDY COUNTY (BHL)  
**Lease:** NM-103594

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

#### A. Spudding

3/8 (JL)

B. Cementing casing: 13-5/8 inch 9-5/8 inch 7 inch - **Note: If lost circulation is encountered in the Canyon Formation 7" casing will be set at approximately 9150' - Hole size will be reduced to 6-1/8" and 4-1/2" casing will be set to TD.**

#### C. BOP tests

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. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

4. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

5. There is a possibility of encountering H<sub>2</sub>S gas in the Canyon Formation at approximately **8000** feet, although there are no reports of H<sub>2</sub>S gas in Sec 19, T22S, R25E. Yates will have an H<sub>2</sub>S plan in place. This plan is to be posted at the wellsite.

### II. CASING:

1. The 13-5/8 inch surface casing shall be set at 1500 feet, below usable water and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is **circulate cement to the surface.**

3. The minimum required fill of cement behind the 7 inch production casing is **circulate to surface** cement shall extend upward a minimum of 500 feet above the uppermost hydrocarbon bearing interval. (JL)

### III. PRESSURE CONTROL:

3/8 (JL)

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13-5/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling the surface and intermediate casing shall be 2000 psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 9-5/8 inch casing shall be 3000 psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- A variance to test the BOP on surface casing to the reduced pressure of 1000 psi with the rig pumps is approved.

- The tests shall be done by an independent service company.

- The results of the test shall be reported to the appropriate BLM office.

- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

- BOPE must be tested prior to drilling into the Wolfcamp Formation by an independent service company.

### IV. 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. Monitoring equipment shall consist of the following:

1. Recording pit level indicator to indicate volume gains and losses.

2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.

3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.