

ATS-07-738
EA-07-1347



OCD-ARTESIA

Form 3160-3
(April 2004)

NOV 06 2007

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		6 If Indian, Allottee or Tribe Name	
1b. 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		7 If Unit or CA Agreement, Name and No	
2 Name of Operator BEPCO, L. P.		8 Lease Name and Well No. 1776 Big Eddy Unit #162	
3a Address P. O. Box 2760 Midland, TX 79702		9 API Well No. 30-015-36020	
3b Phone No. (include area code) 432-683-2277		10 Field and Pool, or Exploratory Golden Lane (Morrow) Field	
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface SWNE, UL G, 1980' FNL, 2080' FEL. Lat N32.495778, Lon W104.022056 At proposed prod zone Same		11 Sec, T R M or Blk and Survey or Area Sec 7, T21S, R29E	
14 Distance in miles and direction from nearest town or post office* 14 miles East of Carlsbad, NM		12 County or Parish Eddy	13 State NM
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig unit line, if any) 560'	16 No of acres in lease 1280	17 Spacing Unit dedicated to this well 320	
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft None	19 Proposed Depth 13,000'	20 BLM/BIA Bond No on file NM 2204	
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3379' GL	22 Approximate date work will start* 01/01/2008	23 Estimated duration 40	

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 officer |

25 Signature <i>Annette Childers</i>	Name (Printed/Typed) Annette Childers	Date 4-13-2007
Title Administrative Assistant		

Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date NOV 1 2007
Title FOR FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon
Conditions of approval, if any, are attached

APPROVAL FOR TWO YEARS

Title 18 USC Section 1001 and Title 43 USC 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 page 2)

Capitan Controlled Water Basin

NSL-Drill Only

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

Surface casing is to be set into the Rustler below all fresh water sands.

Production casing will be cemented using Halliburton Premium Plus with TOC 500' above upper-most pay zones. Drilling procedure, BOP diagram, anticipated tops and surface plans are attached.

This well is located outside the Secretary's Order for the Potash Area and outside the R-111 Potash area. There are no potash leases within 2 miles of the location.

BEPCO, L.P., at P. O. Box 2760, Midland, TX, 79702 is a subsidiary of BEPCO, L.P., 201 Mail Street, Ft. Worth, TX, 76102. Bond No. NM 2204 (Nationwide).

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 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 77560	Pool Name Golden Lane (Morrow) Field
Property Code 068284	Property Name BIG EDDY UNIT		Well Number 162
OGRID No. 001801	Operator Name BEPCO, L.P.		Elevation 3379'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	7	21 S	29 E		1980	NORTH	2080	EAST	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
Dedicated Acres 320	Joint or Infill N	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

LOT 1 30.29 ACRES			
LOT 2 30.41 ACRES	80.04 ACRES	159.97 ACRES	
LOT 3 30.50 ACRES			
LOT 4 30.40 ACRES	80.31 ACRES	160.30 ACRES	

LAT - N32°29'44.8"
LONG - W104°01'19.4"
(NAD-83)

3378.9', 3381.0', 3377.1', 3365.6', 1980', 2080'

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 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.

C. K. (Buddy) Jenkins 9-13-07
Signature Date

C. K. (Buddy) Jenkins
Printed Name

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.

OCTOBER 31, 2006

Date Surveyed L. Jones
Signature
Professional Surveyor
7977

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

**EIGHT POINT DRILLING PROGRAM
BEPCO, L.P.**

NAME OF WELL: BIG EDDY UNIT #162

Legal Description - Surface: 1980' FNL & 2080' FEL, Section 7, T21S, R29E, Eddy County, NM.

POINT 1: ESTIMATED FORMATION TOPS

(See No. 2 Below)

POINT 2: WATER, OIL, GAS AND/OR MINERAL BEARING FORMATIONS

Anticipated Formation Tops: KB 3404' (est)
GL 3379'

FORMATION	ESTIMATED SUBSEA TOP	ESTIMATED TOP FROM KB	BEARING
T/Rustler	+3,323	81	Barren
T/Salt	+2,923	481	Barren
T/Reef	+2,428	976	Barren
B/Reef	+510	2,894	Barren
T/1st Delaware Sand	+280	3,144	Barren
T/Old Indian Draw Sand	-550	3,954	Oil/Gas
T/Bone Spring Lime	-3,225	6,629	Oil/Gas
T/Wolfcamp	-6,480	9,884	Oil/Gas
T/Strawn	-7,400	10,804	Oil/Gas
T/Atoka	-8,005	11,409	Oil/Gas
T/Upper Morrow	-8,561	11,965	Oil/Gas
T/Middle Morrow	-8,870	12,274	Oil/Gas
T/Lower Morrow	-9,180	12,584	Oil/Gas
TD	-9,456	12,860	

POINT 3: CASING PROGRAM

TYPE	HOLE SIZE	INTERVALS	PURPOSE	CONDITION
30"	NA	0' - 80'	Conductor	Contractor Discretion
20", 94#, K-55, Butress	24"	0' - 470'	Surface	New
*13-3/8", 54.50#, K-55, STC	17-1/2"	0' - 970'	1 st Intermediate	New
9-5/8", 36#, J-55, LTC	12-1/4"	0' - 3,160'	2 nd Intermediate	New
5-1/2", 17#, HCP-110, LTC	8-3/4"	0' - 12,860'	Production Casing	New

CASING DESIGN SAFETY FACTORS:

TYPE	TENSION	COLLAPSE	BURST
20", 94#, H-40, Butress	13.15	2.36	3.32
13-3/8", 54.50#, J-55, ST&C	6.91	1.48	1.80
9-5/8", 36#, J-55, LT&C	3.98	1.33	1.11
5-1/2", 17#, HCP-110, LT&C	2.45	1.25	1.42

* Note: 13-3/8" casing is a contingency string. If no salt is encountered, the 17-1/2" hole will be reduced at 970' to 12-1/4" and drilling will continue to 9-5/8" casing setting depth.

DESIGN CRITERIA AND CASING LOADING ASSUMPTIONS:

SURFACE CASING

Tension	A 1.6 design factor utilizing the effects of buoyancy (9.2 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.48 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.3 design factor with a surface pressure equal to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Backup pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient. The effects of tension on burst will not be utilized.

PROTECTIVE CASING

Tension	A 1.6 design factor utilizing the effects of buoyancy (10 ppg).
Collapse	<p>A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.52 psi/ft). The effects of axial load on collapse will be considered.</p> <p>In the case of development drilling, collapse design should be analyzed using internal evacuation equal to 1/3 the proposed total depth of the well. This criterion will be used when there is absolutely no potential of the protective string being used as a production casing string.</p>
Burst	A 1.0 surface design factor and a 1.3 downhole design factor with a surface pressure equivalent to the fracture gradient at setting depth less a gas gradient to the surface. Internal burst force at the shoe will be fracture pressure at that depth. Back pressure will be formation pore pressure. In all cases a conservative fracture pressure will be used such that it represents the upper limit of potential fracture resistance up to a 1.0 psi/ft gradient.

PRODUCTION CASING

Tension	A 1.6 design factor utilizing the effects of buoyancy (10.2 ppg).
Collapse	A 1.0 design factor with full internal evacuation and a collapse force equal to the mud gradient in which the casing will be run (0.53 psi/ft). The effects of axial load on collapse will be considered.
Burst	A 1.25 design factor with anticipated maximum tubing pressure (5456 psig) on top of the maximum anticipated packer fluid gradient. Backup on production strings will be formation pore pressure (0.43 psi/ft). The effects of tension on burst will not be utilized.

POINT 4: PRESSURE CONTROL EQUIPMENT (SEE ATTACHED DIAGRAM)

A 20" annular diverter BOP will be nipped up on the surface casing. The diverter BOP will be tested to 1000 psi with the rig pump. See the attached Diagram #2.

A BOP equivalent to Diagram 1 will be nipped up on the intermediate casing. The BOP stack with 5" drill pipe rams, choke, kill lines, kelly cocks, inside BOP, etc. will be hydro-tested to 5,000 psi on the intermediate. The annular will be tested to 2500 psi. In addition to the rated working pressure test, a low pressure (250 psi) test will be required. These tests will be performed:

- a) Upon installation
- b) After any component changes
- c) Thirty (30) days after a previous test
- d) As required by well conditions

A function test to insure that the preventers are operating correctly will be performed on each trip. See the attached Diagram 1 for the minimum criteria for the choke manifold.

POINT 5: MUD PROGRAM

<u>DEPTH</u>	<u>MUD TYPE</u>	<u>WEIGHT</u>	<u>FV</u>	<u>PV</u>	<u>YP</u>	<u>FL</u>	<u>Ph</u>
0' – 470'	FW	8.6 – 9.0	55-60	NC	NC	NC	9.5 – 10.0
470' – 970'	BW	9.2 – 10.0	28 -29	NC	NC	NC	9.5 – 10.5
970' – 3,160'	FW	8.4 – 8.6	28 -29	NC	NC	NC	9.5 – 10.5
3,160' – 9,400'	FW	8.4 – 8.6	28-30	NC	NC	NC	9.5 – 10.5
9,400' – 10,500'	CBW	9.0 – 9.5	28-30	NC	NC	NC	9.6 – 10.0
10,500' – 11,500'	CBW/Polymer	9.5 – 11.2	34-38	6-10	8-12	<20	9.5 – 10.0
11,500' – TD'	CBW/Polymer	9.5 – 11.2	34-38	6-10	8-12	<10	9.5 – 10.0

POINT 6: TECHNICAL STAGES OF OPERATION

A) TESTING

Drill stem tests may be performed on significant shows in zones of interest, but none are planned at this time.

B) LOGGING

Run #1:

GR-CNL-LDT-LLD-CAL run from 12,860' to intermediate casing, GR-CNL to surface.

C) CORING

No cores are anticipated.

D) CEMENT

<u>INTERVAL</u>	<u>AMOUNT SX</u>	<u>FT OF FILL</u>	<u>TYPE</u>	<u>GALS/SX</u>	<u>PPG</u>	<u>FT³/SX</u>
SURFACE	(100% excess)					
Lead						
0' – 270'	430	270	Light Premium Plus + 2.7 lbm/sk Salt + 3.0 lbm/sk Pheno Seal	10 19	12.80	1.91
Tail						
270' – 470'	450	200	Premium Plus + 1% CaCl ₂ + 1.0 lbm/sk Pheno Seal	6.32	14.80	1.34
1 st INTERMEDIATE	(100% Excess)					
Lead						
0 – 770'	360	700	Interfill C	14 83	11.80	2.54
Tail						
770' – 970'	210	200	Premium Plus Cement + .1% CaCl ₂	6 34	14.80	1.34
2 nd INTERMEDIATE	(100% Excess)					
Lead						
0 – 2,660'	560	2660	Interfill C + 3 lbm/sk Pheno Seal	14.82	11.80	2.57
Tail						
2,660' – 3,160'	240	500	Premium Plus + 1% CaCl ₂	6 36	14.80	1.34
PRODUCTION	(50% Excess - Two stage w/DV tool @ 6,500' and circulate cement to 2,400')					
1 st Stage						
Lead						
6,500' – 10,600'	630	4100	Interfill H + 0.25 lbm/sk Flocele+5 lbm/sk Gilsonite + 0.5 % Halad®-9	13 63	11 90	2.47
Tail						
10,600' – 12,800'	500	2200	Super H + 0.5% Halad 344 + 0.4% CFR3 + 5 pps Gilsonite + 1 pps Salt + 0.2% HR7	8 23	13.00	1 67
2 nd Stage						
Lead						
2,600' – 6,500'	575	3900	Interfill H + .125 pps Pol-e-flake + 0.5% Halad 9	14 08	11.90	2 46
Tail						
5,500' – 6,500'	225	1000	Super H + 0.5% Halad 344 + 0.4% CFR3 + 5 pps Gilsonite + 1 pps Salt + 0.2% HR7	8.23	13.00	1 67

E) DIRECTIONAL DRILLING

No directional services anticipated. A straight hole will be drilled to 12,600' TD.

POINT 7: ANTICIPATED RESERVOIR CONDITIONS

Normal pressures are anticipated throughout the Delaware and Bone Spring. The Wolfcamp and Strawn sections will have pressures in the 5,000 – 6,000 psi range (10.0 - 10.5 ppg). Due to the tight nature of the Atoka reservoir rock (high pressure, low volume), the maximum BHP could be as high as 7,000 psi (12.0 ppg). The well will be drilled under balanced utilizing a rotating head. The Morrow will be normally pressured. The expected BHT at TD is 200°F. No H₂S is anticipated.

POINT 8: OTHER PERTINENT INFORMATION**A) Auxiliary Equipment**

Upper and lower kelly cocks. Full opening stab in valve on the rig floor.

B) Anticipated Starting Date

Upon approval

35 days drilling operations

20 days completion operations

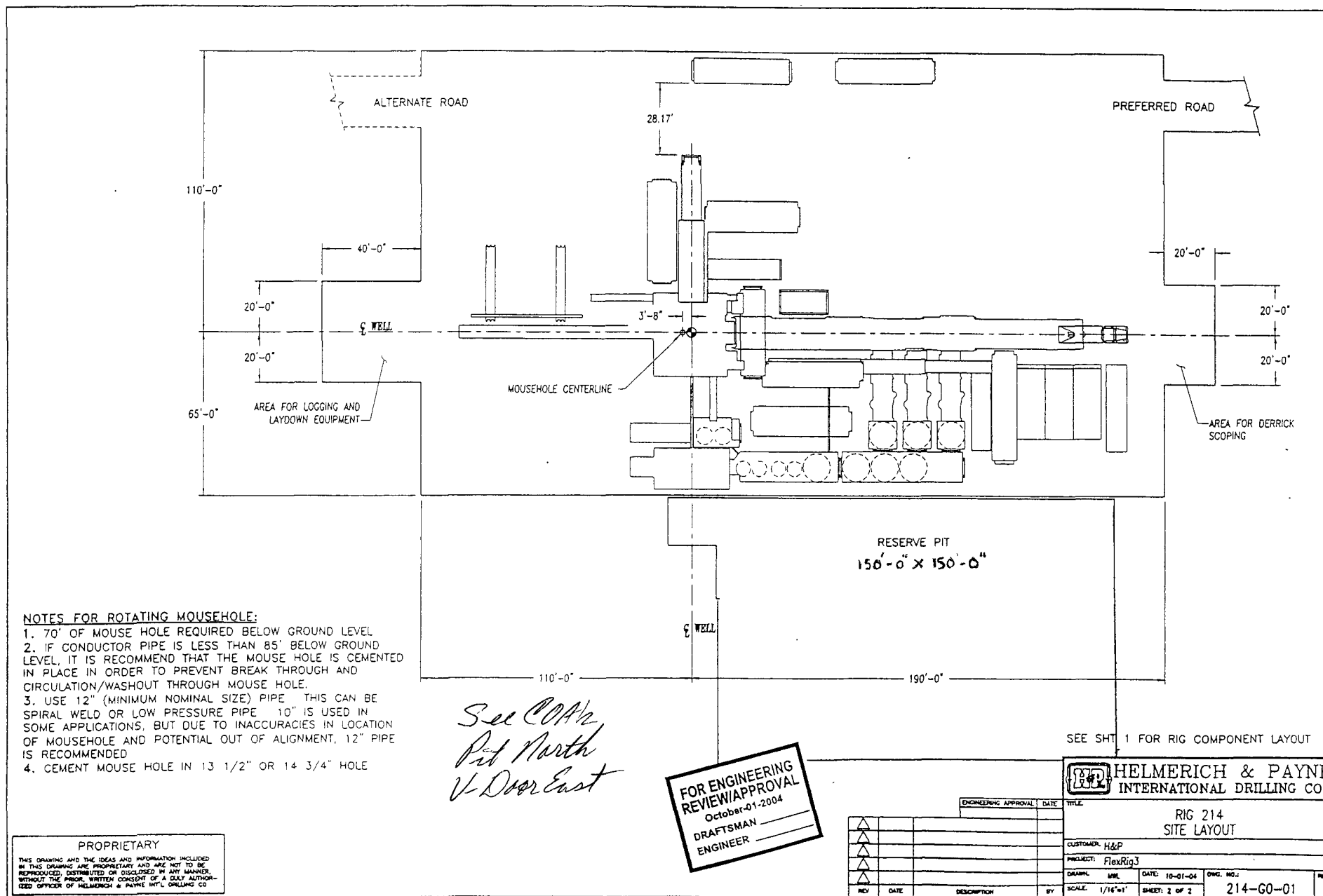


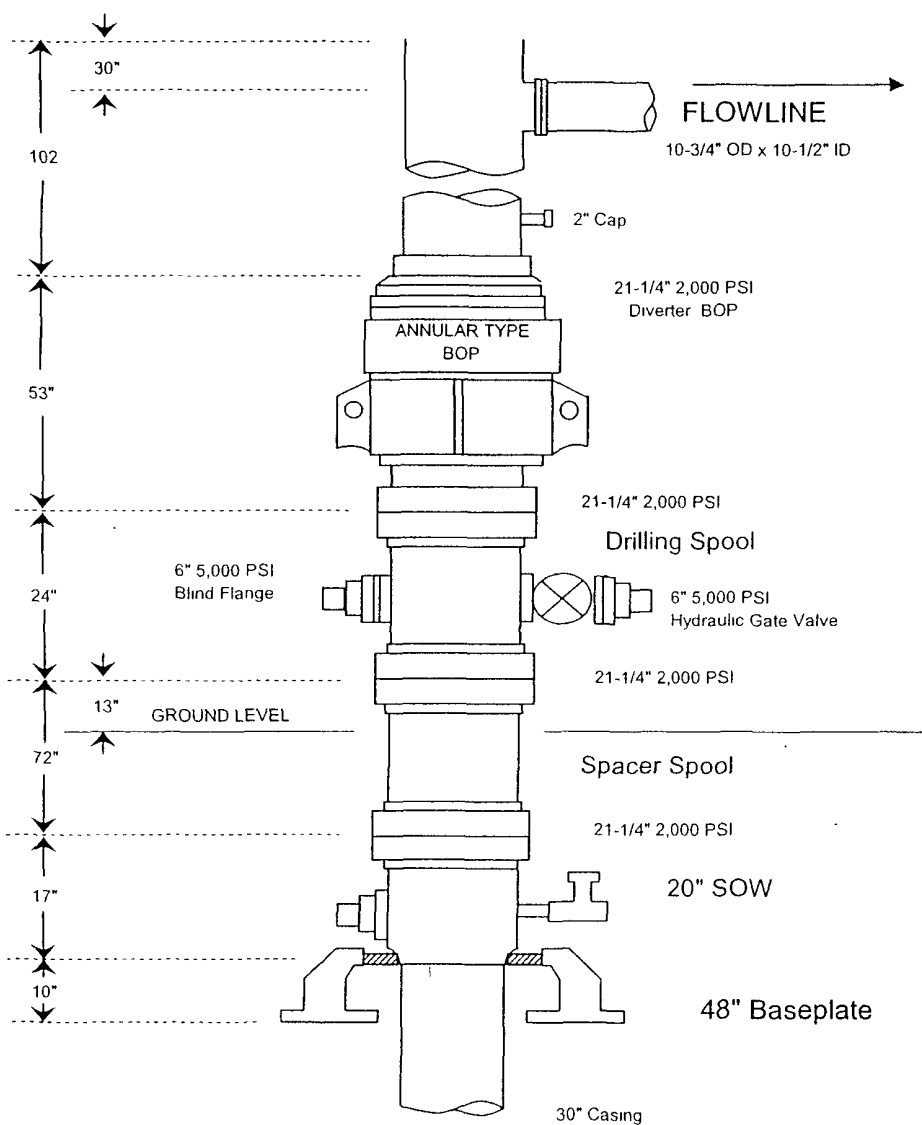
EXHIBIT "D"

5 M CHOKE MANIFOLD EQUIPMENT-CONFIGURATION MAY VARY



BEPCO, L. P

20" 2,000 PSI Diverter



Note: Actual lengths of casing heads may vary. Always measure items prior to installing in order to ensure proper spacing.

DIAGRAM 2

MULTI-POINT SURFACE USE PLAN

NAME OF WELL: BIG EDDY UNIT #162

LEGAL DESCRIPTION - SURFACE: 1980' FNL & 2080' FEL, Section 7, T21S, R29E, Eddy County, NM

POINT 1: EXISTING ROADS

A) Proposed Well Site Location

See Exhibit "A".

B) Existing Roads:

From the junction of State Highway 62-180 and State Hwy 31, proceed west 1.2 miles thence 2.4 miles south to lease road to Golden Federal B #1 and proposed lease road.

C) Existing Road Maintenance or Improve Plan:

See Exhibit "B"

POINT 2: NEW PLANNED ACCESS ROUTE

A) Route Location:

See Exhibit "B". The new road will be 12' wide and approximately 3482' long from existing lease road. The road will be constructed of watered and compacted caliche.

B) Width

12' Wide.

C) Maximum Grade

Not Applicable.

D) Turnouts

As required by BLM stipulations

E) Culverts, Cattle Guards, and Surfacing Equipment

None

POINT 3: LOCATION OF EXISTING WELLS

Exhibit "C" indicates existing wells within the surrounding area.

POINT 4: LOCATION OF EXSITING OR PROPOSED FACILITIES

A) Existing facilities within one mile owned or controlled by lessee/operator (Exhibit C).

Bass production facilities are located at the Bass Golden "8" Federal Battery – Sec 8, T21S, R29E

POINT 4: LOCATION OF EXSITING OR PROPOSED FACILITIES

B) New Facilities in the Event of Production:

New production facilities will be installed at the new location.

C) Rehabilitation of Disturbed Areas Unnecessary for Production:

Following the construction of production facilities, those access areas required for continued production will be graded to provide drainage and minimize erosion. The areas necessary for use will be graded to blend in the surrounding topography – See Point 10.

POINT 5: LOCATION AND TYPE OF WATER SUPPLY

A) Location and Type of Water Supply

Fresh water will be hauled from the City of Carlsbad. Brine water will be hauled from Champion Brine Water Station, 3.5 miles east and 2.5 miles south of Carlsbad.

B) Water Transportation System

Water hauling to the location will be over the existing and proposed roads.

POINT 6: SOURCE OF CONSTRUCTION MATERIALS

A) Materials

Onsite Caliche.

B) Land Ownership

Federally Owned.

C) Materials Foreign to the Site

No construction materials foreign to this area are anticipated for this drill site.

D) Access Roads

No additional access roads are required.

POINT 7: METHODS FOR HANDLING WASTE MATERIAL

A) Cuttings

Cuttings will be contained in the reserve pit.

B) Drilling Fluids

Drilling fluids will be contained in the reserve pit.

C) Produced Fluids

Water Production will be contained in the reserve pit.

Hydrocarbon fluid or other fluids that may be produced during testing will be retained in the test tanks. Prior to cleanup operations, any hydrocarbon material in the reserve pit will be removed by skimming or burning as the situation would dictate.

D) Sewage

Current laws and regulations pertaining to the disposal of human waste will be complied with.

E) Garbage

Portable containers will be utilized for garbage disposal during the drilling of this well.

F) Cleanup of Well Site

Upon release of the drilling rig, the surface of the drilling pad will be graded to accommodate a completion rig if testing indicates potential productive zones. In any case, the "mouse" hole and the "rat" hole will be covered. The reserve pit will be fenced and the fence maintained until the pit is backfilled. Reasonable cleanup will be performed prior to the final restoration of the site.

POINT 8: ANCILLARY FACILITIES

None Required.

POINT 9: WELL SITE LAYOUT

A) Rig Orientation and Layout

Exhibit "D" show the dimensions of the well pad and reserve pits and the location of major rig components. Only minor leveling of the well site will be required. No significant cuts or fills will be necessary.

B) Locations of Pits and Access Road

See Exhibits "B" and "D"

C) Lining of the Pits

The reserve pit will be lined with plastic.

POINT 10: PLANS FOR RESTORATION OF THE SERVICE

A) Reserve Pit Cleanup

A pit will be fenced at the time of rig release and shall be maintained until the pit is backfilled. Previous to backfill operations, any hydrocarbon material on the pit surface shall be removed. The fluids and solids contained in the pit shall be backfilled with soil excavated from the site and soil adjacent to the reserve pit. The restored surface of the pit shall be contoured to prevent impoundment of surface water flow. Water – bars will be constructed as needed to prevent excessive erosion. Topsoil, as available, shall be placed over the restored surface in a uniform layer. The area will be seeded according to the BLM stipulations during the appropriate season following restoration.

B) Restoration Plans – Production Developed

The reserve pit will be backfilled and restored as described above under Item A. In addition, those areas not required for production will be graded to blend with the surrounding topography. Topsoil, as available, will be placed upon those areas and seeded. The portion of the site required for production will be graded to minimize erosion and provide access during inclement conditions. Following depletion and abandonment of the site, restoration procedures will be those that follow under Item C.

C) Restoration Plans – No Production Developed

The reserve pit will be restored as described above. With no production developed, the entire surface disturbed by construction of the well site will be restored. The site will be contoured to blend with the surrounding topography and provide drainage of surface water. The topsoil, as available, shall be replaced in a uniform layer and seeded according to the BLM stipulations.

D) Rehabilitation Timetable

Upon completion of drilling operations, the initial cleanup of the site will be performed as soon as weather and site conditions allow economic execution of the work.

POINT 11: OTHER INFORMATION

A) Terrain

Relatively Flat

B) Soil

Caliche and sand.

C) Vegetation

Sparse, primarily grasses and mesquite with very little grass.

D) Surface Use

Primarily grazing.

E) Surface Water

There are no ponds, lakes, streams, or rivers within several miles of the wellsite.

F) Water Wells

There is one water wells within 1 mile west of location.

G) Residences and Buildings

None in the immediate vicinity.

H) Historical Sites

None observed.

I) Archeological Resources

An archeological survey will be obtained for this area. The survey area will be a 600' x 600' square with its center on the wellhead stake. Before any construction begins, a full and complete archeological survey will be submitted to the BLM. Any location or construction conflicts will be resolved before construction begins.

J) Surface Ownership

The well site and access road are both on federally owned land.

K) Well signs will be posted at the drilling site.

L) Open Pits

All pits containing liquid or mud will be fenced and bird-netted.

POINT 12: OPERATOR'S FIELD REPRESENTATIVE

(Field personnel responsible for compliance with development plan for surface use).

DRILLING

William R. Dannels
Box 2760
Midland, Texas 79702
(432) 683-2277

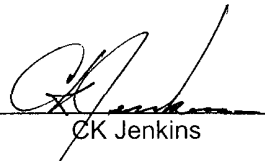
PRODUCTION

Mike Waygood
3104 East Green Street
Carlsbad, New Mexico 88220
(505) 887-7329

Mark Mladenka
Box 2760
Midland, Texas 79702
(432) 683-2277

9-13-07
Date

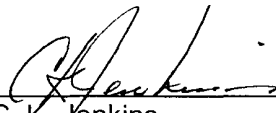
CKJ/cnt


CK Jenkins

OPERATOR 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 currently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by BEPCO, L.P. and it's 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.

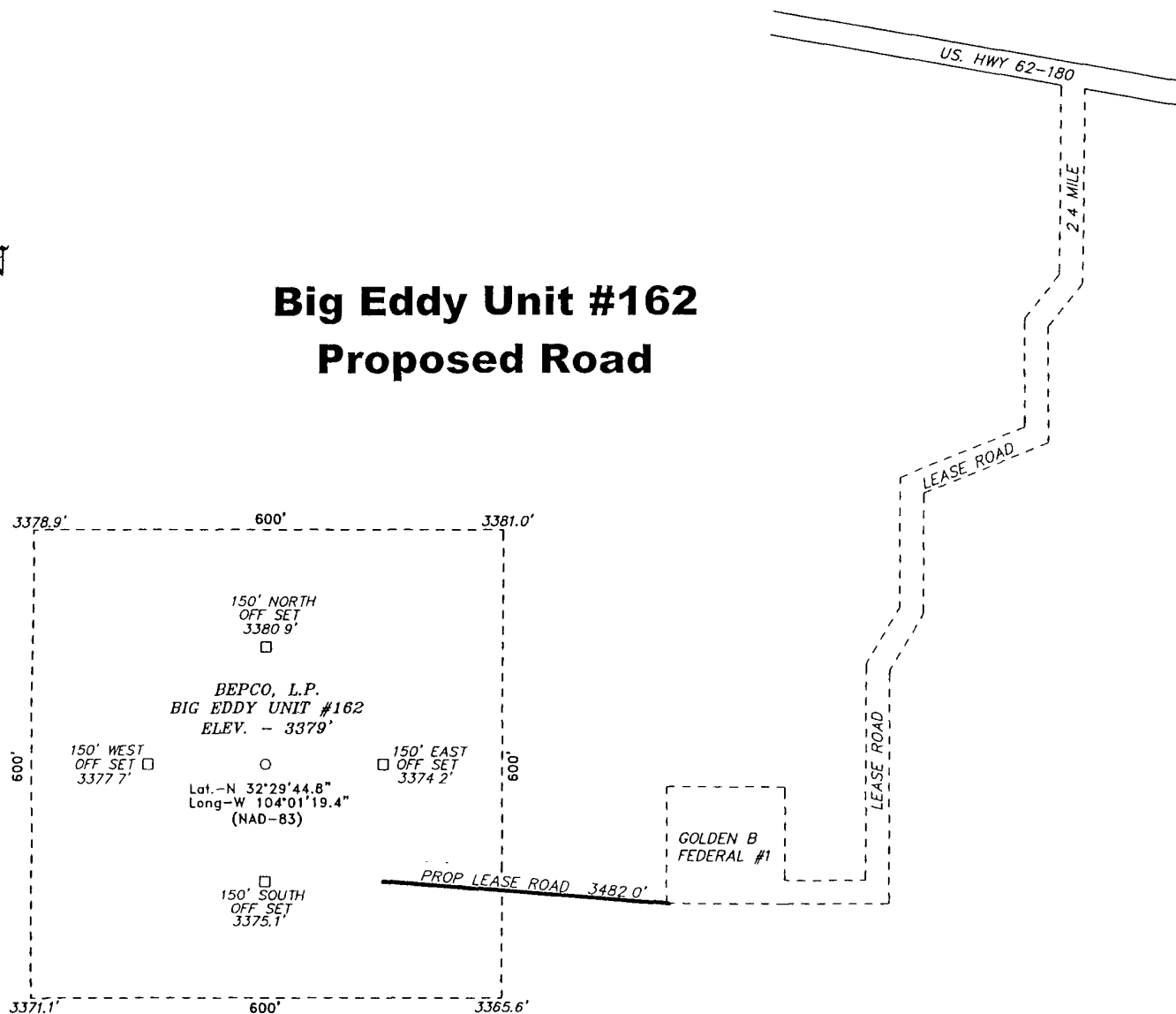
9-13-07
Date


C. K. Jenkins

SECTION 7, TOWNSHIP 21 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



**Big Eddy Unit #162
Proposed Road**



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF U.S. HWY 62-180 AND STATE
HWY 31, PROCEED EAST ON 62-180 FOR 1.2 MILE TO
LEASE ROAD, ON LEASE ROAD PROCEED SOUTH 2.4
MILE TO LEASE ROAD TO GOLDEN LANE B FEDERAL
#1 AND PROPOSED LEASE ROAD.

EXHIBIT "B"

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 2 hours in advance for a representative to witness:

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

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(505) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. If H₂S is encountered, please report measurements 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. When floor controls are required, (3M or Greater) controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The **20 inch** surface casing shall be set **in the Rustler Anhydrite and above the salt at approximately 470 feet** and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.

Medium cave/karst area.

Possible lost circulation in the Artesia Group, Delaware, and Bone Spring formations.

Possible high pressure gas from the Wolfcamp and the Pennsylvanian Section.

- 2. The minimum required fill of cement behind the 13-3/8 inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above.

This casing will be set if salt is encountered. Mud logger required to be on location during the drilling of this segment to determine if salt is encountered. Log to be supplied to BLM.

- 3. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above..

- 4. The minimum required fill of cement behind the 5-1/2 inch production casing is:

☒ Cement should tie-back at least 200 feet into previous casing string. **First stage to circulate.** Operator shall provide method of verification.

- 5. 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 **2000 (2M) psi**.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8" or 9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.
4. 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. A variance to test the surface casing and BOP/BOPE to the reduced pressure of **1000** psi with the rig pumps is approved.

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.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

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

WWI 100407

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Containment Structures

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

VRM Facility Requirement

B. PIPELINES

C. ELECTRIC LINES