

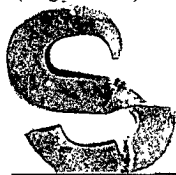
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ATS-07-254

OCD-ARTESIA

Form 3160-3
(August 1999)



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEP 13 2007
OCD-ARTESIA

0
OMB No. 1004-0136
Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No NM-98801
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		6. If Indian, Allottee or Tribe Name
2. Name of Operator Yates Petroleum Corporation		7. If Unit or CA Agreement, Name and No.
3A Address 105 South Fourth Street Artesia, New Mexico 88210		8. Lease Name and Well No. Grange BII Federal #1
3b Phone No. (include area code) (505) 748-1471		9. API Well No. 30-015-35802
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 660' FSL and 990' FEL At proposed prod. Zone Same		10. Field and Pool, or Exploratory Wildcat Morrow
14. Distance in miles and direction from nearest town or post office* Approximately 6 miles south of Whites City, New Mexico.		11. Sec., T., R., M., or Blk, and Survey or Area Section 29, T25S-R25E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of Acres in lease 2480	17. Spacing Unit dedicated to this well S/2
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. .8 of mile	19. Proposed Depth 12,200'	20. BLM/BIA Bond No. on file 585997
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate 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 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 1/30/2007
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Regulatory Agent

Regulatory Agent

Approved by (Signature) /s/ James Stovall	Name (Printed/Typed) /s/ James Stovall	Date SEP 10 2007
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE
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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

APPROVAL FOR TWO YEARS

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and 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) C-141 attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name Wildcat Morrow
Property Code 36736	Property Name GRANGE BII FEDERAL	Well Number 1
OGRID No. 025575	Operator Name YATES PETROLEUM CORPORATION	Elevation 3632

Surface Location

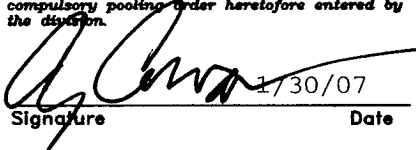

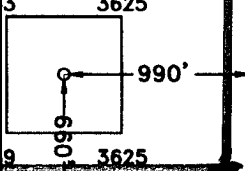
UL or lot No. P	Section 29	Township 25S	Range 25E	Lot Idn	Feet from the 660	North/South line SOUTH	Feet from the 990	East/West line EAST	County EDDY
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Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

				OPERATOR CERTIFICATION <i>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 pro</i> <i>or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>  Signature Date 1/30/07 Cy Cowan Printed Name	
				SURVEYOR CERTIFICATION <i>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.</i> 1/29/2007 Date Surveyed Signature & Seal of Professional Surveyor  Certificate No. Herschel L. Jones 3640 GENERAL SURVEYING	
NM-98801				<p>N.32°05'42.9" W.104°24'44.3" 3633 3625 N.398411.9 E.516811.0 (NAD-83)</p> 	

YATES PETROLEUM CORPORATION
Grange "BII" Federal #1
660' FSL and 990' FEL
Section 29-T25S-R25E
Eddy County, New Mexico

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

Castille	467'	2 nd Bone Spring	6147'	Middle Morrow	11126'
Lamar	1522'	3 rd Bone Spring	7817'	Lower Morrow	11417'
Bell Canyon	1567'	Wolfcamp	8167'	Base Morrow Clastics	11609'
Cherry Canyon	2517'	Strawn	10182'	Barnett Shale	11817'
Brushy Canyon	3637'	Atoka	10326'	Chester Lime	11972'
Bone Spring	5127'	Upper Morrow	10882'	TD	12100'
1 st Bone Spring	5947'				

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

Water: 70'
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>Thread</u>	<u>Interval</u>	<u>Length</u>
17 1/2"	13 3/8"	48#	H-40	ST&C	0-400'	400'
12 1/4"	9 5/8"	36#	J-55	ST&C	0-1550'	1550'
8 3/4"	7 "	26#	J-55	LT&C	0-100'	100'
8 3/4"	7"	23#	J-55	LT&C	100'-5200'	5100'
8 3/4"	7"	26#	J-55	LT&C	5100'-7300'	2100'
8 3/4"	7"	26#	L-80	LT&C	7300'-8350'	1050'
6 1/8"	4 1/2"	11.6#	HCP-110	LT&C	0'-12100'	12100'

Please note: Second intermediate casing will only be set if hole conditions dictate. If 7" casing is not run, then the 8 3/4" hole will be drilled to TD. Where 5 1/2" or 7" production casing is set the cement will be tied back to previous string of casing.

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 1.8, Joint Strength 2.0

B. CEMENTING PROGRAM:

Surface casing: 200 sx Prem + C" (YLD 1.35 WT.14.8). Tail in with 200 sx Prem "C"
(YLD 1.35 WT 14.8)

Intermediate Casing:

Stage I: 350 sx Premium Lite (YLD 1.97 WT 12.0). Tail in with 250 sx Premium Plus
(YLD 1.35 WT 14.8)

Stage II: 450 sx Interfill (YLD 2.76 WT 11.5) Tail in w/th 600 sx Super "H"
(YLD 1.66 WT 13.0)

Production Casing: 500 sx Super "H" (YLD 1.67 WT 13.0).

↑
see COA
for Cement mods

5. Mud Program and Auxiliary Equipment:

Interval	Type	Weight	Viscosity	Fluid Loss
Spud to 400'	FW/Gel	8.4-9.0	32-34	N/C
400'-1550'	Brine	10	28	N/C
1550'-8350'	Fresh Water	8.4-9.9	28	N/C
8350'-10300'	Brine	10	28	N/C
10300'-12100'	Salt Gel/Starch/6% KCL	10.7-11	36-40	<10cc

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' from out from under intermediate casing.

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: Spud TO 400'	Anticipated Max.	BHP: 190	PSI
From: 400' TO 1550'	Anticipated Max.	BHP: 810	PSI
From: 1550' TO 8350'	Anticipated Max.	BHP: 4300	PSI
From: 8350' TO 12100'	Anticipated Max.	BHP: 6920	PSI

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None

Maximum Bottom Hole Temperature: 156° F

8. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 35 days to drill the well with completion taking another 20 days.

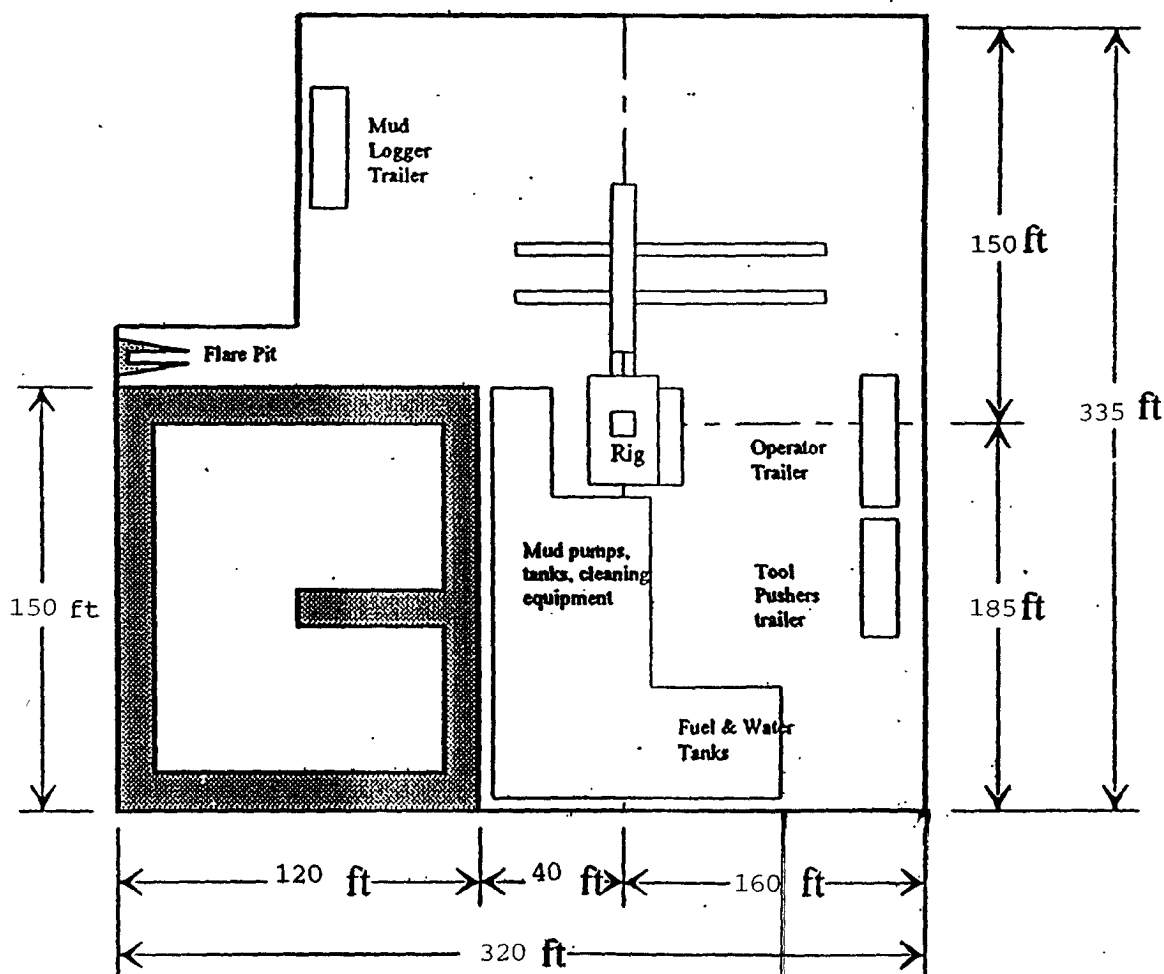
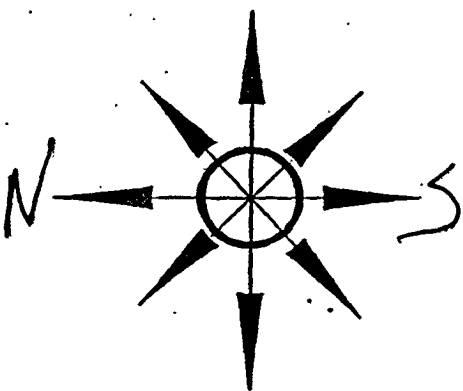
PB - L1

Yates Petroleum Corporation

Location Layout for Permian Basin

Pits North

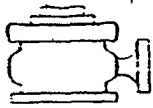
Yates Petroleum Corporation
Grange BII Federal #1
660' FSL and 990' FEL
Section 29, T25S-R25E
Eddy County, New Mexico



Distance from Well Head to Reserve Pit will vary between rigs

The above dimension should be a maximum

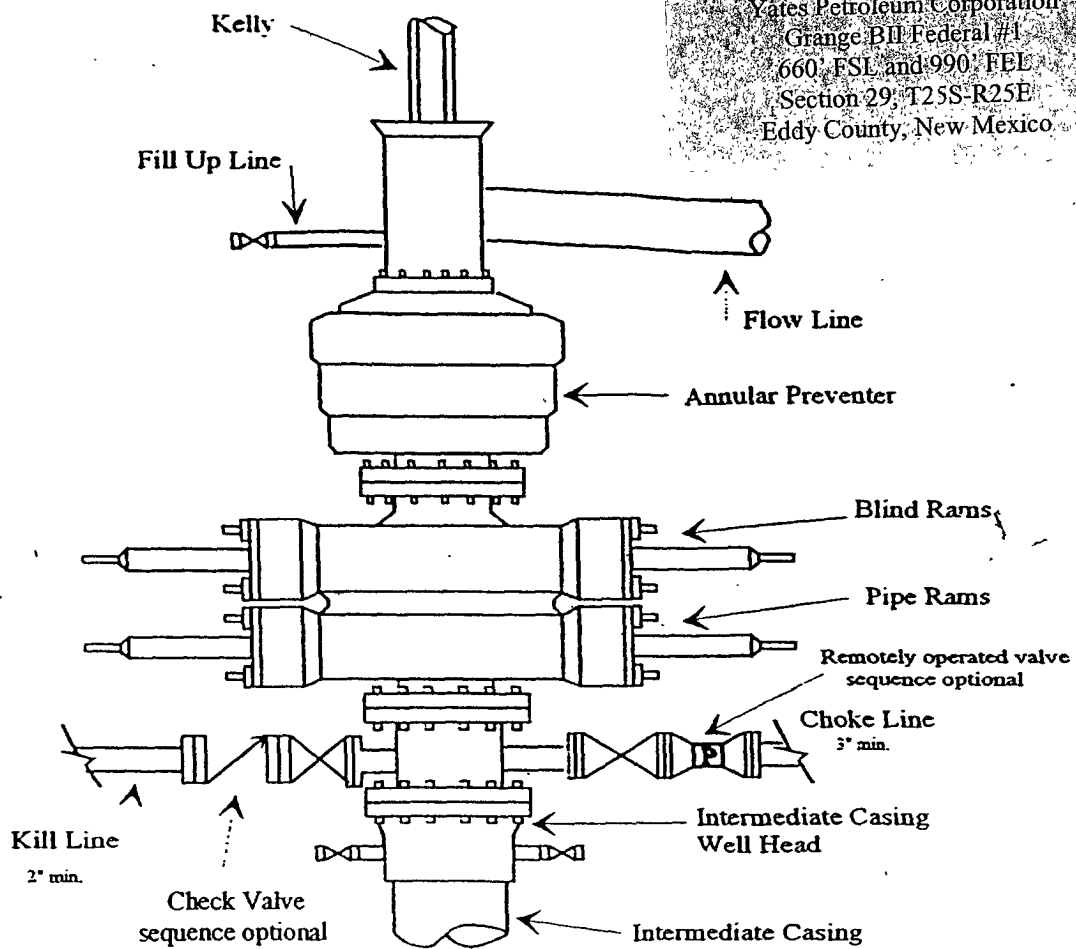
Boyd



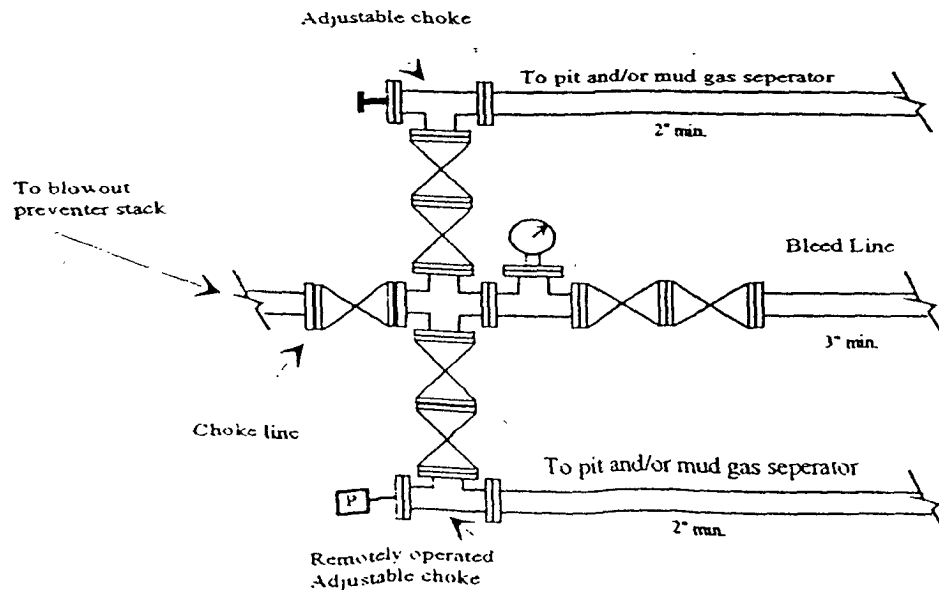
Yates Petroleum Corporation

BOP-4

Typical 5,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack



Typical 5,000 psi choke manifold assembly with at least these minimum features



**MULTI-POINT SURFACE USE AND OPERATIONS PLAN
YATES PETROLEUM CORPORATION**

Grange "BII" Federal #1
660' FSL and 990' FEL
Section 29-T25S-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 south of Whites City, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS:

From the turn off to Carlsbad Caverns (RT-7) and Highway 62-180 in Whites City, New Mexico go approximately 5 miles south on Highway 62-180 to the sign for the turn off for Washington Ranch (CR-418) on the right. From here continue south on HWY 62-180 for approximately .3 of a mile to Mile Post 10 on the left. There will be a cattleguard here. Turn left here cross the cattleguard and follow an old two track road going southeast for approximately .9 of a mile. The new access road will start here going east for approximately .3 of a mile to the southwest corner of the proposed well location.

2. PLANNED ACCESS ROAD:

- A. The proposed new access will be approximately .3 mile in length from the point of origin to the southwest corner of drilling pad. The road will lie in a west to east direction.
- 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 one side. Traffic turnouts will be built.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL

- A. There is not any 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 not any 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 the closest pit and obtain any permits and material 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, 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: Bureau of Land Management, Carlsbad, New Mexico.

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.
12. 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.

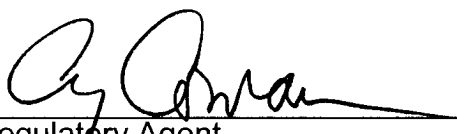
13. OPERATOR'S REPRESENTATIVE

- | | |
|---|---|
| A. Through A.P.D. Approval: | B. Through Drilling Operations,
Completions and Production: |
| Cy Cowan, Regulatory Agent
Yates Petroleum Corporation
105 South Fourth Street
Artesia, New Mexico 88210
Phone (505) 748-1471 | Pinson McWhorter, 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.

1/30/07


Regulatory Agent

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1/30/07


Regulatory Agent

V. SPECIAL REQUIREMENT(S)

CAVE AND KARST

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 1 ½ times the capacity of the largest vessel.

Bermed areas will be lined with rip-stop padding beneath a permanent 20 mil plastic liner.

Closed Mud System:

Closed Mud System using Steel Tanks with All Fluids and Cuttings Hauled Off. No pits will be allowed.

Vapor Recovery:

A vapor recovery system will be required. No venting or flaring will be allowed.

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 down to a minimum of 350 feet.

Florescene Dye (Acid Yellow 73):

Thirty-two ounces Florescene (Acid Yellow 73) dye will be added to the drilling fluid before the well is spudded AND to the pre-flush fluids of the surface interval of casing.

These dyes will track the fluids if lost circulation occurs.

Arrangements will be made to have BLM witness the dye being injected prior to spudding the hole and before the pre-flush of the surface casing. Contact the BLM drilling on call phone at (505) 361-2822 to make arrangements.

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.

Cementing:

The top three casing strings will be cemented to the surface.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone (450 feet) will be logged and reported.

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. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Blasting will NOT be allowed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 450 feet 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.

Leak Detection Systems:

A leak detection system for tank batteries will be installed to notify the operator of any tank leakage. If tanks show any leakage the BLM will be notified immediately and a mitigation plan will be decided upon.

Differential Pressure Shut-off Systems will be installed for pipelines and tanks to prevent unchecked flow of ruptured lines.

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 of 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.

VISUAL RESOURCES

The proposed project is located within a Class Three Visual Resource Area. The project will be built in a manner to minimize visibility. The proposed project will be a linear feature for the life of the project, impacting visual resources.

Surface Mitigation

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

1. The proposed construction will be limited to the approved pad size.
2. All above ground facilities, structures, appurtenances, and pipelines will be low profile (less than 8 feet in height).
3. All above ground facilities, structures, appurtenances, and pipelines will be painted with the non-reflective (flat) paint color Shale Green, Munsell Soil Color Chart Number: 5Y 4/2 (#657).
4. Upon completion of the well and prior to installation of the production facilities (if the well is a producer) the pad will be reclaimed back to a working pad of 150' X 150' for production operations only. The edges will be recontoured and the extra caliche and pad material will be hauled off-site. Contact Jim Amos, 505-234-5909, for reclamation instructions prior to the installation of production equipment.
5. If the well is not a producer the pad and road will be reclaimed within six months of abandonment.
6. The reclaimed area will be grid rolled and reseeded with seed mix as indicated in the Special Drilling Stipulations.

PLAN OF DEVELOPMENT

After the well is productive or upon evaluation of a dry hole, Yates will contact the BLM to initiate development of a plan development (POD) for future lease exploration.

The POD will include information on future wells, access roads, pipelines, production facilities and other infrastructure necessary to develop lease.

SOUTHERN GYPSUM SOIL

In order to protect unique ecosystems and extremely fragile, highly erodible soils within the Southern Gypsum Soil Area the following is required:

- All vehicular use will be restricted to designated or authorized access routes. Parking and staging equipment off of the caliche pad and road is NOT allowed.
- Maximum road driving surface is 14 ft. The road total surface disturbance width will not exceed 16 ft.
- Stockpile 8 inches of topsoil during construction to be used during interim reclamation and reclaim pad back to 150 x 150 ft. after the well is drilled.

RAPTOR NESTS AND HERONRIES

For the purpose of protecting raptor nests and heronries:

Surface disturbance will not be allowed within up to 200 meters of active heronries or by delaying activity for up to 120 days, or a combination of both. Raptor nests on special, natural habitat features, such as trees, large brush, cliff faces and escarpments, will be protected by not allowing surface disturbance within up to 200 meters of nests or by delaying activity for up to 90 days, or a combination of both. Exceptions to this requirement for raptor nests will be considered if the nests expected to be disturbed are inactive, the proposed activity is of short duration (e.g. habitat enhancement projects, fences, pipelines), and will not result in continuing activity in proximity to the nest.

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 8 inches in depth. The topsoil will be used for interim and final reclamation.

C. RESERVE PITS

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

See Special Requirements (p.3): Cave/Karst COAs for additional information.

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 required.

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

VII. DRILLING

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 - for wells in Eddy County in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13-3/8 inch 9-5/8 inch 7 inch 4-1/2 inch

C. BOP tests

2. Although no H2S has been reported in this section, it has been reported in a neighboring township measuring 1200-1500 ppm in STVs. It is recommended that monitoring equipment be available on site.

3. 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.

4. 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.

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

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

7. Gamma-Ray/Neutron logs shall be run from the base of the Salado Formation to the surface; cable speed not to exceed 30 feet per minute.

II. CASING:

1. The 13-3/8 inch surface casing shall be set at 400 feet (if halite is encountered before surface casing depth, casing will be set 25 feet above any halite), 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.

Possible lost circulation in the Delaware. High cave/karst area.

Possible abnormal pressure in the Wolfcamp and high pressure through the Pennsylvanian.

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

3. **If this casing is run;** the minimum required fill of cement behind the 7 inch casing is cement shall circulate to surface due to high cave/karst.

4. The minimum required fill of cement behind the 5-1/2 inch production casing is cement shall extend to surface if 7" not run; if 7" run, cement to extend upward a minimum of 200 feet into the intermediate casing.

III. PRESSURE CONTROL:

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 13-3/8 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 2M psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the 9-5/8 inch casing shall be 5M 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, BOPE, and surface casing to the reduced pressure of 1000 psi with the rig pumps is approved. **Full pressure test to be conducted on BOP, BOPE before drilling out of 9-5/8" casing.**

- 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 **500 feet** 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.

Engineer on call phone: 505-706-2779

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