OCD-ARTESIA

MAY 30 2007
OCD - ARTESIA, NM

Form 3160-3
(April 2004)

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

5. Lease Serial No.
**NM 103571**

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. 36527
**Hat Box 1921-15 Federal #1**

2. Name of Operator
**Parallel Petroleum Corporation** 230387

9. API Well No.
30-015-35639

3a. Address **1004 North Big Spring, Suite 400**
**Midland, Texas**

3b. Phone No. *(include area code)*
**432/684-3727**

10. Field and Pool, or Exploratory
Four mile Draw; Wolfcamp, SW

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **1880' FNL AND 250' FEL**
At proposed prod. zone **1880' FNL and 660' FWL**

Roswell Controlled Water Basin

11. Sec., T. R. M. or Blk. and Survey or Area
**15, T19S, R21E**

14. Distance in miles and direction from nearest town or post office*
**9 miles south of Hope, New Mexico**

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) | 16. No. of acres in lease | 17. Spacing Unit dedicated to this well |
|---|---|---|
| **660'** | **1,920.00** | **320** |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. | 19. Proposed Depth | 20. BLM/BIA Bond No. on file |
| **3000' south** | **5800'** | **NMB000265** |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | 22. Approximate date work will start* | 23. Estimated duration |
| **GL 4273'** | **07/01/2007** | **30 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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the authorized officer.

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| Deane Durham | **Deane Durham** | **04/24/2007** |

Title
**Engineer, Parallel Petroleum Corporation**

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| Steve Caffey | Steve Caffey | 5/29/07 |
| Title: Acting 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

e it a crime for any person knowingly and willfully to make to any department or agency of the United ions as to any matter within its jurisdiction.

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

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Frances 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

| API Number | Pool Code | Pool Name |
|---|---|---|
| | 97553 | Four Mile Draw; Wolfcamp, SW |

| Property Code | Property Name | Well Number |
|---|---|---|
| | HAT BOX 1921-15 FEDERAL | 1 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| | PARALLEL PETROLEUM CORPORATION | 4273' |

## Surface Location

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| H | 15 | 19 S | 21 E | | 1880 | NORTH | 250 | EAST | EDDY |

## Bottom Hole Location If Different From Surface

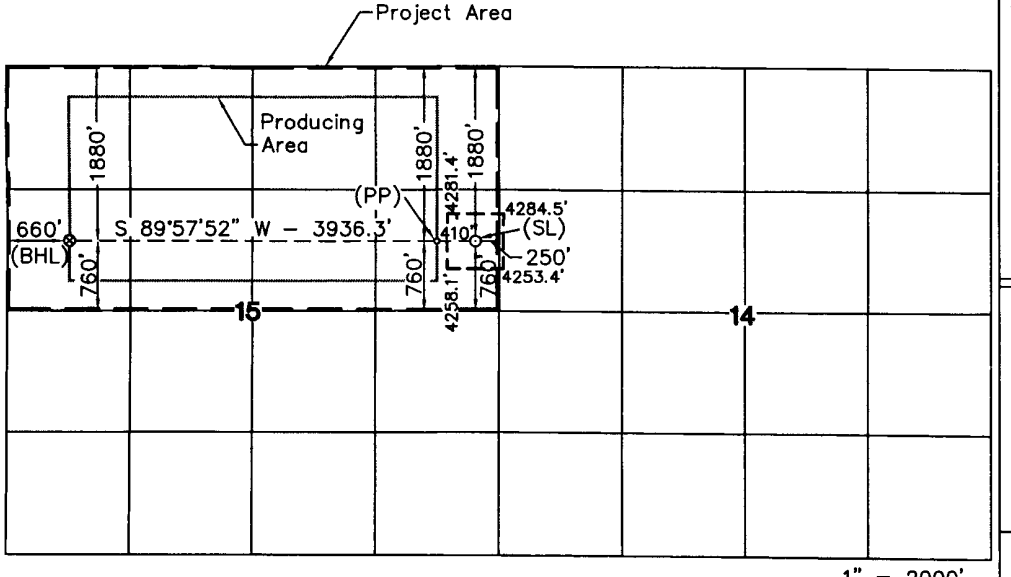
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| E | 15 | 19 S | 21 E | | 1880 | NORTH | 660 | WEST | EDDY |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|---|---|---|---|
| 320 | | | |

**NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION**

NOTE:

1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1927. Distances shown hereon are mean horizontal surface values.




Bottom Hole Location
Plane Coordinate
X = 360,118.0
Y = 604,987.7
Geodetic Coordinate
Lat. 32°39'44.60" N
Long. 104°47'16.33" W
(NAD '27)

Penetration Point
Plane Coordinate
X = 364,053.0
Y = 604,990.2
Geodetic Coordinate
Lat. 32°39'44.79" N
Long. 104°46'30.30" W
(NAD '27)

Surface Location
Plane Coordinate
X = 364,462.9
Y = 604,990.8
Geodetic Coordinate
Lat. 32°39'44.81" N
Long. 104°46'25.50" W
(NAD '27)

## OPERATOR CERTIFICATION

*I hereby certify the 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 interestin 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 4-24-07

Deane Durham
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 supervison and that the same is true and correct to the best of my belief.*

February 17, 2007
Date of Survey

KMT
Signature & Seal of Professional Surveyor

W.O. Num. 2007-0346-1

Certificate No. MACON McDONALD 12185

**ATTACHMENT TO FORM 3160-3**
**HAT BOX 1921-15 FEDERAL #1**
**Surface Hole Location**
**1880 FNL AND 250 FEL, SEC 15, 19S, 21E**
**Bottom Hole Location**
**1880 FNL AND 660 FWL, SEC 15, 19S, 21E**
**EDDY COUNTY, NEW MEXICO**

**DRILLING PROGRAM**

**This well is designed as a horizontal test in the Wolfcamp formation.**

1. GEOLOGIC NAME OF SURFACE FORMATION

San Andres

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

Glorieta 1650'(+2623')
Tubb 2660'(+1613')
Abo Shale 3300' (+973')
Abo Carbonate 3420' (+853')
Wolfcamp 4225' (+48')
Wolfcamp Shale 4415'(-142')

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL, OR GAS

Fresh water 790'
Oil and Gas Wolfcamp 4225' (+48')
No $H_2S$ gas should be encountered

4. CASING AND CEMENTING PROGRAM

| Casing Size | From To | Weight | Grade | Joint |
|---|---|---|---|---|
| 16" conductor | 0'-120' | | | |
| 8 5/8" | 0' – 1500' | 24# | J-55 | STC |
| 5 1/2" | 0' – TOTAL DEPTH | 17# | N-80 | LTC |

Equivalent or adequate grades and weights of casing may be substituted at time casing is run, depending on availability.

8-5/8" slurry: Lead: 225 sacks (50:50) Poz (Fly Ash): Class C + 5% bwow Sodium Chloride + 10% bwoc Bentonite + 151.7% fresh water. Tail: 235 sacks Class C + 1% bwoc Calcium Chloride + 56.3% fresh water

Note: If cement does not circulate to surface, notify BLM. A temperature survey will be required. Top out to surface with 1" pipe in the annulus.

Note: 5-1/2" Acid-soluble cement per completion procedure.

## Drilling Procedure

a. Set 16" conductor pipe as deep as possible up to 120' with a rathole unit.
b. Drill 11" surface hole to an approximate depth of 1500', using fresh water and viscous sweeps for hole cleaning. Set 8 5/8", 24# J-55 casing with 460 sx, Class C cement (lead will be 50/50 Poz, circulate to surface, 1" if necessary).
c. Set slips on 8 5/8" CSG. Cut 8 5/8" CSG and NU & test BOP.
d. Drill 7 7/8" production hole to 4600', using cut brine to an approximate depth of 3200' and a polymer mud system to TD.
e. Run open-hole logs
f. Set CMT kick-off plug.
g. Dress CMT to kick off point at approximately 3712', oriented at 270 degree (grid) azimuth.
h. Build angle at 11.2 degrees per 100' to 90 degrees and hold.
i. Drill 7 7/8" horizontal drain hole to a terminus of 660' FWL.
j. Run 5 ½" 17# N-80 CSG to TD. Cement with 750 sx Class C acid soluble
k. Circulate to surface or run temperature survey to verify tie in to surface casing.
l. Rig Down Rotary Tools

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

The BOP stack will consist of a 3,000 psi working pressure, dual ram type preventer and annular.

A BOP sketch is attached.

6. TYPES AND CHARACTERS OF THE PROPOSED MUD SYSTEM

a. Spud and drill to 1,500' with 8.3 ppg Fresh Water system and viscous sweeps for hole cleaning.
c. The production section from 1,500' to 3,200' will utilize a cut brine mud system from 8.8 to 9.2 ppg.
d. The remaining production section from 3,200' to TD will be a polymer mud system with mud weight (8.8 to 9.6) sufficient to control formation pressure anticipated to be approximately 1,900 psi.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

None required.

8. LOGGING, TESTING, AND CORING PROGRAM

Mud logs as well as CNL/LDT/CAL/GR logging is planned. Drill stem tests, cores and sidewall cores are possible.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES & POTENTIAL HAZARDS

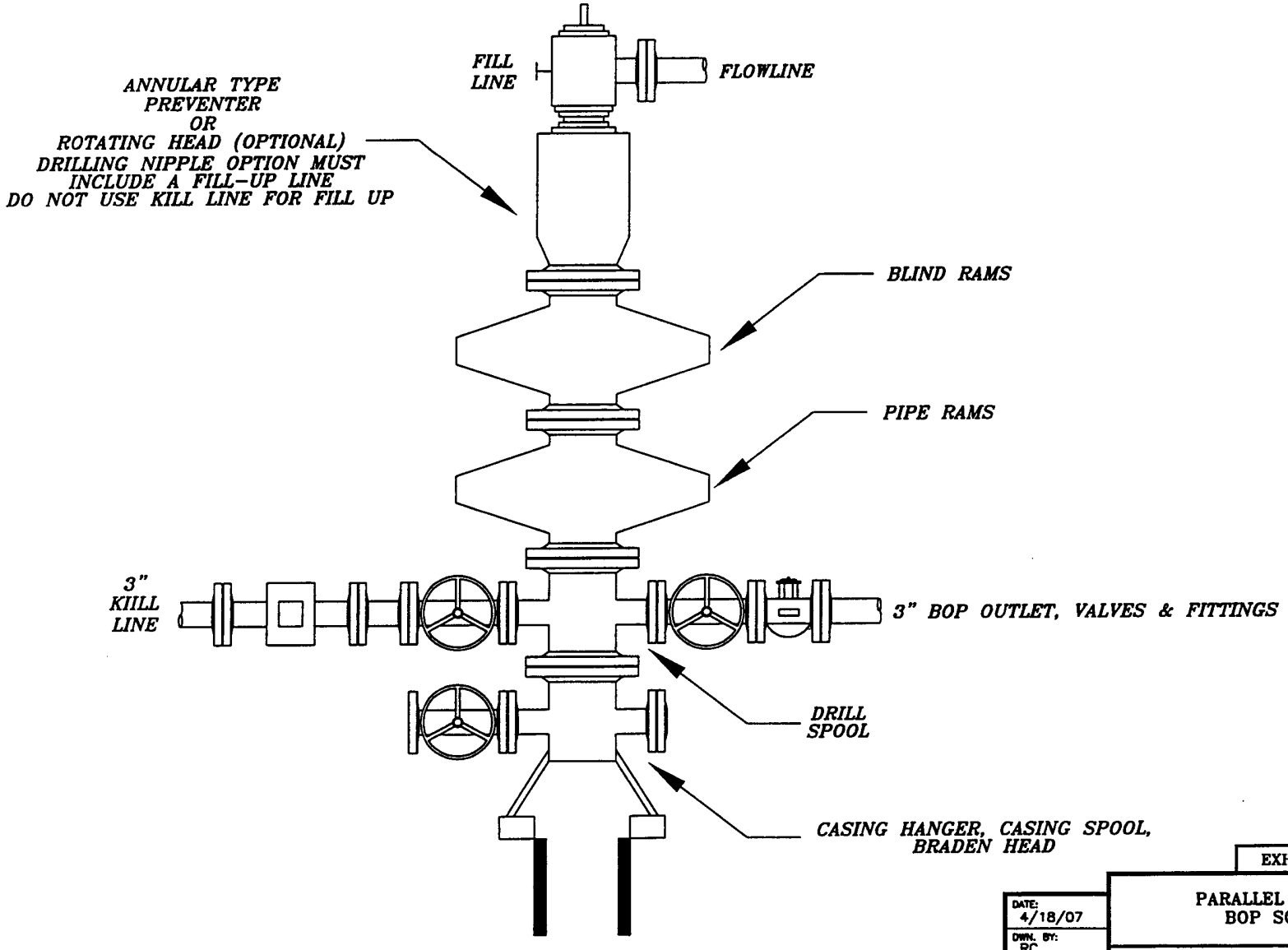
None anticipated.

BHP expected to be 1,900 psi.

10. ANTICIPATED STARTING DATE:

It is planned that operations will commence around third quarter of 2007 with drilling and completion operation lasting about 35 days.

# MINIMUM BOP SCHEMATIC
# 3M SERVICE MINIMUM

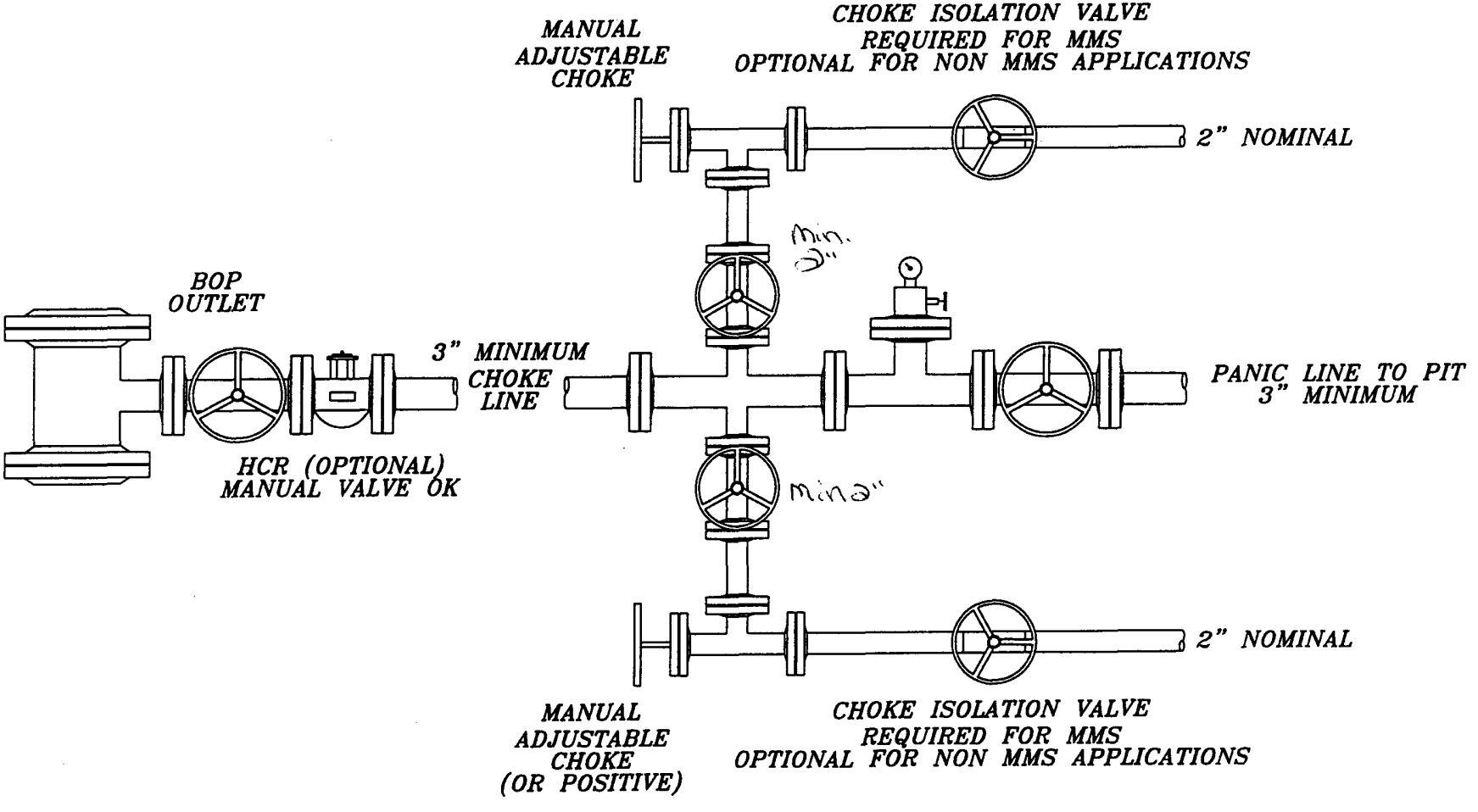



NOT TO SCALE

EXHIBIT I

| | |
|---|---|
| DATE: 4/18/07 | PARALLEL PETROLEUM BOP SCHEMATIC |
| DWN. BY: RC | |
| FILE: C:\PARALLEL\2429\BOP SCHEMATIC | HIGHLANDER ENVIRONMENTAL CORP. MIDLAND, TEXAS |

# CHOKE MANIFOLD
## 3M SERVICE MINIMUM




NOT TO SCALE

EXHIBIT J

| | |
|---|---|
| DATE: 4/18/07 | PARALLEL PETROLEUM CHOKE MANIFOLD |
| DWN. BY: RC | HIGHLANDER ENVIRONMENTAL CORP. MIDLAND, TEXAS |
| FILE: C:\PARALLEL\2429\ CHOKE MANIFOLD | |

Complete H2S Plan in CFO Copy


# PARALLEL
Petroleum Corporation
1004 North Big Spring, Suite 400 • Midland, TX 79701 • Ph: 432-684-3727 • Fax: 432-685-6580


June 12, 2006

Mr. Bryan Arrant
New Mexico Oil Conservation Division
1301 W. Grand Ave.
Artesia, New Mexico 88210

Re: Hydrogen Sulfide Potential
South Hope Area Wolfcamp Program
SW Chaves and Eddy Counties, New Mexico

Dear Mr. Arrant:

Parallel Petroleum Corporation operates the Boxtop 1921-1 Federal #1 well located in Section 1, T-19-S, R-21-E. The well which was tested in the Wolfcamp formation did not have any indications of hydrogen sulfide from this formation. We believe the potential for it on locations in this area are negligible. There are no occupied dwellings in the area of these new drilling locations.

Should you need any additional information regarding this issue, please contact me at the address or phone number listed or email at ddurham@plll.com .

Sincerely,

A. Deane Durham
Senior Engineer

# PARALLEL PETROLEUM CORPORATION

## SURVEY CALCULATION PROGRAM

| | | | |
|---|---|---|---|
| OPERATOR: | Parallel Petroleum Corporation | Supervisors: | |
| WELL: | Hat Box 1921-15 Federal #1 | | |
| LOCATION: | N/2 Sec. 15 T-19-S R-21-E | | |
| | | | |
| COMMENTS: | | | |
| | | MAG DEC.(-/+) | |
| | | GRID CORR.(-/+) | |
| | | TOTAL CORR.(-/+) | 0.0 |
| DATE: 04/02/07 | TIME: 4:05 PM | TRUE TO GRID | |

MINIMUM CURVATURE CALCULATIONS(SPE-3362) PROPOSED DIRECTION 270.0

| SVY NUM | MD | INC | GRID AZM | TVD | VERT SECT | N-S | E-W | DLS/ 100 | TARGET TRACKING TO CENTER ABOVE(+) BELOW(-) | RIGHT(+) LEFT(-) |
|---|---|---|---|---|---|---|---|---|---|---|
| TIE | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | | |
| 1 | 3712 | 0.0 | 0.0 | 3712.0 | 0.0 | 0.0 | 0.0 | 0.0 | 513.0 | 0.0 |
| 2 | 3722 | 1.1 | 270.0 | 3722.0 | 0.1 | 0.0 | -0.1 | 11.2 | 503.0 | 0.0 |
| 3 | 3732 | 2.2 | 270.0 | 3732.0 | 0.4 | 0.0 | -0.4 | 11.2 | 493.0 | 0.0 |
| 4 | 4518 | 90.0 | 270.0 | 4225.0 | 513.0 | 0.0 | -513.0 | 11.2 | 0.0 | 0.0 |
| 5 | 8460 | 90.0 | 270.0 | 4225.0 | 4455.0 | 0.0 | -4455.0 | 0.0 | 0.0 | 0.0 |

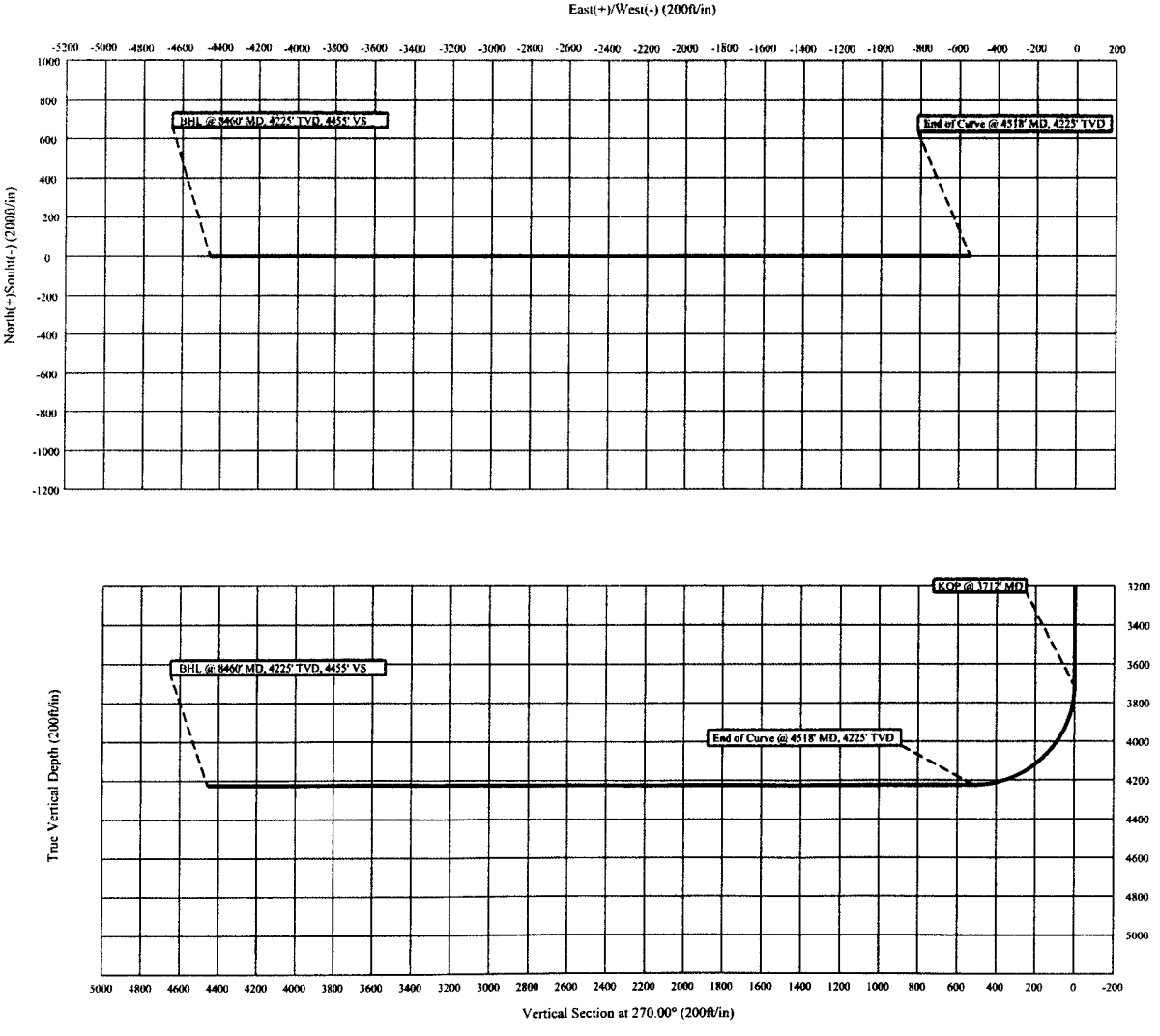
KOP @ 3712' MD
BUR = 11.2 DEG per 100 FT
End Curve @ 4518' MD, 4225' TVD
BHL @ 8460' MD, 4225' TVD, 4455' VS

# Parallel Petroleum Corp.

**Hat Box 1921-15 Federal #1**
**N/2 Sec. 15, T-19-S, R-21-E**
**Eddy County, New Mexico**

**COMPANY DETAILS**

**Parallel Petroleum Corp.**
**1004 N. Big Spring, Ste 400**
**Midland, Texas 79701**



**SURFACE AND OPERATIONS PLAN FOR**
**DRILLING, COMPLETION, AND PRODUCING**

**PARALLEL PETROLEUM CORPORATION**
**HAT BOX 1921-15 FEDERAL #1**
**SHL: 1880' FNL AND 250' FEL, SEC 15, T19S, R21E**
**BHL: 1880' FNL AND 660' FWL, SEC 15, T19S, R21E**
**EDDY COUNTY, NEW MEXICO**

LOCATED:

12 miles South of Hope, New Mexico

OIL & GAS LEASE:

NM NM 103571

RECORD LESSEE:

Echo Production, Inc.
P.O. Box 1210
Graham, Texas 76450

BOND COVERAGE:

$25,000 statewide bond # NMB000265 of Parallel Petroleum Corporation

ACRES IN LEASE:

1,920.00

SURFACE OWNER:

Federal

SURFACE TENANT:

Barbra Runyon Ranch
P.O. Box 2468
Roswell, NM 88202
Jim Bob Burnet, Ranch Manager, 505-484-3141

POOL:

Primary Objective - Wolfcamp (Gas)

EXHIBITS:

A. Area Road Map
B. Drilling Rig Layout
C. Pad Elevation Plat
D. Vicinity Map
E. Area Production Map
F. Topographic & Location Verification Map
G. Well Location & Acreage Dedication Map (NMOCD Form C-102)
H. NMOCD Form C-144, Pit Registration (Original forwarded to NMOCD)
I. Blow Out Preventer (BOP) Schematic
J. Choke Manifold Schematic
K. Estimated Horizontal Survey Calculation Program
L. Estimated Wellbore Plot

1. EXISTING ROADS

A. Exhibits A and D are area road maps showing existing roads in the vicinity of the site.

B. Exhibit F is a topographic map of the location showing existing roads and the proposed new access road.

2. ACCESS ROADS

A. Length and Width
The access road will be built as shown on Exhibit D. The location is located 150' east of County Road 12. A 75' wide turn out will be constructed at the entrance and the new access road and the road will be 16' to 24' wide.

B. Surface Material
Caliche from a commercial source.

C. Maximum Grade
Less than five percent.

D. Turnouts
One turnout will be constructed on the access road.

E. Drainage Design
No low water crossings will be required for the construction of this access road.

F. Culverts
It is not anticipated that any culverts will be needed on the access road at this time. If any drainage areas are crossed a culvert will be used so water is not backed up by the road bed.

G. Gates and Cattle Guards
No new gates or cattle guards will be required for this location.

3. LOCATION OF EXISTING WELLS

Existing wells in the immediate area are shown in Exhibit "E".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

Necessary production facilities for this well will be located on the well pad.

5. LOCATION AND TYPE OF WATER SUPPLY

A well located east of the well site that is operated by the Runyon Ranch may be available or water may be trucked in from a commercial source. A poly flow line will be used to deliver the water to the site if the Runyon well is utilized.

6. METHODS OF HANDLING WASTE DISPOSAL

A. Drilling fluids will be allowed to dry in the drilling pits until the pits are closed.

B. Water produced during tests will be disposed of in the drilling pits.

C. Oil produced during tests will be stored in test tanks.

D. Trash will be contained in a trash trailer and removed from well site.

E. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

F. The reserve pit will be closed as per BLM and NMOCD regulations and guidelines. This will include leaving the drill cuttings in place in the pit, allowing them to dry, and covering the pit with at least 3' of backfill while not disturbing the pit liner.

7. ANCILLARY FACILITIES

None required.

8. WELL SITE LAYOUT

Exhibit B shows the relative location and dimensions of the well pad, mud pits, reserve pit, and the location of major rig components.

9. PLANS FOR RESTORATION OF THE SURFACE

A. After completion of drilling and/or completion operations, all equipment and other material not needed for operations will be removed. The well site will be cleaned of all trash and junk to leave the site in as aesthetically pleasing condition as possible.

B. After abandonment, all equipment, trash, and junk will be removed and the site will be clean.

10. OTHER INFORMATION

A. Topography
The location is located on ridge with a southwest slope above the north side of Gardner Draw, in a broad, open, relatively flat plain, with southwest exposure and drainages to Gardner Draw.

B. Soil
Soils are tan/grey loamy sandy silts, overlying limestone substrata.

C. Flora and Fauna
Area vegetation consists of broom snakeweed, grasses, creosote, gyp coldenia, catclaw, prickly pear, yucca, cholla, sumac and various other forbs.

D. Ponds and Streams
Gardner Draw, an intermittent stream which flows west to east, is located 1200' south of the site. All drainage from this site will go south toward the draw. There are no other rivers, lakes, ponds, or streams in the area.

E. Residences and Other Structures
The Runyon Ranch Headquarters is located 4 mile northeast of the project site.

F. Archaeological, Historical, and Cultural Sites

The archaeological report will be submitted direct to the BLM by:
Southern New Mexico Archaeological Services, Inc.,
P.O. Box 1
Bent, New Mexico 88314 Phone 505-67-4797

G. Land Use
Grazing

H. Surface Ownership
Federal

11. OPERATOR'S REPRESENTATIVE

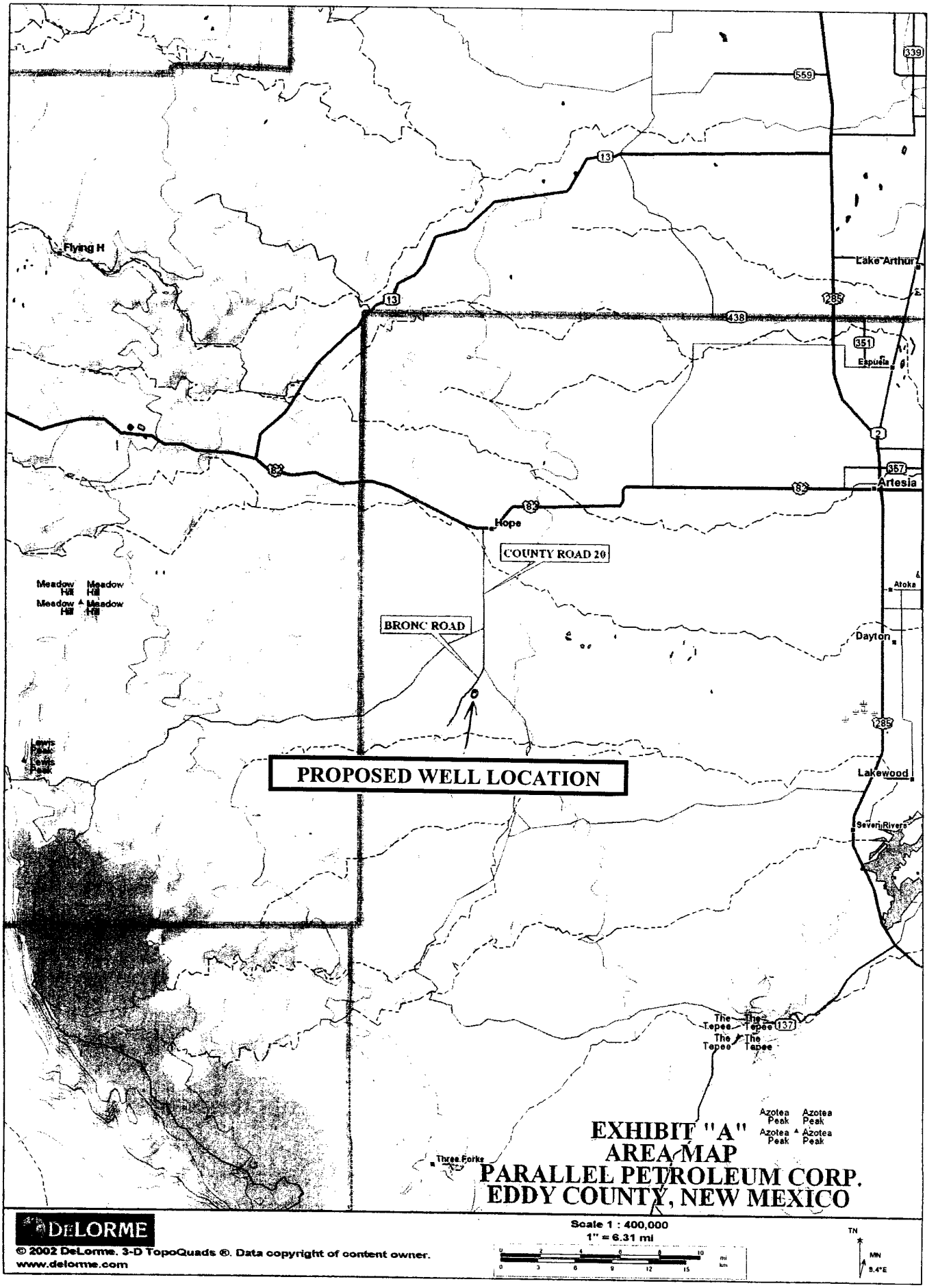
Deane Durham, Engineer
Parallel Petroleum Corporation
1004 North Big Spring Street, Suite 400
Midland, Texas 79701
Office: (432) 684-3727

12. 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 Parallel Petroleum Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

4-24-07
Date

Name: Deane Durham
Title: Engineer




# EXHIBIT "A"
# AREA MAP
# PARALLEL PETROLEUM CORP.
# EDDY COUNTY, NEW MEXICO

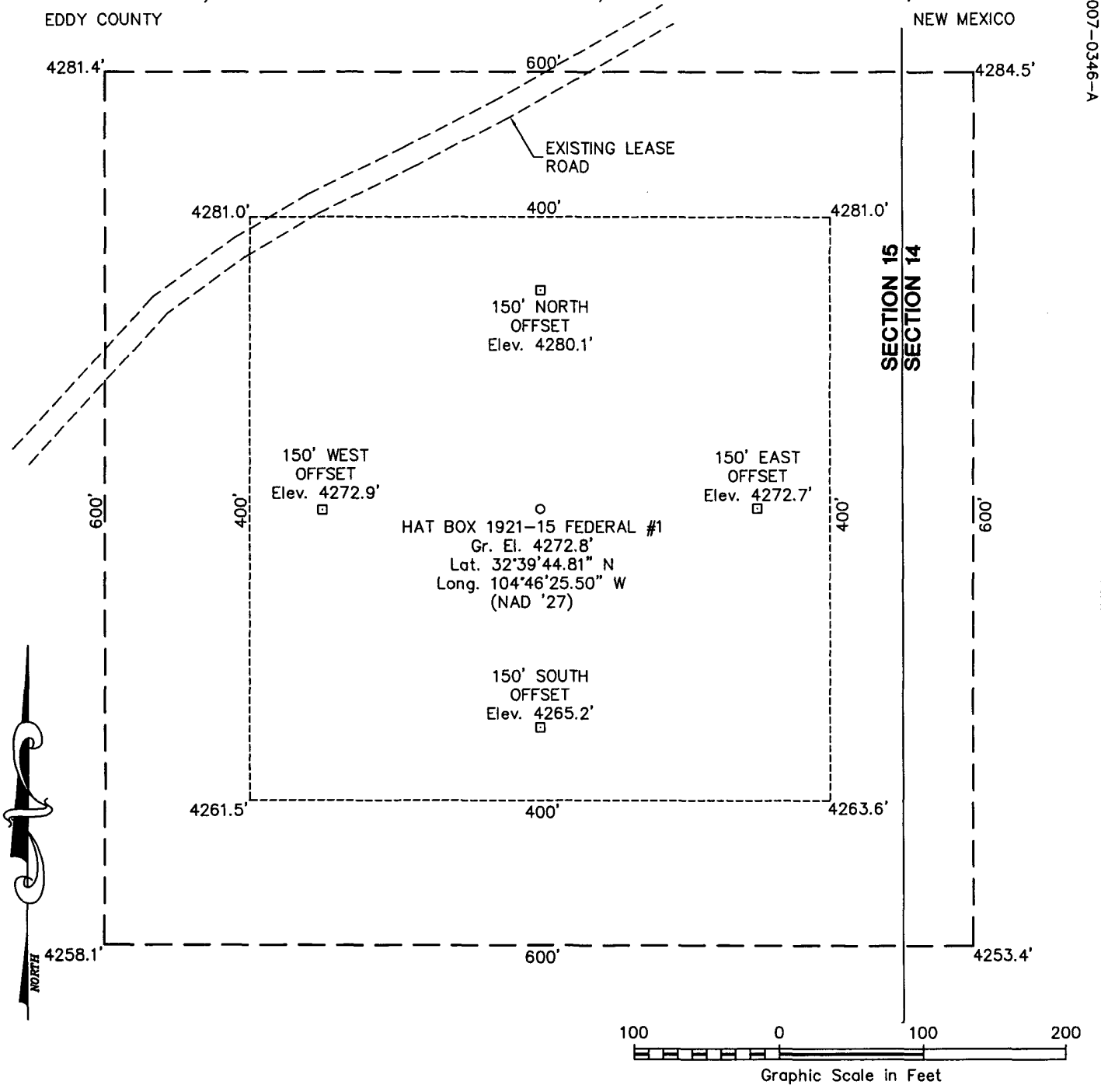


Scale 1 : 400,000
1" = 6.31 mi

TN
MN
9.4°E

# SECTION 15, TOWNSHIP 19 SOUTH, RANGE 21 EAST, N.M.P.M.

L-2007-0346-A




DRIVING DIRECTIONS

FROM THE INTERSECTION OF U.S. HIGHWAY 82 AND STATE HIGHWAY 449 IN HOPE, NM GO SOUTH ON SAID STATE HIGHWAY 449 2.2 MILES TO THE END OF SAID STATE HIGHWAY 449 AND THE BEGINNING OF COUNTY ROAD 12, THEN CONTINUE SOUTH ANOTHER 4.8 MILES (6.9 TOTAL) TO A FORK IN THE ROAD, THE INTERSECTION OF SAID COUNTY ROAD 12 AND A LEASE ROAD HEADING SOUTHWEST (RIGHT FORK), THEN GO SOUTHWEST ALONG SAID LEASE ROAD 3.9 MILES TO THE PROPOSED LOCATION.

## PARALLEL PETROLEUM CORPORATION

## HAT BOX 1921-15 FEDERAL #1

**Located 1880' FNL & 250' FEL, Section 15**
**Township 19 South, Range 21 East, N.M.P.M.**
**Eddy County, New Mexico**

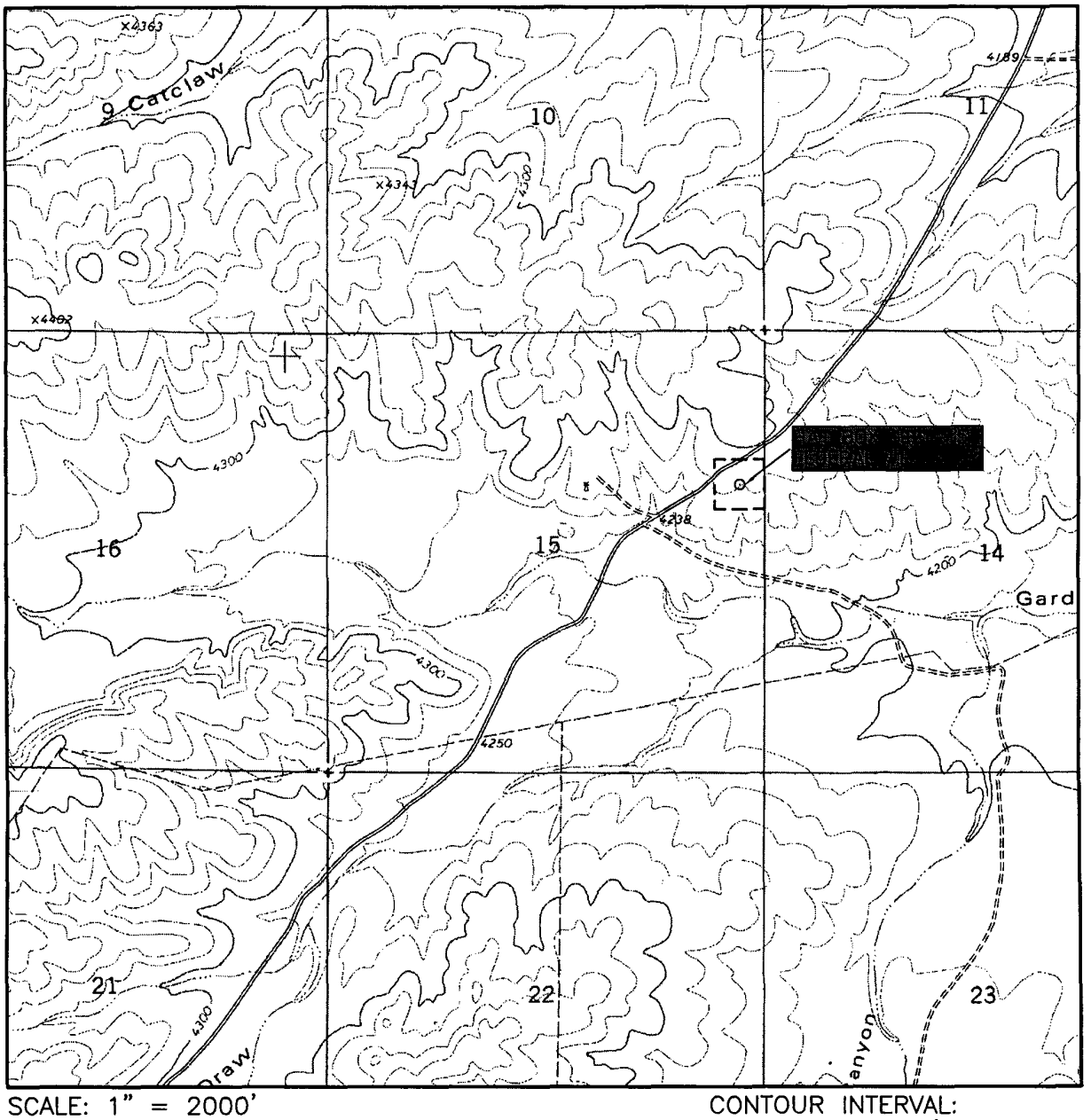
| | |
|---|---|
| Drawn By: KMT | Date: March 22. 2007 |
| Scale: 1"=100' | Field Book: 354 / 46-54, 74-75 |
| Revision Date: 4-20-2007 | Quadrangle: Holt Tank |
| W.O. No: 2007-0346-1 | Dwg. No.: L-2007-0346-A |


WEST COMPANY of Midland, Inc.

110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 - (432) 687-0868 FAX


EXHIBIT C

# LOCATION VERIFICATION MAP




SCALE: 1" = 2000'

CONTOUR INTERVAL:
HOLT TANK – 20'

SEC. 15 TWP. 19–S RGE. 21–E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1880' FNL & 250' FEL

ELEVATION 4273'

OPERATOR PARALLEL PETROLEUM CORPORATION

LEASE HAT BOX 1921–15 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
HOLT TANK

NORTH

EXHIBIT F

WEST COMPANY of Midland, Inc.
110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687–0865 – (432) 687–0868 FAX

## CONDITIONS OF APPROVAL - DRILLING

| | |
|---|---|
| **Operator's Name:** | **Parallel Petroleum Corporation** |
| **Well Name & No.** | **1-Hat Box 1921-15 Federal** |
| **Location SHL:** | **1880 FNL, 0250 FEL, Sec 15, T-19-S, R-21-E, Eddy County, NM** |
| **Location BHL:** | **1880 FNL, 0660 FWL, Sec 15, T-19-S, R-21-E, Eddy County, NM** |
| **Lease:** | **NMNM-103571** |

### I. DRILLING OPERATIONS REQUIREMENTS:

**A.** The Bureau of Land Management (BLM) is to be notified a minimum of 4 hours in advance for a representative to witness:

1. Spudding well
2. Setting and/or Cementing of all casing strings
3. BOPE tests

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

**B. Although there is no measured Hydrogen Sulfide in this section, minor amounts have been measured in section 7 at less than 10 ppm in STVs.**

**C.** 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.

### II. CASING: If equivalent or adequate grades and weights of casing are substituted, they must meet API specs.

**A.** The **8-5/8** inch surface casing shall be set at **1500** **feet** and cemented to the surface.

1. 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.
2. Wait on cement (WOC) time for a primary cement job will be a minimum of 12 hours for a non-water basin, 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement)
3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compression strength, whichever is greater.
4. If cement falls back, remedial action will be done prior to drilling out that string.

**Possible lost circulation in the San Andres, Glorieta, and Wolfcamp formations.**
**Possible high pressure gas kicks in the Wolfcamp formations.**

**B.** The minimum required fill of cement behind the **5-1/2** inch production casing is **cement is to extend a minimum of 200 feet inside of the surface casing.**

C. 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.

## III. PRESSURE CONTROL:

A. 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.

B. 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.

C. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
   1. The tests shall be done by an independent service company.
   2. The results of the test shall be reported to the appropriate BLM office.
   3. 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.
   4. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi in accordance with API RP 53. 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.
   5. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

## 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.

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**

**WWI 042707**