

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or reenter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other (re-entry) ✓

2. Name of Operator
 Yates Petroleum Corporation 025575

3a Address 3b Phone No (include area code)
 105 South Fourth Street, Artesia, NM 88210 (575) 748-1471

4 Location of Well (Footage, Sec, T, R, M., or Survey Description)
 330' FNL & 330' FEL, Sec 17-T21S-R32E, Surface Hole ✓
 660' FNL & 330' FWL, Sec 17-T21S-R32E, Bottom Hole

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

5 Lease Serial No.
NM-94095

6. If Indian, Allottee or Tribe Name
Not Applicable

7. If Unit or CA/Agreement, Name and/o
Not Applicable

8. Well Name and No
Caper BFE Federal #6H ✓

9. API Well No.
30-025-38091 ✓

10 Field and Pool, or Exploratory Area
Undesignated

11 County or Parish, State
Lea County, New Mexico ✓

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13 Describe Proposed or Completed Operation Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones Attach the Bond under which the work will be performed or provide the Bond No on file with BLM/BIA Required subsequent reports must be filed within 30 days following completion of the involved operations If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection)

Yates Petroleum Corporation requests permission to change the name of this well to Caper BFE Federal #6H. YPC wants to change this well from a vertical hole to a horizontal well. The surface be the same with the bottom hole being 660' FNL & 330' FWL, Section 17-21S-32E. A new C-102, drilling plan, direction change, and new access map.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Thank you.

14 I hereby certify that the foregoing is true and correct

Name (Printed/Typed) Clifton May Title Land Regulatory Agent

Signature *Clifton May* Date January 28, 2010

THIS SPACE FOR FEDERAL OR STATE USE

Approved by *Dustin Winkler* Title PETROLEUM ENGINEER Date FEB 22 2010

Conditions of approval, if any, are attached. Approval of this notice 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

Title 18 U.S.C. Section 1001, make it a crime for any person knowingly and willfully to make any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

(Instructions on reverse)

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

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

RECEIVED

FEB 19 2010

1408BS06L

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

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 UNDESIGNATED Bone Spring
Property Code	Property Name	Well Number
34414	CAPER "BFE" FEDERAL	6H
OGRID No.	Operator Name	Elevation
025575	YATES PETROLEUM CORPORATION	3697

Surface Location

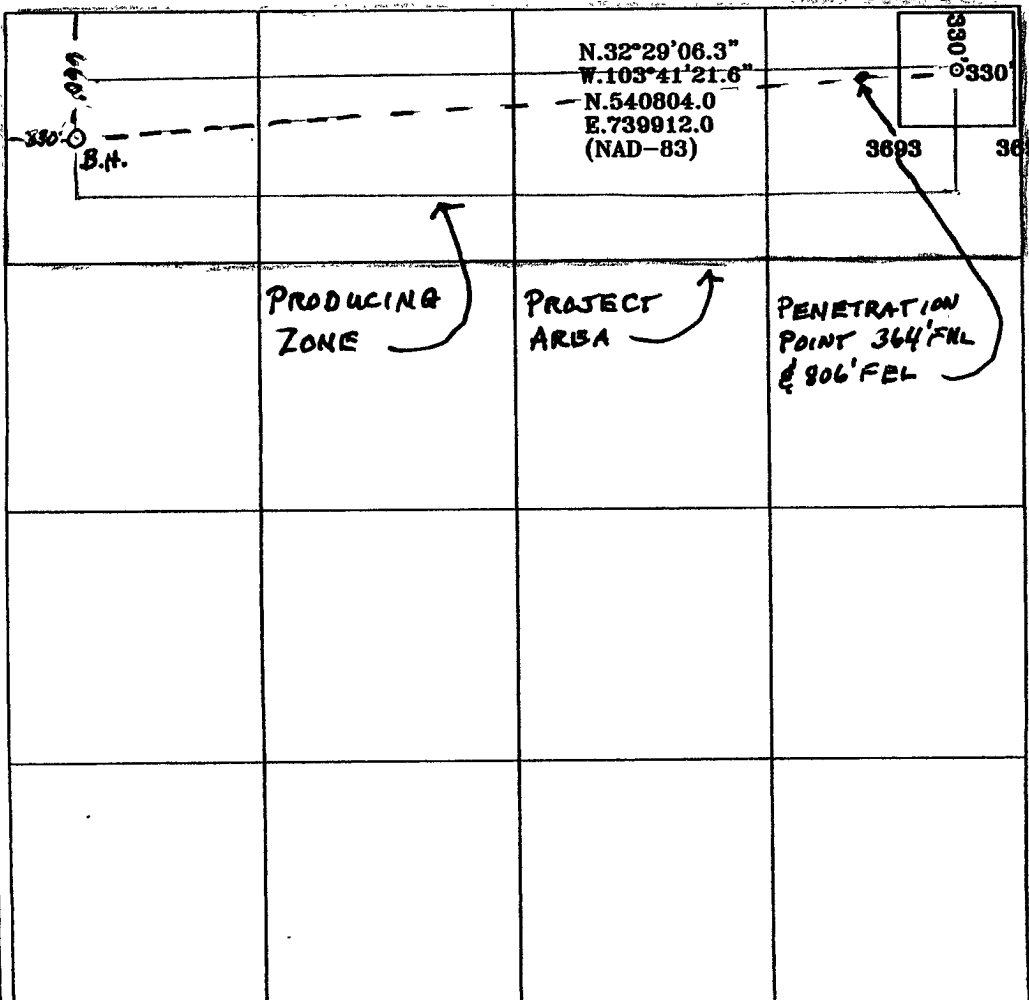
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	17	21S	32E		330	NORTH	330	EAST	LEA

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	17	21S	32E		660	NORTH	330	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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>N.32°29'06.3" W.103°41'21.6" N.540804.0 E.739912.0 (NAD-83)</p> <p>3698 3701</p> <p>330'</p> <p>3693 3698</p> <p>PRODUCING ZONE</p> <p>PROJECT AREA</p> <p>PENETRATION POINT 364' FNL & 806' FEL</p>				<p>OPERATOR CERTIFICATION</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>Clifton May</i> Signature</p> <p>CLIFTON MAY Printed Name</p> <p>LAND REGULATORY AGENT Title</p> <p>1/28/2010 Date</p>	
<p>SURVEYOR CERTIFICATION</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>3/09/2006 Date Surveyed</p> <p><i>HELEN JONES</i> Signature</p> <p>HELEN JONES Professional Surveyor</p> <p>3640</p> <p>Certificate No. Harschak Jones RLS 3640 CAPER FEDERAL 6 GENERAL SURVEYING COMPANY</p>					

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

YATES PETROLEUM CORPORATION
 Caper "BFE" Federal #6H
 330' FNL and 330' FEL Surface Hole Location
 660' FNL & 330' FWL Bottom Hole Location
 Section 17-T21S-R32E
 Lea County, New Mexico

HORIZONTAL INFORMATION

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

Rustler	1190'	Cherry Canyon	5500'-Oil
Top of Salt	1500'	Brushy Canyon	6800'-Oil
Bottom of Salt	3140'	Brushy Canyon Target	8773'-Oil
Bell Canyon	4850 Oil	TMD	12927'
2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:

Water: 170'
 Oil or Gas: Oil Zones: 4850', 5500', 6800' & 8773'.

3. Pressure Control Equipment: BOPE will be installed on the 13 3/8" and the 8 5/8" casing and rated for 3000# BOP System. Pressure tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventer controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventers 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.
4. 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.
5. THE PROPOSED CASING AND CEMENTING PROGRAM:

A. Casing Program: All new casing to be used

<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 3/8"	48#	H-40	ST&C	0-1225'	1225'
11"	8 5/8"	32#	J-55	ST&C	0-4100'	4100'
11"	8 5/8"	32#	HCK-55	ST&C	4100'-4950'	850'
7 7/8"	5.1/2"	17#	HCP- 110	LT&C	0'-12927'	12927'

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

B. CEMENTING PROGRAM:

Surface Casing: Lead with 725 sacks C Lite (Wt. 12.50 Yld 1.98). Tail in with 200 sacks C with 2%CaCl2 (Wt. 14.80 Yld. 1.34). TOC surface.

Intermediate Casing: Lead with 1150 sacks of C Lite (Wt 12.80 Yld 1.98). Tail in with 210 sacks C w/2% CaCl2 (Wt. 14.80 Yld. 1.34). TOC surface

Production Casing: Stage One: Cement with 2150 sacks Pecos Valley Lite (Wt 13.00 Yld 1.41). TOC 4200'. DV Tool set approximately 4200'.

Stage Two: Lead with 600 sacks Lite Crete (Wt 11.90 Yld. 2.66). Tail in with 100 sacks C w/2%CaCl2 (Wt 14.80 Yld. 1.34). TOC Surface.

Well will be drilled vertically to 8023'. At 8023' well will be kicked off and directionally drilled at 12 degrees per 100' with a 7 7/8" hole to 12927' MD (8500' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 364' FNL & 806' FEL, 17-21S-32E. Deepest TVD in the well is 8500' in the lateral.

6. MUD PROGRAM AND AUXILIARY EQUIPMENT:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-1225'	Fresh Water Gel	8.60-9.20	32-34	N/C
1225'-4950'	Brine Water	10.00-10.20	28-30	N/C
4950'-8023'	Cut Brine	8.50-8.80	28-29	N/C
8023'-12927'	Cut Brine(Lateral Section)	8.70-9.00	28-29	N/C

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. Rig personnel will check mud hourly.

7. EVALUATION PROGRAM:

Samples: Mudloggers on at intermediate casing
Logging: Platform Express-CMR
Coring: None anticipated
DST's: None Anticipated

8. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE, AND POTENTIAL HAZARDS:

Maximum Anticipated BHP:

0'-1225'	585 PSI
1225'-4950'	2625 PSI
4950'-8500'	3975 PSI

Abnormal Pressures Anticipated: None

Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None Anticipated

Maximum Bottom Hole Temperature: 150 F

9. ANTICIPATED STARTING DATE:

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 60 days to drill the well with completion taking another 20 days.

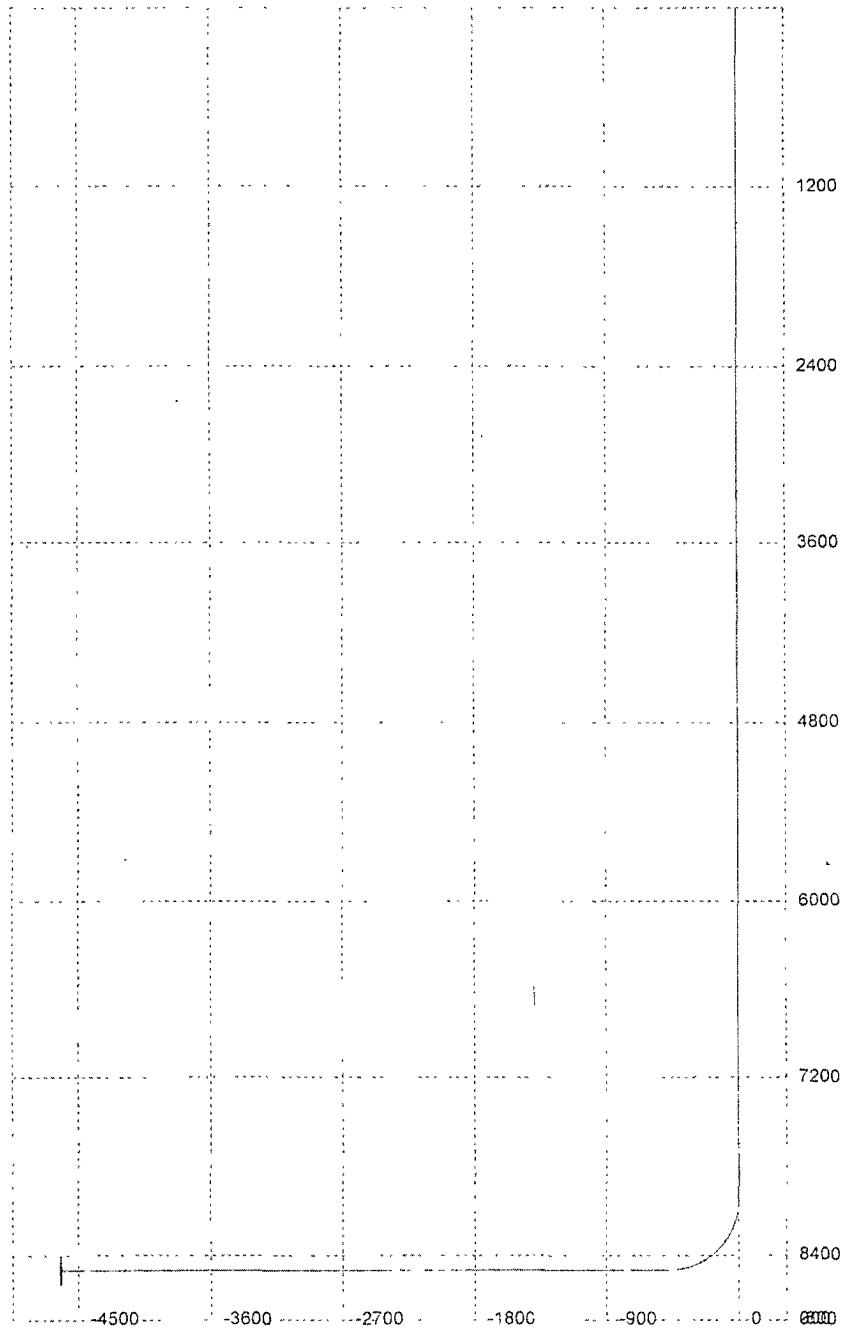
M.D.	Inclination	Azimuth	T.V.D.	N+/S-	E+/W-	D.L.S.	ToolFace	T.F. Ref (HS/GN)	
0	0	0	0	0	0	0			
1,190	0	0	1,190	0	0	0			RUSTLER
1,500	0	0	1,500	0	0	0			TOP OF SALT
3,140	0	0	3,140	0	0	0			BASE OF SALT
4,850	0	0	4,850	0	0	0			BELL CANYON
5,500	0	0	5,500	0	0	0			CHERRY CANYON
6,800	0	0	6,800	0	0	0			BRUSHY CANYON
8023	0	0	8023	0	0	12	266	GN	KOP
8025	0.24	265.91	8025	0	0	12	0	HS	
8050	3.24	265.91	8049.99	-0.05	-0.76	12	0	HS	
8075	6.24	265.91	8074.9	-0.2	-2.82	12	360	HS	
8100	9.24	265.91	8099.67	-0.44	-6.18	12	360	HS	
8125	12.24	265.91	8124.23	-0.77	-10.83	12	0	HS	
8150	15.24	265.91	8148.51	-1.2	-16.75	12	0	HS	
8175	18.24	265.91	8172.45	-1.71	-23.93	12	0	HS	
8200	21.24	265.91	8195.97	-2.31	-32.35	12	0	HS	
8225	24.24	265.91	8219.03	-3	-41.99	12	0	HS	
8250	27.24	265.91	8241.54	-3.77	-52.82	12	360	HS	
8275	30.24	265.91	8263.46	-4.63	-64.81	12	360	HS	
8300	33.24	265.91	8284.72	-5.57	-77.92	12	360	HS	
8325	36.24	265.91	8305.26	-6.58	-92.13	12	360	HS	
8350	39.24	265.91	8325.03	-7.67	-107.39	12	360	HS	
8375	42.24	265.91	8343.97	-8.83	-123.67	12	0	HS	
8400	45.24	265.91	8362.03	-10.06	-140.9	12	360	HS	
8425	48.24	265.91	8379.16	-11.36	-159.06	12	360	HS	
8450	51.24	265.91	8395.32	-12.72	-178.09	12	0	HS	
8475	54.24	265.91	8410.45	-14.14	-197.93	12	0	HS	
8500	57.24	265.91	8424.52	-15.61	-218.54	12	0	HS	
8525	60.24	265.91	8437.49	-17.13	-239.86	12	0	HS	
8550	63.24	265.91	8449.33	-18.7	-261.82	12	360	HS	
8575	66.24	265.91	8460	-20.31	-284.37	12	0	HS	
8600	69.24	265.91	8469.47	-21.96	-307.44	12	0	HS	
8625	72.24	265.91	8477.71	-23.64	-330.98	12	0	HS	
8650	75.24	265.91	8484.71	-25.35	-354.92	12	360	HS	
8675	78.24	265.91	8490.44	-27.08	-379.19	12	360	HS	
8700	81.24	265.91	8494.9	-28.84	-403.72	12	360	HS	
8725	84.24	265.91	8498.06	-30.6	-428.45	12	0	HS	
8750	87.24	265.91	8499.91	-32.38	-453.32	12	360	HS	
8773.05	90.01	265.91	8500.47	-34.02	-476.31	0			BRUSHY CANYON TARGET
12927.31	90.01	265.91	8500	-330	-4620	0			LATERAL TD

Well will be drilled vertically to 8023'. At 8023' well will be kicked off at 12 degrees per 100' with a 7 7/8" hole to 12,927' MD (8,500' TVD) where 5 1/2" casing will be set and cemented. Penetration point of producing zone will be encountered at 364' FNL and 806' FEL, 17-21S-32E. Deepest TVD in the well is 8500' in the lateral.

3D³ Directional Drilling Planner - 3D View

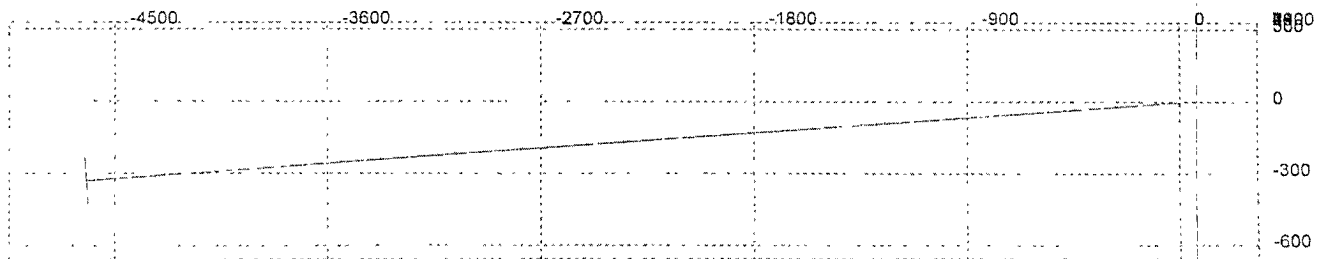
Company: Yates Petroleum Corporation

Well: Caper BFE Federal #6H



3D³ Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation
Well: Caper BFE Federal #6H



MULTI-POINT SURFACE USE AND OPERATIONS PLAN
YATES PETROLEUM CORPORATION
Caper "BFE" Federal #6H
330' FNL & 330' FEL, Surface
660' FNL & 330' FWL, Bottom Hole
Section 17-T21S-R32E
Lea County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

Exhibit A is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 38 miles northeast of Carlsbad, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

DIRECTIONS: From downtown Carlsbad, New Mexico at the light at the intersection of 285 & 62/180 turn east. Stay on 62/180 for about 29.5 miles to Campbell Road (C-29). Turn south and go about 5.7 miles to a cattle guard on the left. Turn east and follow the road for about a mile. Turn left at the "T" and go 0.5 of a mile and the road turns west. Go about 0.025 of a mile and turn north on lease road. Follow lease for about 0.5 miles and turn east for about 0.8 of a mile. The new road will start here and go south for about 0.125 of a mile. Turn east for about 200' to the SW corner of the proposed well pad.

2. PLANNED ACCESS ROAD:

- A. The proposed new access will be approximately 0.16 of a mile in length from the point of origin to the southwest corner of the drilling pad.
- B. The new road will be 14 feet in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The new road will be bladed with drainage on both sides. Two to three traffic turnouts may be needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

3. LOCATION OF EXISTING WELL:

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

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:

- A. There are production facilities on this lease at the present time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric line can be built, if needed.

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

6. SOURCE OF CONSTRUCTION MATERIALS:

The dirt contractor will be responsible for finding a source of material for construction of road and pad and will obtain any permits that may be required.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. This well will be drilled with a closed loop system
- B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
- C. Drilling fluids will be removed after drilling and completions are completed.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: NONE

9. WELLSITE LAYOUT:

- A. Exhibit C shows the relative location and dimensions of the well pad, the reserve pits, the location of the drilling equipment, pulling unit orientation and access road approach. Note: Pits to north.
- B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
- C. A 600' x 600' area has been staked and flagged.

10. PLANS FOR RESTORATION:

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible.
- B. Unguarded pits, if any, containing fluids will be fenced until they have dried and have been leveled.
- C. If the proposed well is plugged and abandoned, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible

Caper "BFE" Federal #6H
Page Three

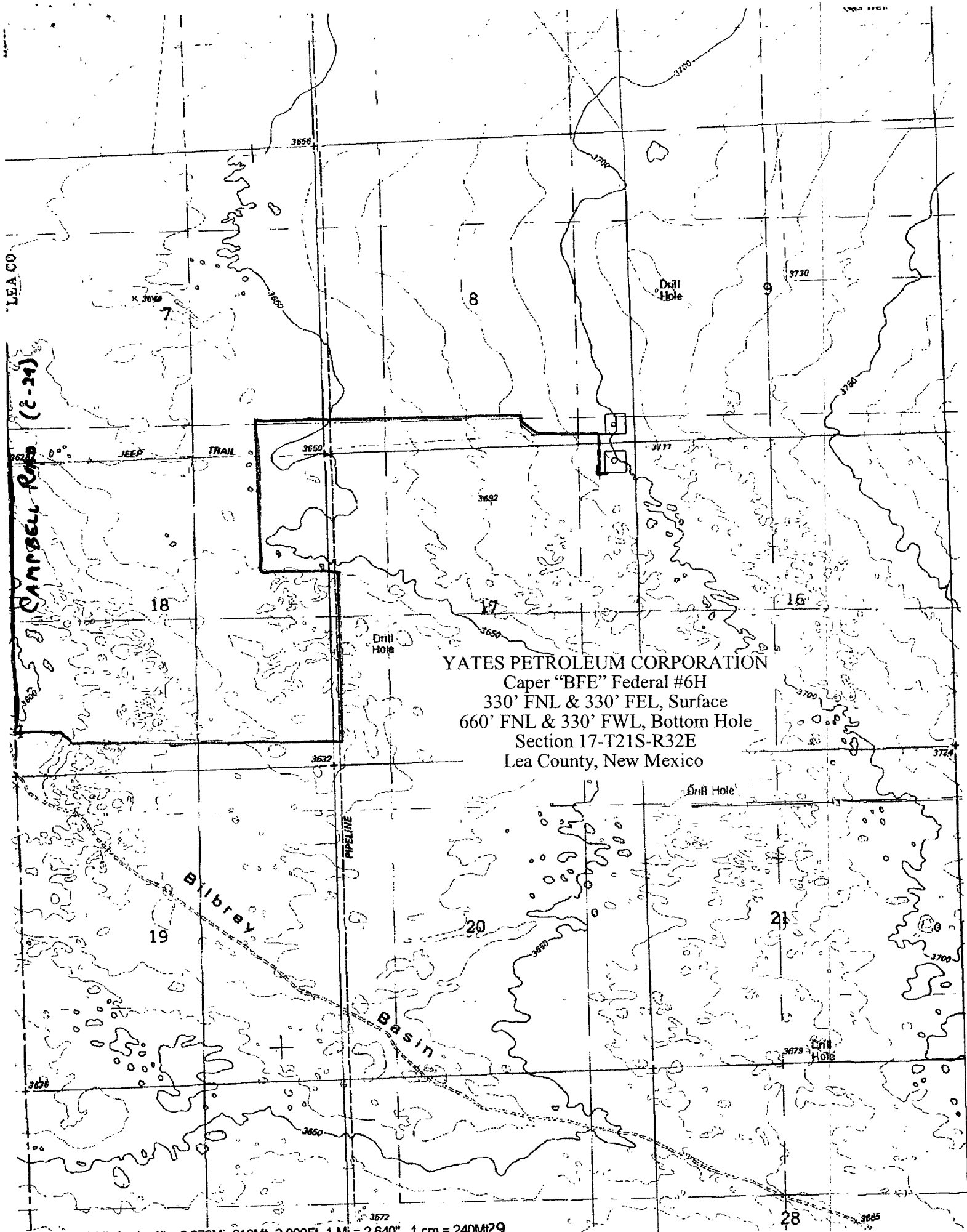
11. SURFACE OWNERSHIP:

Federal Lands under the supervision of the Carlsbad BLM. .

12. OTHER INFORMATION:

A. The primary use of the surface is for grazing.

B. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, and historical and cultural sites.



YATES PETROLEUM CORPORATION
Caper "BFE" Federal #6H
330' FNL & 330' FEL, Surface
660' FNL & 330' FWL, Bottom Hole
Section 17-T21S-R32E
Lea County, New Mexico

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Yates Petroleum Corporation
LEASE NO.:	NM-94095
WELL NAME & NO.:	Caper BFE Federal #6H
SURFACE HOLE FOOTAGE:	330' FNL & 330' FEL
BOTTOM HOLE FOOTAGE	660' FNL & 330' FWL
LOCATION:	Section 17, T. 21 S., R 32 E., NMPM
COUNTY:	Lea County, New Mexico

Name change subject to like approval by the State.

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Due to recent H2S encounters in the salt formation, it is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide prior to drilling out the surface shoe. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

R-111-P Potash

Possible lost circulation in the Delaware, Bone Springs, and Wolfcamp.

Possible abnormal pressure in the Wolfcamp and high pressure gas down through the Pennsylvanian section.

1. **The 13-3/8 inch surface casing shall be set at approximately 1225 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If the salt is encountered, set casing shoe 25 feet above the top of salt.**
 - 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. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.**
 - b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:
- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- a. First stage to DV tool, cement shall:
 - ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool, cement shall:
 - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.
4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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.
 - a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.
3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. Casing cut-off and BOP installation will not be initiated until the cement has had 4-6 hours of setup time in a water basin and 12 hours in the potash areas. This time will start after the cement plug is bumped. Testing the BOP/BOPE against a plug can commence after meeting the above conditions plus the BOP installation time.
 - b. The tests shall be done by an independent service company utilizing a test plug.
 - c. The results of the test shall be reported to the appropriate BLM office.
 - d. 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.**
 - e. 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.
 - f. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

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

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