

ATS-07-576

OCD-ARTESIA

1103

NOV 13 2007

Form 3160-3
(April 2004)

OCD-ARTESIA

FORM APPROVED
OMB NO 1004-0137
Expires March 31, 2007

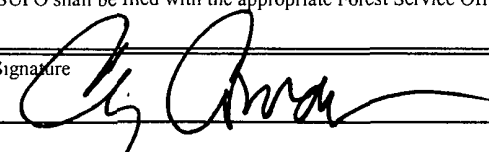
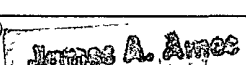
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

RESUBMITTAL

5	Lease Serial No	NM-53219
6	If Indian, Allottee or Tribe Name	
7	If Unit or CA Agreement, Name and No	
8	Lease Name and Well No	Whitbread BFG Federal Com #2
9	API Well No	30-015-35937
10	Field and Pool, or Exploratory	Indian Basin Upper Penn Assoc.
11	Sec, T, R, M, or Blk And Survey or Area	Section 1, T 22 S, R 24 E
12	County or Parish	Eddy County
13	State	NM
14	Distance in miles and direction from the nearest town or post office*	Approximately 31 miles northwest of Carlsbad, NM
15	Distance from proposed* location to nearest property or lease line, ft (Also to nearest drlg unit line, if any)	660'
16	No. of acres in lease	2235.37
17	Spacing Unit dedicated to this well	N/2
18	Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft	660'
19	Proposed Depth	8837' MD 8800' TVD
20	BLM/ BIA Bond No on file	NATIONWIDE BOND #NMB000434
21	Elevations (Show whether DF RT, GR, etc)	3844 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

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

25 Signature	Name (Printed/ Typed)	Date
	Cy Cowan	7/17/2007
Title Regulatory Agent		
Approved By (Signature)	Name (Printed/ Typed)	Date
	James A. Ames	NOV 8 2007
Title FOR FIELD MANAGER		Office CARLSBAD FIELD OFFICE

Application approval does not warrant operations thereon

Conditions of approval, if any, are:

Title 18 U S C Section 1001 and Title 18 U S C Section 1002 and Title 18 U S C Section 1003

* (Instructions on page 2)

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

those rights in the subject lease which would entitle the applicant to cc

APPROVAL FOR TWO YEARS

ingly and willfully to make to any department or agency of the United States

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number	² Pool Code	³ Pool Name Wildcat Canyon
⁴ Property Code 34600	⁵ Property Name Whitbread "BFG" Federal Com	⁶ Well Number 2
⁷ OGRID No 025575	⁸ Operator Name Yates Petroleum Corporation	⁹ Elevation 3844

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	1	22 S	24 E		699	North	383	West	Eddy

¹¹ 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	1	22S	24E		990	North	660	West	Eddy

¹² Dedicated Acres 320 N/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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>surface location</p> <p>Bottom hole location</p>	NM-94584	¹⁷ OPERATOR CERTIFICATION 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 or has a right to drill this well at this 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. Signature _____ Date 7/17/2007 Cy Cowan, Regulatory Agent Printed Name _____
	NM-112893	
		¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey _____ Signature and Seal of Professional Surveyor _____ REFER TO ORIGINAL PLAT Certificate Number _____

MARTIN YATES, III
1912 - 1985
FRANK W. YATES
1936 - 1986



105 SOUTH FOURTH STREET
ARTESIA, NEW MEXICO 88210-2118
TELEPHONE (505) 748-1471

S. P. YATES
CHAIRMAN OF THE BOARD
JOHN A. YATES
PRESIDENT
PEYTON YATES
EXECUTIVE VICE PRESIDENT
RANDY G. PATTERSON
SECRETARY
DENNIS G. KINSEY
TREASURER

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Whitbread BFG Federal Com. #2
Lease No.: NM-53219

Bond Coverage: NATIONWIDE
Individually Bonded

Legal Description of Land:

699' FNL and 383' FWL

BLM Bond File No.: NM-2871 NMB000434

Section 1, T22S-R24E

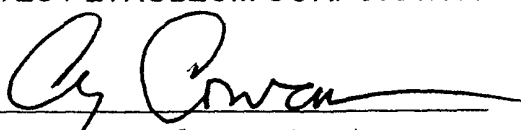
Eddy County, New Mexico

Formation (s) - (if applicable):

N/A

YATES PETROLEUM CORPORATION

Date: July 14, 2005


Cy Cowan, Regulatory Agent

RECEIVED
2005 JUL 15 AM 10:19
BUREAU OF LAND MANAGEMENT
U.S. DEPARTMENT OF THE INTERIOR

DISTRICT II

811 South First, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

2040 South Pacheco, Santa Fe, NM 87505

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 Wildcat Canyon
Property Code	Property Name WHITBREAD "BFG" FEDERAL COM.	Well Number 2
OGRID No. 025575	Operator Name YATES PETROLEUM CORPORATION	Elevation 3844

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	1	22S	24E		699	NORTH	383	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	1	22S	24E		990	NORTH	660	WEST	EDDY

Dedicated Acres 320	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>SURFACE LOCATION</p> <p>BOTTOM HOLE LOCATION</p>	NM-53219	NM-94589	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief. Signature Cy Cowan Printed Name Regulatory Agent Title Date July 12, 2005
	NM-112893		
			SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date Surveyed 6/22/2005 Signature & Seal of Professional Surveyor Certificate No. Herschel L. Jones RLS 3640 WHITBREAD 2 GENERAL ENGINEERING COMPANY

0 330' 660' 990' 1650' 1980' 2310' 2310' 1980' 1650' 990' 660' 330' 0'

YATES PETROLEUM CORPORATION
Whitbread BFG Federal Com. #2
699' FNL and 383' FWL Surface Location
990 FNL and 660' FWL Bottom Hole Location
Section 1-T22S-R24E
Eddy County, New Mexico

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

Cherry Canyon	2295'-Oil Pay	3rd Bone Spring	7020'-Oil Pay
Brushy Canyon	2605'-Oil Pay	Wolfcamp	7390'-Oil Pay
Lower San Andres	3095'-Oil Pay	Cisco Canyon	7895'-Oil Pay
Bone Spring Lime	3345'-Oil Pay	Base of Dolomite	8625'-Oil Pay
2 nd Bone Spring	5435'-Oil Pay	TD	8800'-Oil Pay

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

Water: 100' - 493'
Oil or Gas: All potential zones.

3. Pressure Control Equipment: BOPE will be installed on the 9 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)							
Hole Size	Casing Size	Wt./Ft	Grade	Coupling	Interval	Length	
14 3/4"	9 5/8"	36#	J-55	ST+C	0-1600'	1600'	← see CO#
8 3/4"	7"	26#	J-55	LT+C	0-500'	500'	replaced 11/6/07 HAK
8 3/4"	7"	26#	J-55	LT+C	500'-6200'	5700'	
8 3/4"	7"	26#	J-55	LT+C	6200'-8500'	2300'	
8 3/4"	7"	26#	L-80	LT+C	8500'-8800'	300'	

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: 200 sx H (YLD 1.53 WT 14.6) + 1100 sx Lite 'C' (YLD 1.8 WT 12.5) tail in with 200 sx Class 'C' + 2% CaCl₂ (YLD 1.34 WT 14.8). Surface

Production Casing: 750 sx Lite 'C' (YLD 1.95 WT 12.5). Tail in with 550 sx Lite 'C' (YLD 1.61 WT 13.2). TOG-1100' ← see COA

5. Mud Program and Auxiliary Equipment:

see COA →

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-1600'	Air Mist	8.4	28	N/C
1600'-7895'	Fresh Water	8.4	28	N/C
7895'-8800'	Fresh Water	8.4-8.5	28	<20

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.

Coring: None anticipated.

DST's: None anticipated.

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

Anticipated BHP:

From: 0	To: 1600'	Anticipated Max. BHP	700 PSI.
From: 1600'	To: 8800'	Anticipated Max. BHP	3890 PSI.

No abnormal pressures or temperatures are anticipated.

Lost Circulation Zones Anticipated: Possible Canyon.

H₂S Zones Anticipated: Possible in Canyon.

Maximum Bottom Hole Temperature: 143 F.

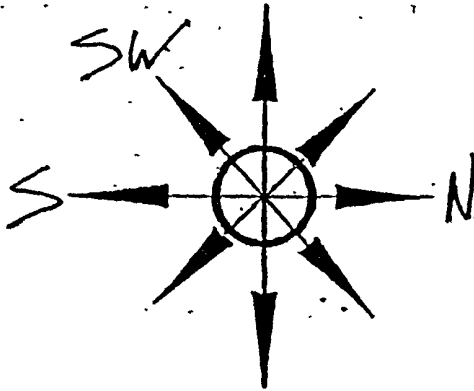
8. ANTICIPATED STARTING DATE:

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

PB - LI

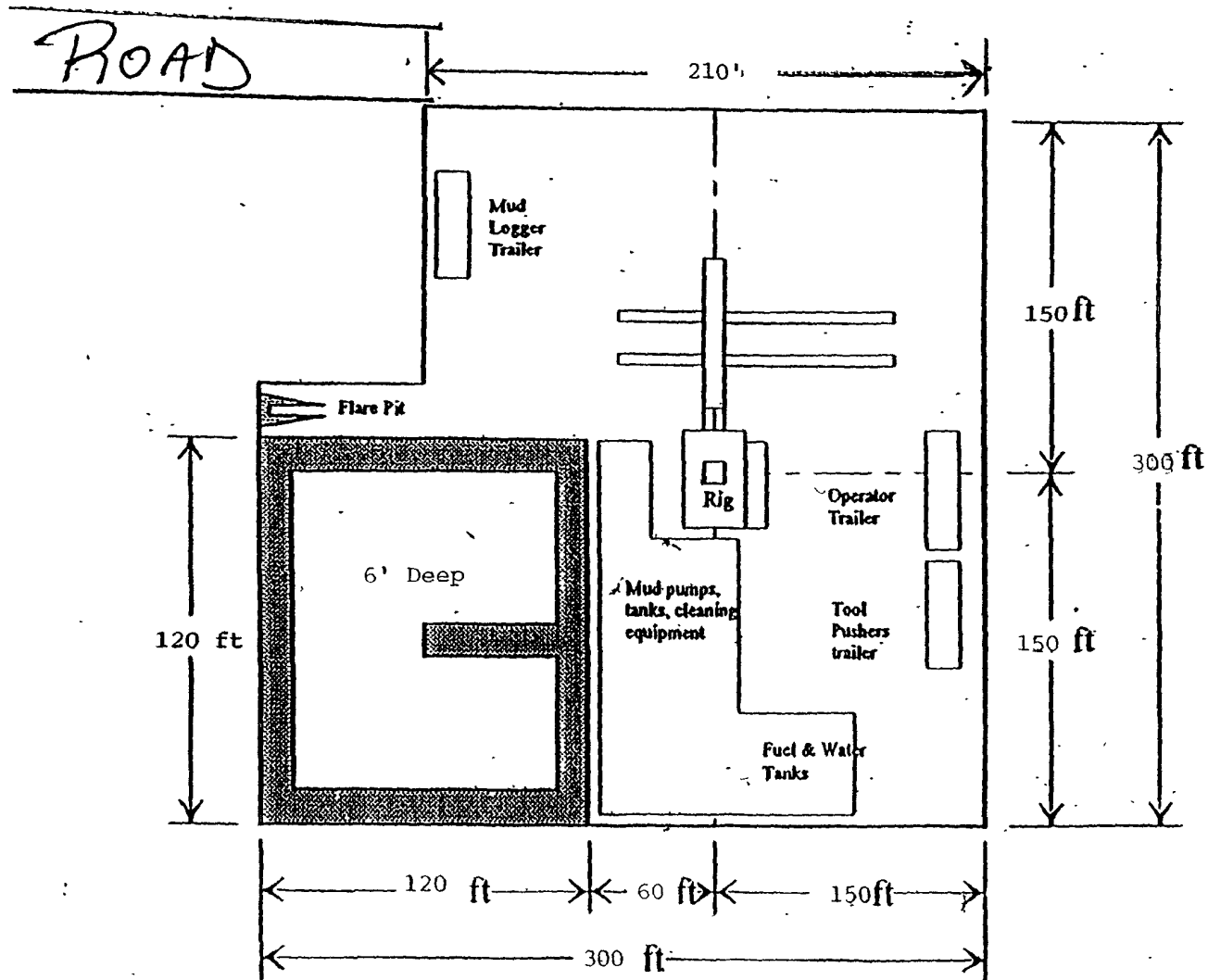
Location Layout for Permian Basin
Up to 12,000'



Pits South/South West

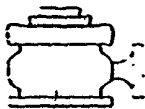
See COA's

Yates Petroleum Corporation
Whitbread BFG Federal Com. #2
699' FNL and 383' FWL SHL
990' FNL and 660' FWL BHL
Section 1, T22S-R24E
Eddy County, New Mexico



Distance from Well Head to Reserve Pit will vary between rigs

The above dimension should be a maximum

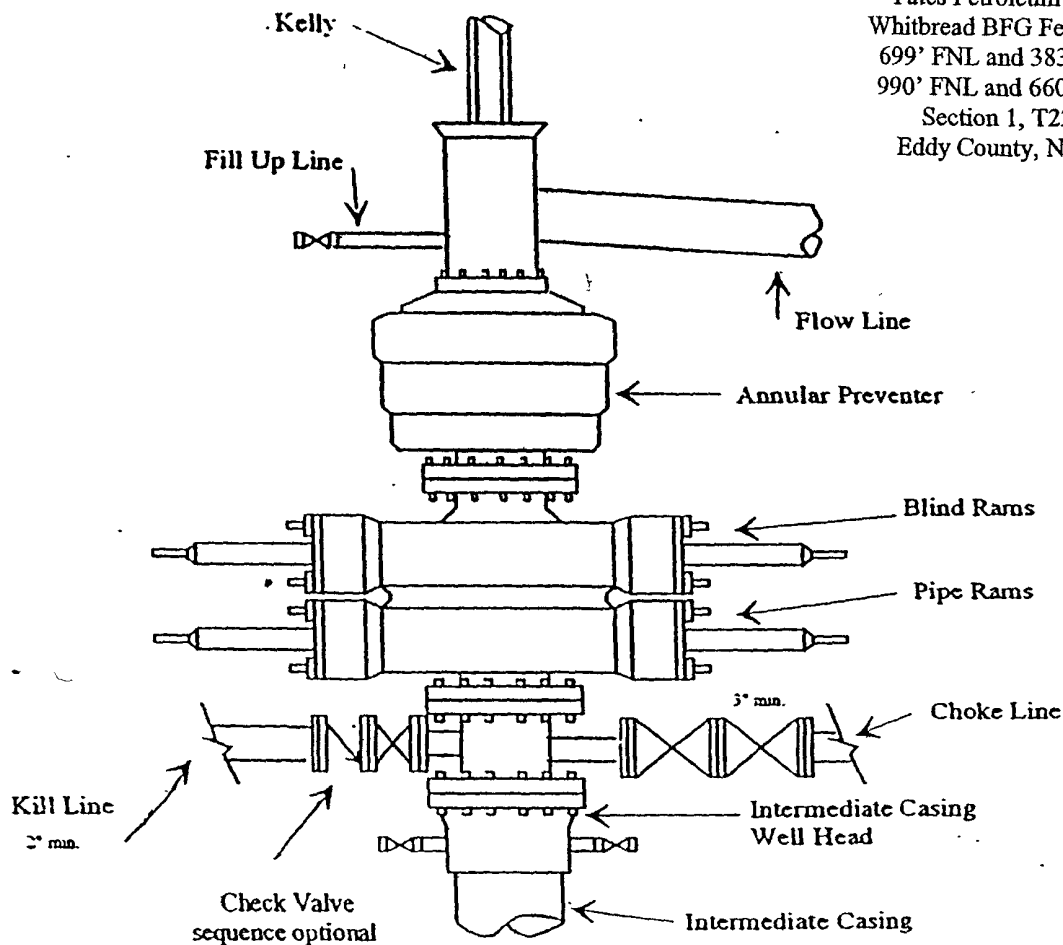


Yates Petroleum Corporation

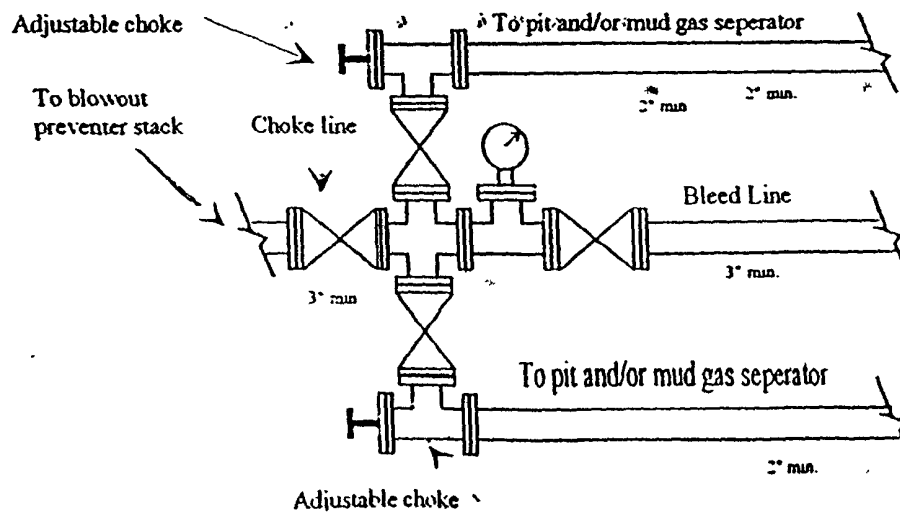
BOP-3

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

Yates Petroleum Corporation
Whitbread BFG Federal Com. #2
699' FNL and 383' FWL SHL
990' FNL and 660' FWL BHL
Section 1, T22S-R24E
Eddy County, New Mexico



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



Yates Petroleum Corporation

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

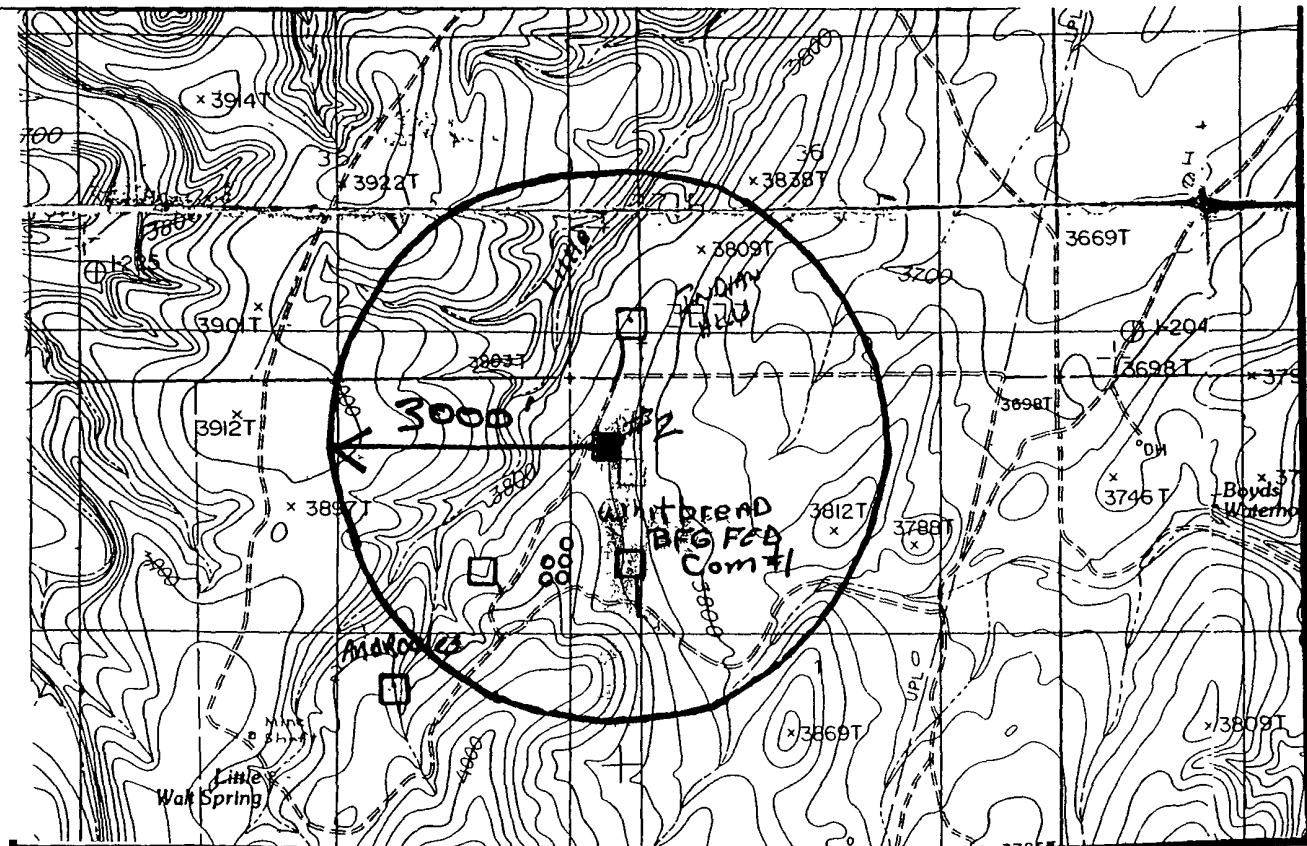
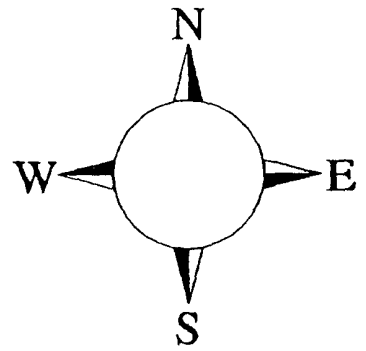
Hydrogen Sulfide (H₂S) Contingency Plan

For

Whitbread BFG Federal Com. 2

**699' FNL, 383' FWL Surface Location
990' FNL and 660' FWL Bottom Hole Location
Section-1, T-22S, R-24E
Eddy County NM**

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



CONFIDENTIAL - RUC- [REDACTED]

Yates Petroleum Corporation Phone Numbers

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

Emergency Procedures

In the case of a release of gas containing H₂S, 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 H₂S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H₂S 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 (SO₂). 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 H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	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)

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Yates Petroleum Corporation

Whitbread BFG Federal Com. #2

699' FNL and 383' FWL Surface Location

990' FNL and 660' FWL Bottom Hole Location

Sec. 1-T22S-R24E

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 31 miles northwest 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 Waterline Hole (CR-406). Turn left on Waterhole Road and go approximately 1.8 miles. Turn left here and follow road for approximately 5.4 miles. Turn right here and go approximately .7 of a mile passing the Whitbread BFG. Federal #1 access road. Continue going west on lease road for approximately .1 of a mile passing large Nearburg tank battery on the right. Go another .2 of a mile to a lease road with pipe fencing on each side. Turn right here and follow lease road for approximately .3 of a mile. The location will be on the right side of the road.

2. PLANNED ACCESS ROAD

No new access road will be needed.

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 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.

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; that I have 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 17th day of July, 2007

Name [Signature]

Position Title Regulatory Agent

Address 105 South Fourth Street, Artesia, NM 88210

Telephone 748-4372

Field Representative (if not above signatory) Jim Krogman

Address (if different from above) Same

Telephone (if different from above) 505-748-4215

E-mail (optional) _____

Conditions of Approval Cave and Karst

EA#: NM-520-07-1103

Lease #: NM-53219

**Yates Petroleum Corporation
Whitbread BFG Fed. Com. #2 RESUBMITTAL**

Cave/Karst Surface Mitigation

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

Berming:

Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Closed Mud System with a Drying Area or Buried Cuttings Pit:

All fluids will be in steel tanks and hauled off. A 70X100 foot cuttings pit or a 150X100 foot drying area will be utilized for this location. The cuttings pit or drying area will be lined with 4 oz. felt and a layer of 20 mil. plastic. Upon completion of the well all excess fluids will be vacuumed off the cuttings pit and allowed to dry. The liner could then be folded over the cuttings, covered with a 20 mil plastic cover and then covered with at least three feet of top soil.

Cave/Karst Subsurface Mitigation

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

Rotary Drilling with Fresh Water:

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 features are expected. Use depth to the deepest expected fresh water as listed in the geologist report.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone (1650 ft in depth) as identified in the geologic report.

Casing:

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.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported.

Regardless of the type of drilling machinery used, if a void (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. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Any blasting will be a phased and time delayed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Pressure Tests:

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.

Differential Shut-off Systems:

A leak detection system and differential shut off systems will be installed for pipelines and tanks used in production or drilling.

Record Keeping:

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.

B. CASING

1. The 9-5/8 inch surface casing shall be set at **approximately 1600 feet** and cemented to the surface. **If the Delaware Sand is encountered at 1600 feet, this casing string is to be set 30 feet above that depth. Fresh water/air mist approved at 8.4 ppg.**
 - 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 action will be done prior to drilling out that string.

High cave/karst.

Possible lost circulation in the San Andres and Wolfcamp formations.

Possible high pressure in the Wolfcamp and Pennsylvanian section.

2. The minimum required fill of cement behind the 7 inch production casing is:
☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Cement to come to surface due to high cave/karst.**
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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi**.

3. The appropriate BLM office shall be notified a minimum of 2 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 waiver on BOP test.**

D. DRILLING MUD

Proposed mud for the Wolfcamp and below may need to be heavier to adequately control potential pressure problems.

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.

Engineer on call phone (after hours): Carlsbad: (505) 706-2779

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