ATS-08-176

OCD-ARTESIA

Form 3160-3
(April 2004)

280

JAN 31 2008
OCD-ARTESIA

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NM-108954

6. If Indian, Allotee or Tribe Name ----------

1a. Type of work: [XX] DRILL [ ] REENTER **Split Estate**

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

1b. Type of Well: [ ] Oil Well [ ] Gas Well [XX] Other [X] Single Zone [ ] Multiple Zone

8. Lease Name and Well No. 1724 FEDERAL # 112

2. Name of Operator LCX ENERGY, LLC. (KELVIN FISHER 432-262-4046)
Roswell Controlled Water Basin

9. API Well No. 30-015-36072

3a. Address 101 NORTH MARIENFELD SUITE 200 MIDALND, TEXAS 79701

3b. Phone No. *(include area code)* 432-262-4011

10. Field and Pool, or Exploratory NE Collins Ranch; -WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 440' FNL & 1880' FEL SECTION 11 T17S-R24E EDDY CO. NM
At proposed prod. zone 660' FSL & 1880' FEL SECTION 11 T17S-R24E

11. Sec., T. R. M. or Blk. and Survey or Area SECTION 11 T17S-R24E

14. Distance in miles and direction from nearest town or post office*
Approximately 8 miles West of Artesia, New Mexico

12. County or Parish EDDY CO.

13. State NEW MEXICO

| 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' | 320 | 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 |
|---|---|---|
| NA | TVD-4865' MD-8856' | NMB-000094 |

| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | 22. Approximate date work will start* | 23. Estimated duration |
|---|---|---|
| 3695' GL | 01/15/08 | 24 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 |
|---|---|---|
| Joe T. Janica | Joe T. Janica | 11/13/07 |

Title: Agent

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| /s/ Don Peterson | /s/ Don Peterson | JAN 29 2008 |

| Title | Office |
|---|---|
| FIELD MANAGER | 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 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.

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

*(Instructions on page 2)*

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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

# OIL CONSERVATION DIVISION

*1220 South St. Francis Dr.*
*Santa Fe, New Mexico 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 |
|---|---|---|
| | 96623 | Collins Ranch -WOLFCAMP, Northeast |

| Property Code | Property Name | Well Number |
|---|---|---|
| 36414 | 1724 FEDERAL COM | 112 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 218885 | LCX ENERGY | 3695' |

### Surface Location

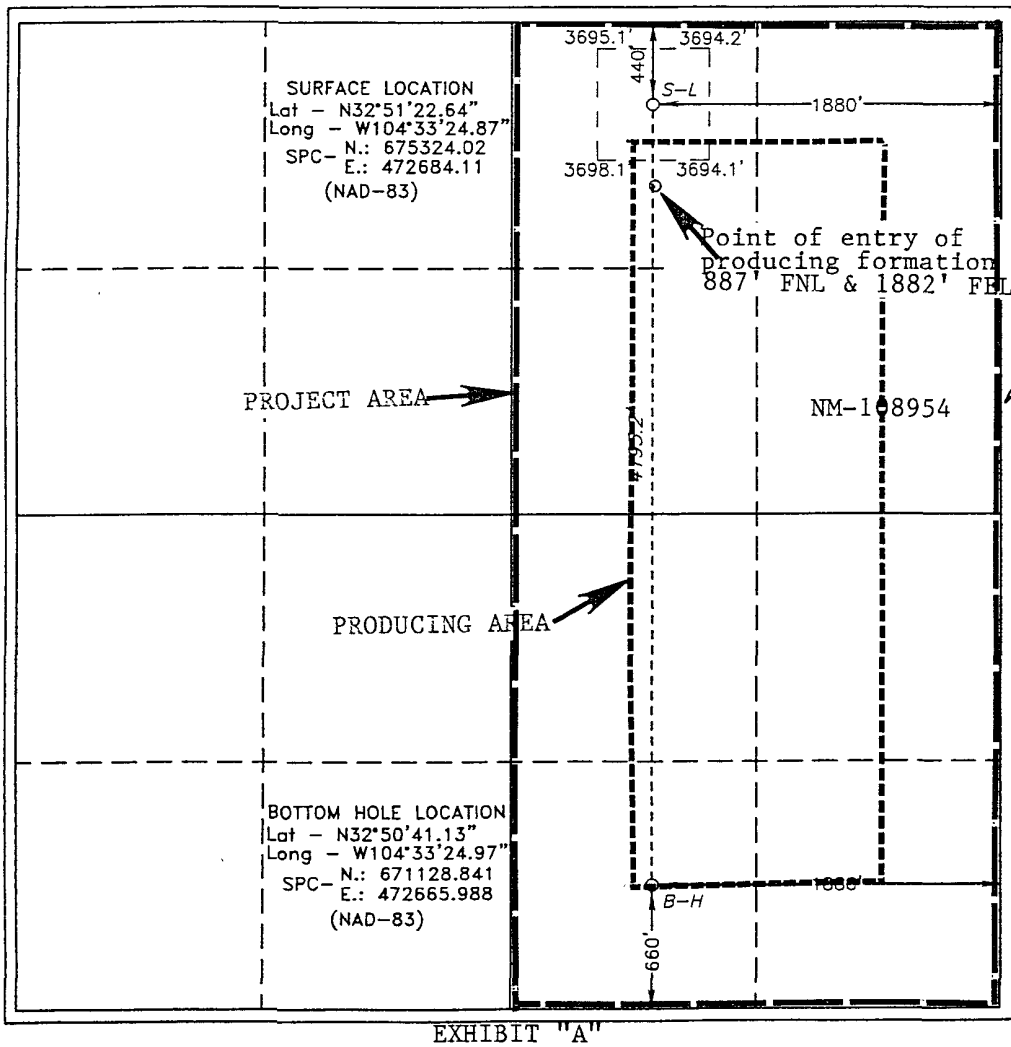
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| B | 11 | 17 S | 24 E | | 440 | NORTH | 1880 | EAST | EDDY |

### 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 |
|---|---|---|---|---|---|---|---|---|---|
| O | 11 | 17 S | 24 E | | 660 | SOUTH | 1880 | EAST | 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




### 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.*

Signature Date

11/13/07

Joe T. Janica
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.*

NOVEMBER 07, 2007
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. No. 8796

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

EXHIBIT "A"

GRAY Surface Specialties

3106 N. Big Spring St., Ste. 100
Midland, TX 79705
Tel: (432) 685-9158
Fax: (432) 218-7396
ellis@graysurfacespecialties.com

November 26, 2007

Bureau of Land Management
Carlsbad Field Office
620 E. Greene Street
Carlsbad, New Mexico 88220
Attn: Don Peterson

Re: 1724 Federal #112
Section 11, T17S, R24E,
Eddy County, New Mexico

Dear Mr. Peterson,

Please note that the surface for the above referenced well location is owned by a Private Landowner and an agreement has been reached. The minerals are owned and administered by the U.S. Federal Government. The surface is of limited use except for the grazing of livestock and the production of oil and gas.

Landowner information is as follows:

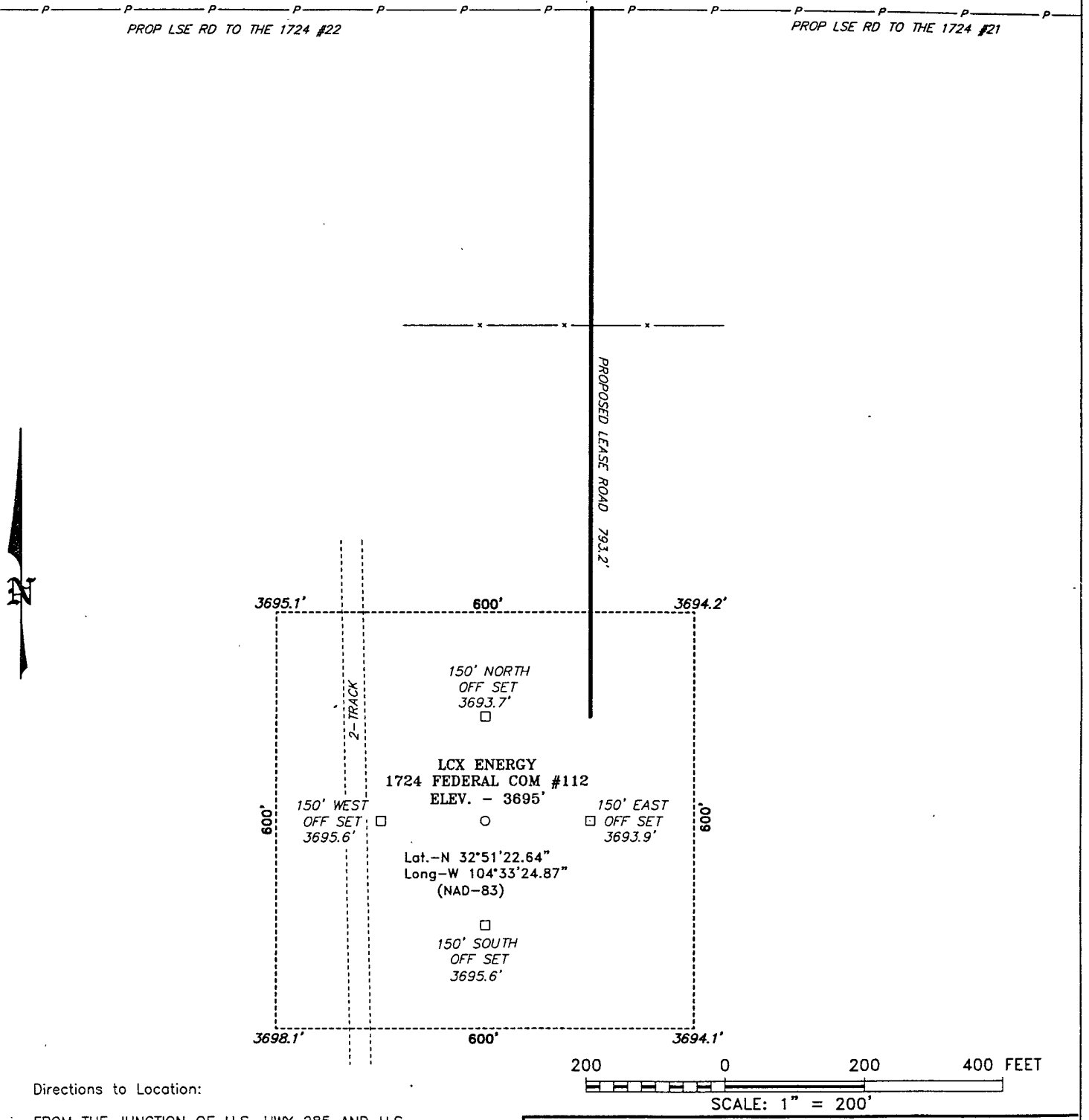
Kenneth G. Peyton and Margaret Peyton
36 Wagon Wheel Road
Artesia, NM 88210
Phone : 505-484-3279

Please feel free to contact me at (432) 685-9158 if you need any additional information to assist you in regards to having received agreement from the private surface owner.

Thank you,

Lee Ann Rollins
Gray Surface Specialties
Agent for LCX Energy, LLC

# SECTION 11, TOWNSHIP 17 SOUTH, RANGE 24 EAST, N.M.P.M.,
## EDDY COUNTY, NEW MEXICO.




Directions to Location:

FROM THE JUNCTION OF U.S. HWY 285 AND U.S. HWY 82 IN ARTESIA, PROCEED WEST ON US HWY 82 TO MILE MARKER #107; CONTINUE WEST 0.7 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTH 1.0 MILES TO LEASE ROAD, ON LEASE ROAD GO WEST FOR APPROX 2.0 MILES TO PROPOSED LEASE ROAD FOR THE 1724 #22 AND PROPOSED LEASE ROAD.

**BASIN SURVEYS** P.O. BOX 1786 - HOBBS, NEW MEXICO

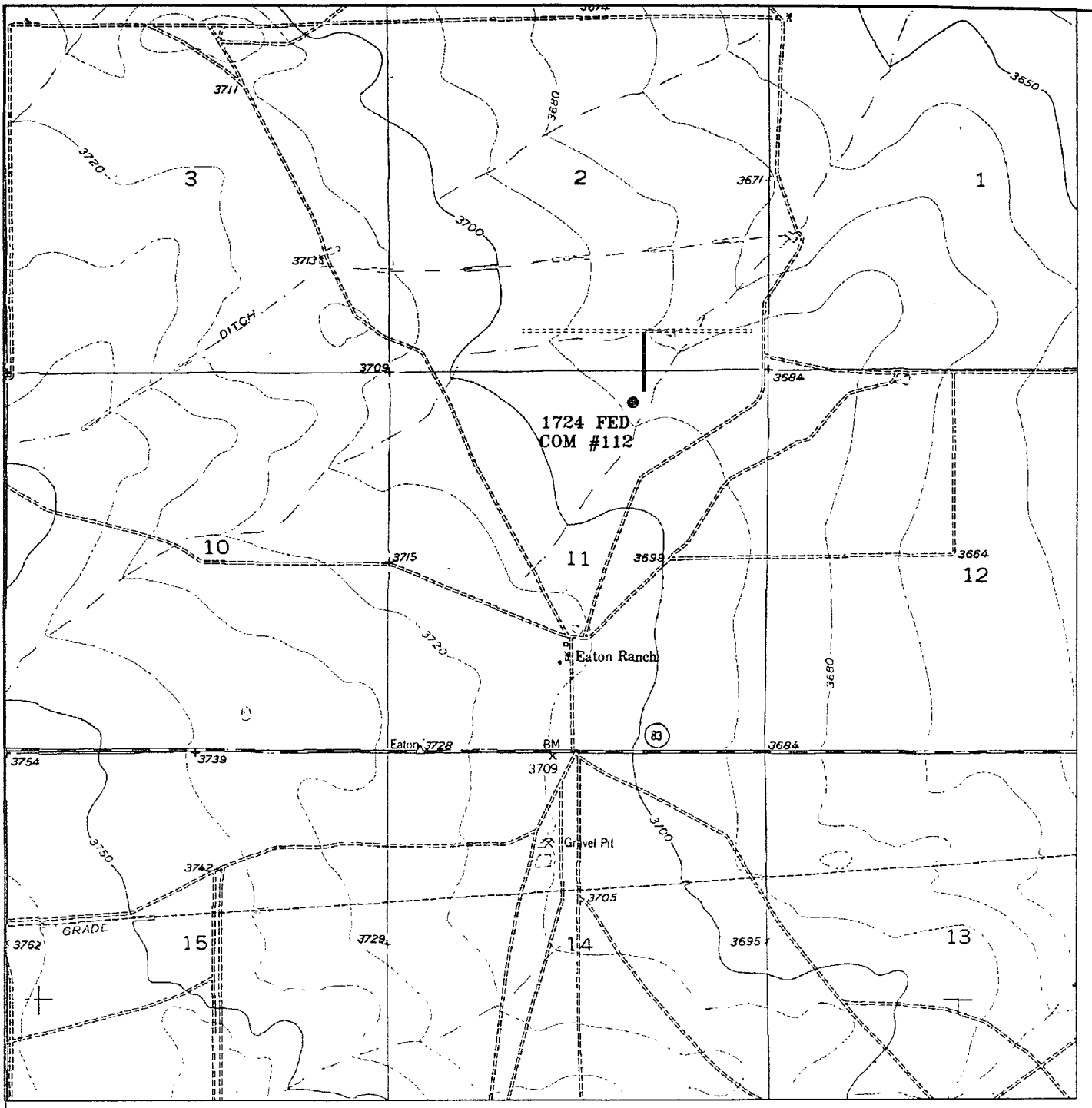
| | |
|---|---|
| W.O. Number: 18796 | Drawn By: J. M. SMALL |
| Date: 11-07-2007 | Disk: JMS 18796W |

## LCX ENERGY

REF: 1724 FEDERAL COM #112 / WELL PAD TOPO

THE 1724 FEDERAL COM #112 LOCATED 440' FROM THE NORTH LINE AND 1880' FROM THE EAST LINE OF SECTION 11, TOWNSHIP 17 SOUTH, RANGE 24 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

| | |
|---|---|
| Survey Date: 11-07-2007 | Sheet 1 of 1 Sheets |



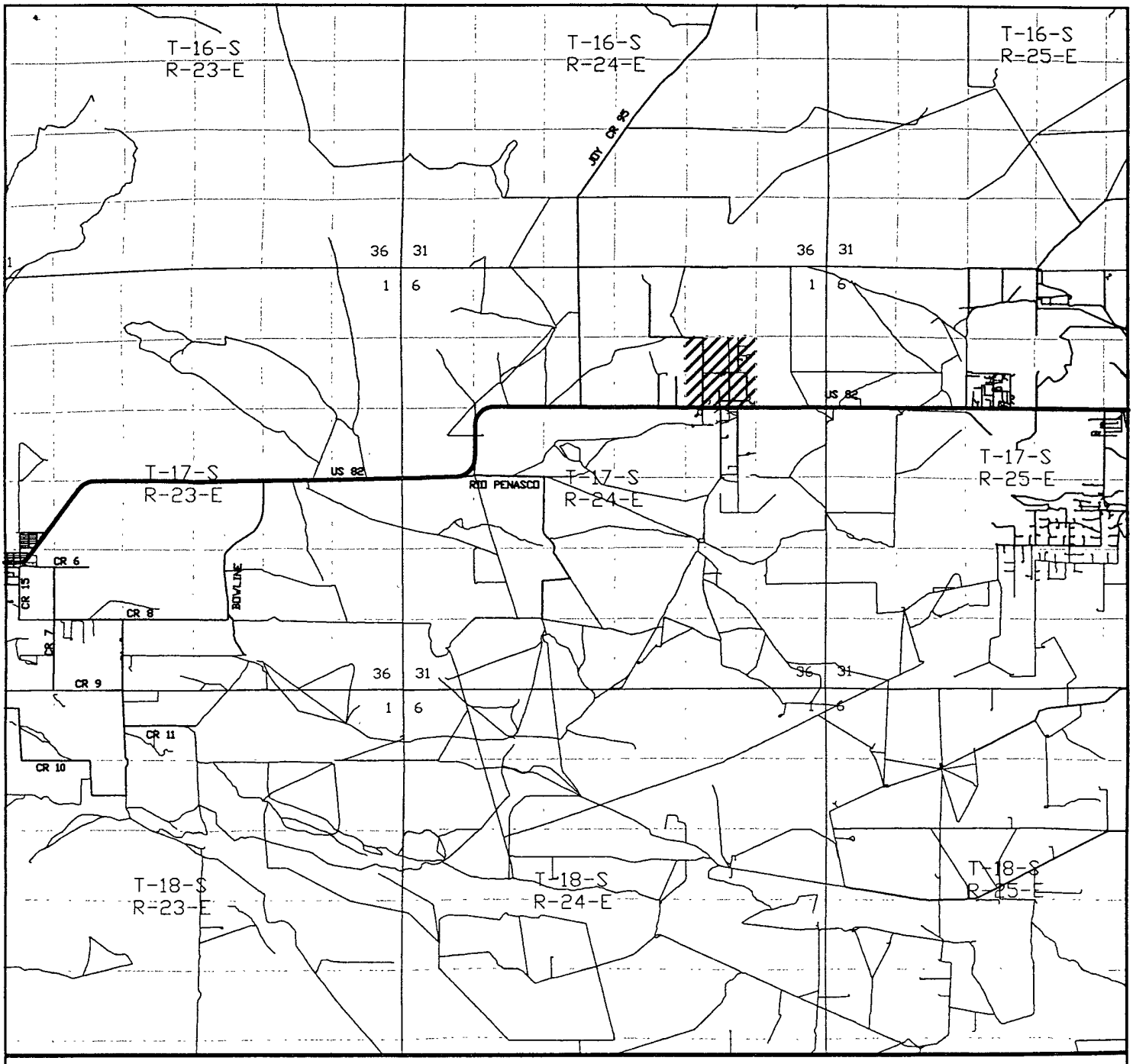

1724 FEDERAL COM #112
Located 440' FNL and 1880' FEL
Section 11, Township 17 South, Range 24 East,
N.M.P.M., Eddy County, New Mexico.


basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com


| | |
|---|---|
| W.O. Number: | JMS 18796T |
| Survey Date: | 11-07-2007 |
| Scale: | 1" = 2000' |
| Date: | 11-08-2007 |

LCX ENERGY




1724 FEDERAL COM #112
Located at 440' FNL and 1880 FEL
Section 11, Township 17 South, Range 24 East,
N.M.P.M., Eddy County, New Mexico.

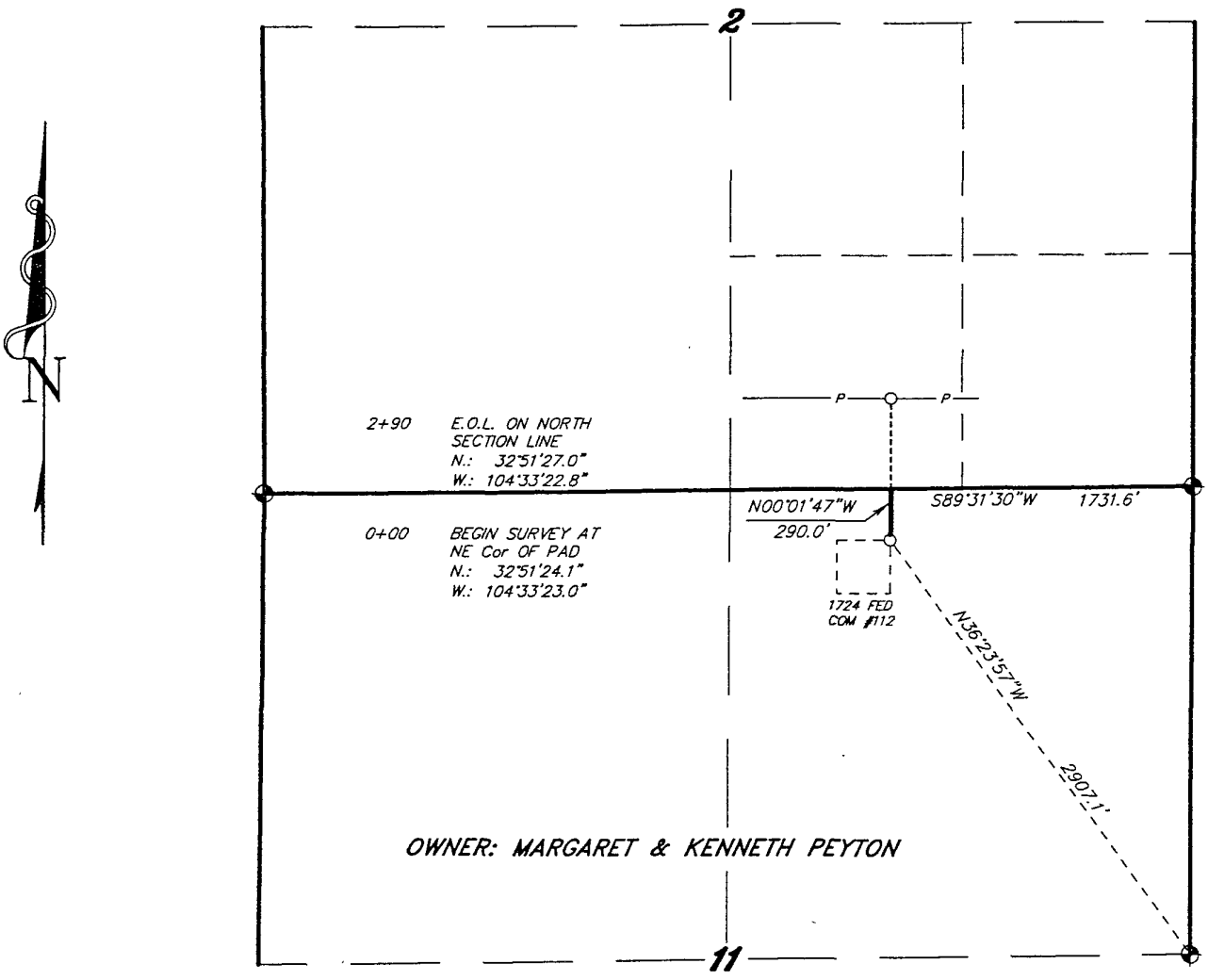
basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

| | |
|---|---|
| W.O. Number: | JMS 18796T |
| Survey Date: | 11-07-2007 |
| Scale: | 1" = 2 MILES |
| Date: | 11-08-2007 |

LCX ENERGY

# SECTION 11, TOWNSHIP 17 SOUTH, RANGE 24 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.




## LEGAL DESCRIPTION

A STRIP OF LAND 20.0 FEET WIDE, LOCATED IN SECTION 11, TOWNSHIP 17 SOUTH, RANGE 24 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 10.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.

BEGINNING AT A POINT WHICH LIES N.36°23'57"W., 2907.1 FEET FROM THE EAST QUARTER CORNER OF SAID SECTION 11; THENCE N.00°01'47"W, 290.0 FEET TO A POINT ON THE NORTH SECTION LINE WHICH LIES S.89°31'30"W., 1731.6 FEET FROM THE NORTHEAST CORNER OF SAID SECTION 11. SAID STRIP OF LAND BEING 290.0 FEET OR 17.58 RODS IN LENGTH.

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES N.M. P.S. No. 7977
TEXAS P.L.S. No. 5074

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR

1000 0 1000 2000 FEET

**BASIN SURVEYS** P.O. BOX 1786 – HOBBS, NEW MEXICO

**LCX ENERGY**

REF: PROPOSED ROAD TO THE LCX – 1724 FEDERAL COM #112

A ROAD CROSSING FEE LAND IN
SECTION 11, TOWNSHIP 17 SOUTH, RANGE 24 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

| | | | |
|---|---|---|---|
| W.O. Number: 18796 | Drawn By: J. M. SMALL | | |
| Date: 11-07-2007 | Disk: JMS 18796R | Survey Date: 11-07-2007 | Sheet 1 of 1 Sheets |

In response to questions asked under Section II of Bulletin NTL-6 the following information on the above well is providedfor your consideration.

1. Location of well: 660' FNL & 1880' FEL SECTION 11 T17S-R24E EDDY CO. NM

2. Ground Elevation above Sea Level: 3695' GL

3. Geological age of surface formation: Quaternary Deposits:

4. Drilling tools and associated equipment: Conventional rotary drilling rig using drilling mud as a circulating medium to remove solids from hole.

5. Proposed drilling depth: MD-8856' TVD-4865'

6. Estimated tops of geological markers:

| | | | |
|---|---|---|---|
| San Andres | 575' | Abo | 3875' |
| Glorietta | 1715' | Wolfcamp | 4700' |
| Tubb | 3200' | | |

7. Possible mineral bearing formations:

| | |
|---|---|
| Abo | Gas |
| Wolfcamp | Gas |

8. Casing Program:

| Hole Size | Interval | OD of Casing | Weight | Thread | Collar | Grade | |
|---|---|---|---|---|---|---|---|
| 26" | 0-40' | 20" | NA | NA | NA | Conductor | New |
| 17½" | 0-350' | 13 3/8" | 48# | 8-R | ST&C | H-40 | New |
| 12¼" | 0-1200' | ~~9~~ 8 5/8" | ~~36#~~ 24 | 8-R | ST&C | J-55 | New |
| ~~8 3/4'~~ & 7 7/8" | 0-8856' | 5½" | 17# | 8-R ~~Butt.~~ | LT&C | N-80 | New |

DESIGN FACTORS: COLLAPSE 1.125, BURST 1.00, BODY YIELD 1.5,
JOINT STRENGTH 8-R 1.8, BUTTRESS 1.6

9. CASING CEMENTING & SETTING DEPTH:

| | | |
|---|---|---|
| 20" | Conductor | Set 40' of 20" conductor pipe and cement to surface with Redi-mix. |
| 13 3/8" | Surface | Set 350' of 13 3/8" 48# H-40 ST&C casing. Cement with 400 Sx. of Class "C" cement + additives, circulate cement to surface. |
| 9 5/8" | Intermediate | Set 1200' of 9 5/8" 36# J-55 ST&C casing. Cement with 450 ~~475~~ Sx. of Class "C" cement + additives, circulate cement to surface. |
| 5½" | Production | Set 8856'± 5½" 17# N-80 LT&C casing. Cement with ~~600~~ Sx. of Class "C" Premium Plus cement + additives, estimate top of cement 1000' from surface. 750 Lead 350 Tail |

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 series 3000 PSI working perssure B.O.P. consisting of an annular bag type preventor, middle blind rams, and bottom pipe rams. The B.O.P. will be nippled up on the 13 3/8" casing and tested to API specifications. The B.O.P. will be operated at least once each 24 Hr. period and the blind rams will be operated when the drill pipe is out of on trips. Full opening stabbing valve and upper kelly cock will be available in case if needed. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 3000 PSI choke manifold with adjustable chokes. No abnormal pressures or temperatures are expected while drilling this well. No problems in offset wells.

11. PROPOSED MUD CIRCULATING SYSTEM:

| DEPTH | MUD WT. | VISC. | FLUID LOSS | TYPE MUD SYSTEM |
|---|---|---|---|---|
| 40-350' | 8.4-8.7 | 29-34 | NC | Fresh water use paper to control seepage. |
| 350-1200' | 8.4-8.7 | 30-38 | NC | Fresh water use paper to control seepage. |
| 1200-5000'± | 9.0-9.2 | 29-34 | NC | Cut brine circulate outer reserve |
| 5000- 8856' | 9.0-9.3 | 29-38 | * 15 cc or less | Cut brine use high viscosity sweeps to clean hole |

* Water loss may have to be controled to log well and run casing.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing, viscosity, and water loss may have to be adjusted to meet these needs.

12. LOGGING, CORING, AND TESTING PROGRAM:

A. Open hole logs: Log vertical hole withDual Induction, SNP, MSFL, LDT, Gamma Ray, Caliper from TVD back to the 9 5/8" casing shoe.

B. Cased hole log Gamma Ray, Neutron from 9 5/8" casing shoe back to surface.

C. Rig up mud logger on hole at 3700'±.

D. No cores or DST's are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of $H^2S$ in this area. If $H^2S$ is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 3500 PSI, and Estimated BHT 165°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 40 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Wolfcamp formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialed as a gas well.

**LCX ENERGY, LLC**
**110 N. Marienfeld St., Suite 200**
**Midland, TX 79701**
Aug. 15, 2007

# Horizontal Drilling Procedure
# Abo Wildcat Horizontals
# (Eddy Co., NM)

1. Drill 26" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.

2. Drill 17-1/2" hole to 350'.

3. Drill 12-1/4 hole to 1200'.

4. Run and set 1200' of 8-5/8" 24# J55 casing. Cement to surface with Lead: 250 sx 35/65 Poz/C + 6% gel + 2% $CaCl_2$ (12.7 ppg, 1.94 cu ft/sk) and Tail: 200 sx. of Class "C" cement + 2% $CaCl_2$ (14.8 ppg, 1.34 cu ft/sk). Circulate cement to surface. CASING SF: COLLAPSE 2.4 YIELD 5.3 JOINT 8.4 BODY 13.2
   Note: if losses occur, additional light weight and thixotropic slurries may be added to increase the overall volume. These slurries are:
   PVL + 12% gel + 3% BWOW salt + bridging agents (1.0 ppg, 2.75 cu ft/sk)
   10-2 RFC (10% D53, 2% $CaCl_2$) + bridging agents (14.2 ppg, 1.62 cu ft/sk)

5. Drill 7-7/8" hole. Drill 7-7/8" curve and land lateral in pay zone (approx. 4700-4900 ft TVD). Pickup lateral drilling assembly with a 7-7/8" bit and drill a +/-4000' lateral to 660' from lease line (approx. 4000 ft vertical section).

6. Run and set 5-1/2" 17# N80 production casing. Cement 5-1/2" with Lead: 750 sx 50/50 Poz/C (11.9 ppg, 2.46 cu ft/sk) and Tail: 350 sx PVL + 100% CaCO3 (acid soluble cement) + fluid loss additive + 1% $CaCl_2$ (13.0 ppg, 2.79 cu ft/sk) attempting to bring top of cement to 1,000'.
   CASING SF: COLLAPSE 1.4 YIELD 1.74 JOINT 2.15 BODY 2.46

**Contingency String:**

If lost circulation occurs while drilling the 17-1/2" hole:

2a. Run and set 350' of 13-3/8" 48# H-40 ST&C casing. Cement with Lead: 195 sx 35/65 Poz/C + 6% gel + 2% $CaCl_2$ (12.7 ppg, 1.94 cu ft/sk) and Tail: 200 sx of Class "C" cement + 2% $CaCl_2$ (14.8 ppg, 1.34 cu ft/sk). Circulate cement to surface. Collapse 4.28 Yield 10.0 Joint 19.17 Body 32.2

Big Dog Drilling

# Rig #9 Rig Plan

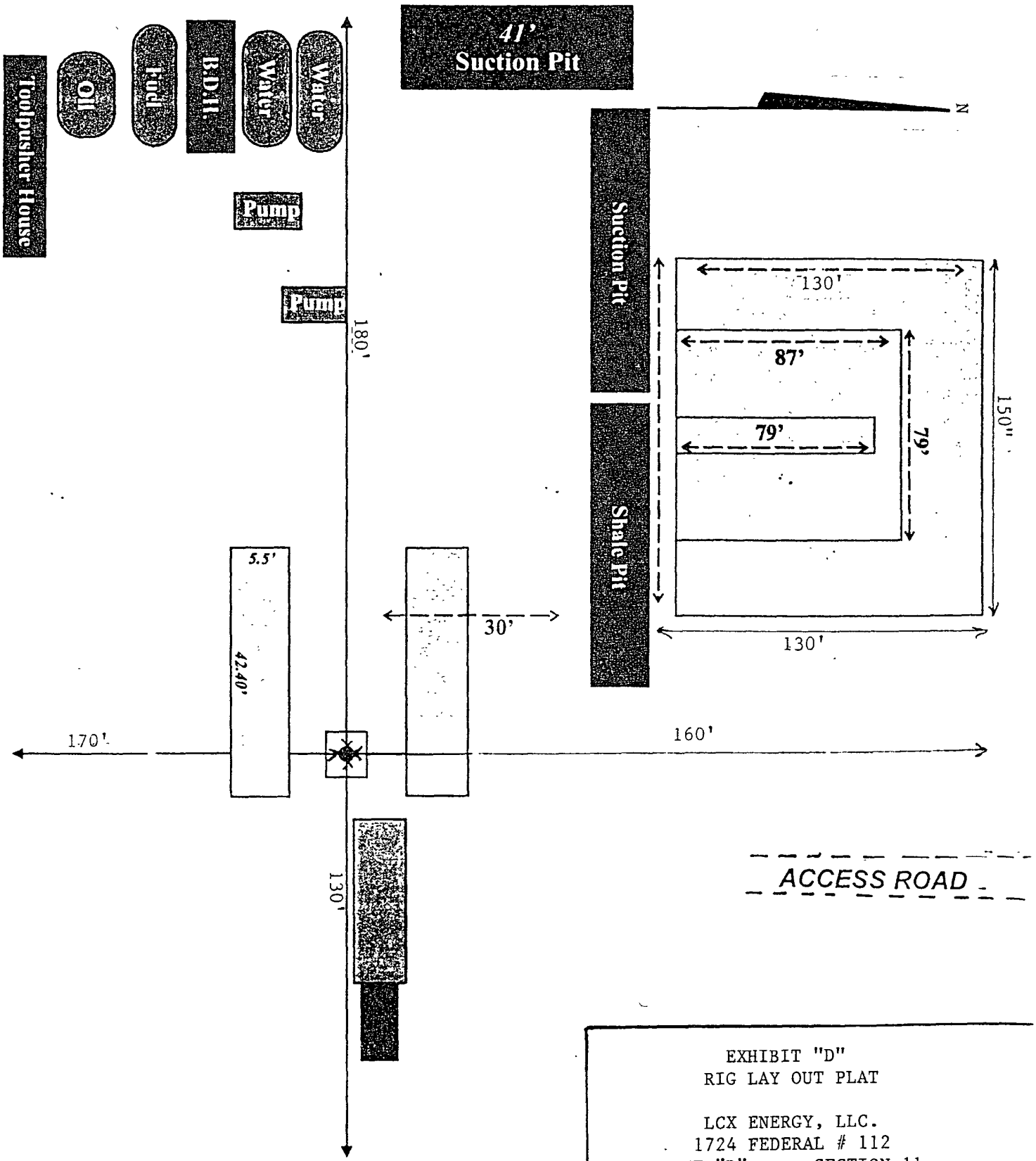
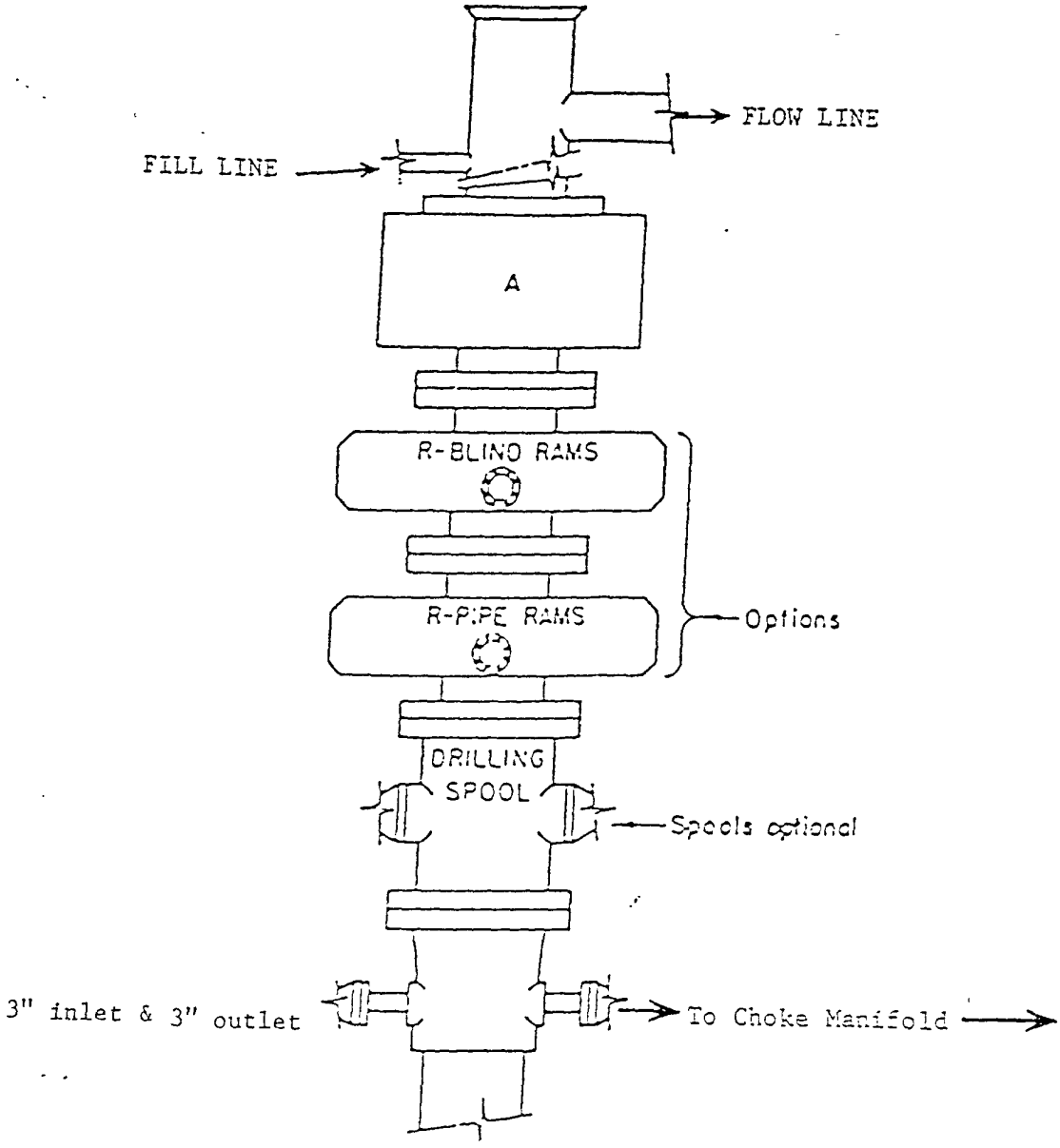



EXHIBIT "D"
RIG LAY OUT PLAT

LCX ENERGY, LLC.
1724 FEDERAL # 112
UNIT "B" SECTION 11
T17S-R24E EDDY CO. NM




ARRANGEMENT SRRA

900 Series
3000 PSI WP

EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

LCX ENERGY, LLC.
1724 FEDERAL # 112
UNIT "B" SECTION 11
T17S-R24E EDDY CO. NM

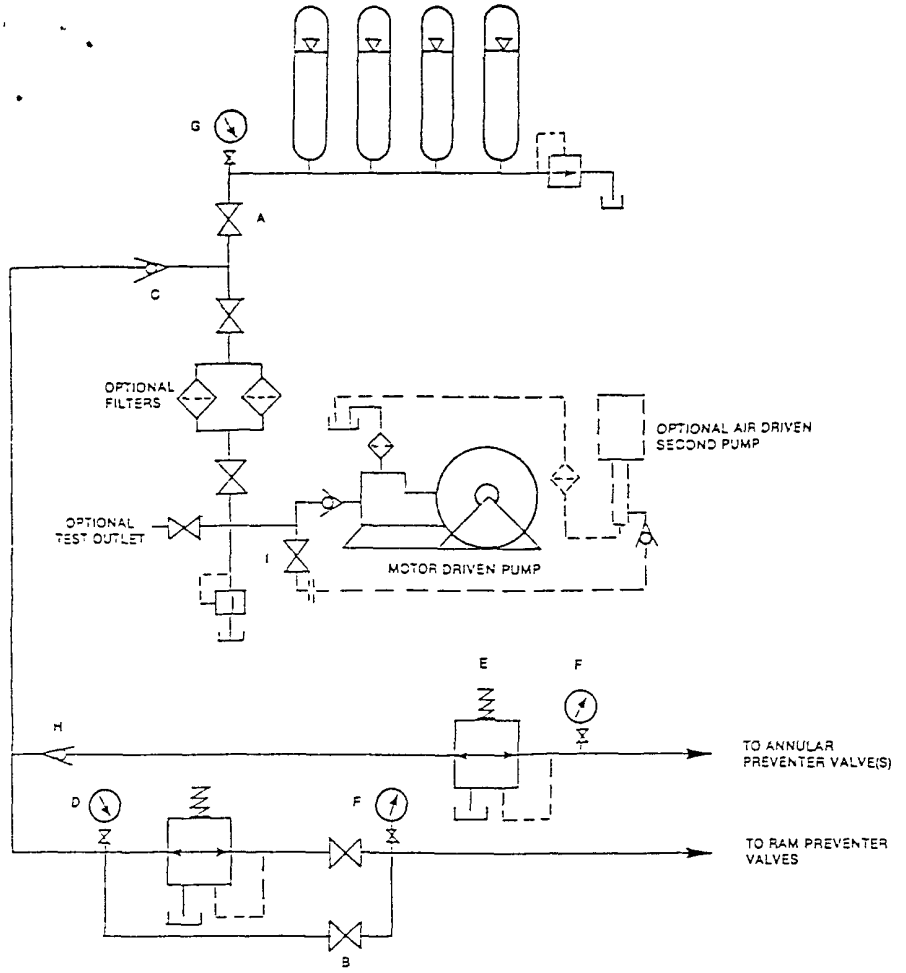



FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

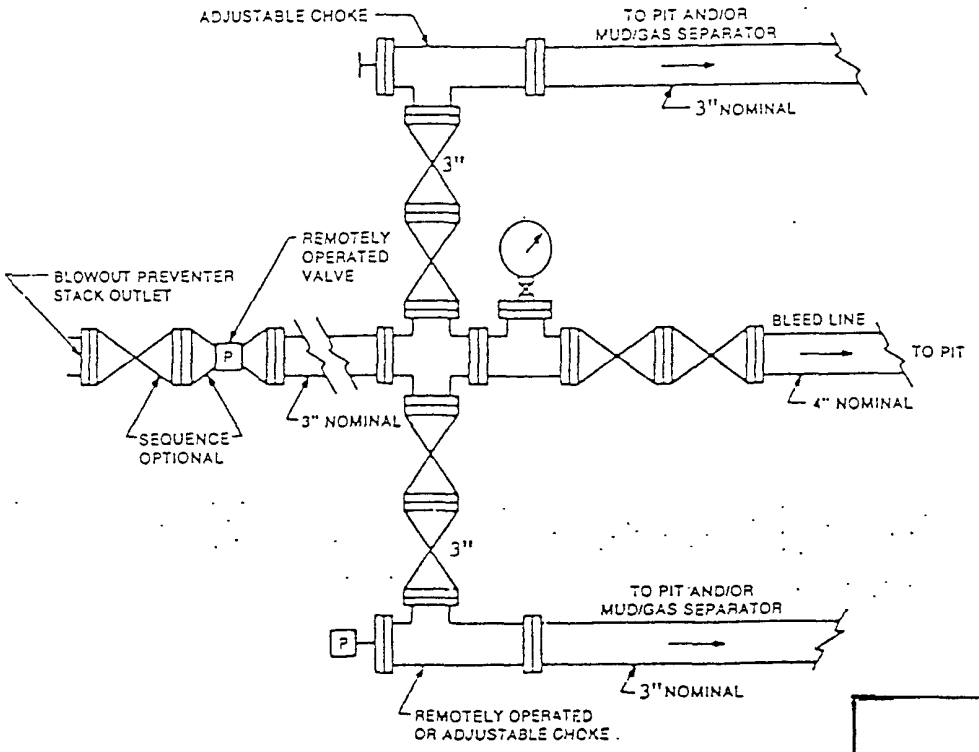



FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service — surface installation.

EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

LCX ENERGY, LLC.
1724 FEDERAL # 112
UNIT "B" SECTION 11
T17S-R24E EDDY CO. NM

# Proposal

| | | | |
|---|---|---|---|
| **Report Date:** | November 6, 2007 | **Survey / DLS Computation Method:** | Minimum Curvature / Lubinski |
| **Client:** | LCX Energy | **Vertical Section Azimuth:** | 180.257° |
| **Field:** | Eddy County, NM Nad 83 | **Vertical Section Origin:** | N 0.000 ft, E 0.000 ft |
| **Structure / Slot:** | 1724 Federal Com #112 / 1724 Federal Com #112 | **TVD Reference Datum:** | RKB |
| **Well:** | 1724 Federal Com #112 | **TVD Reference Elevation:** | 0.0 ft relative to |
| **Borehole:** | 1724 Federal Com #112 | **Sea Bed / Ground Level Elevation:** | 0.000 ft relative to |
| **UWI/API#:** | | **Magnetic Declination:** | 8.504° |
| **Survey Name / Date:** | 1724 Federal Com #112_r1 / November 1, 2007 | **Total Field Strength:** | 49293.210 nT |
| **Tort / AHD / DDI / ERD ratio:** | 90.000° / 4195.82 ft / 5.837 / 0.862 | **Magnetic Dip:** | 60.694° |
| **Grid Coordinate System:** | NAD83 New Mexico State Planes, Eastern Zone, US Feet | **Declination Date:** | November 01, 2007 |
| **Location Lat/Long:** | N 32 51 22.643, W 104 33 24.857 | **Magnetic Declination Model:** | IGRF 2005 |
| **Location Grid N/E Y/X:** | N 675324.251 ftUS, E 472684.787 ftUS | **North Reference:** | Grid North |
| **Grid Convergence Angle:** | -0.12129546° | **Total Corr Mag North -> Grid North:** | +8.625° |
| **Grid Scale Factor:** | 0.99991449 | **Local Coordinates Referenced To:** | Well Head |

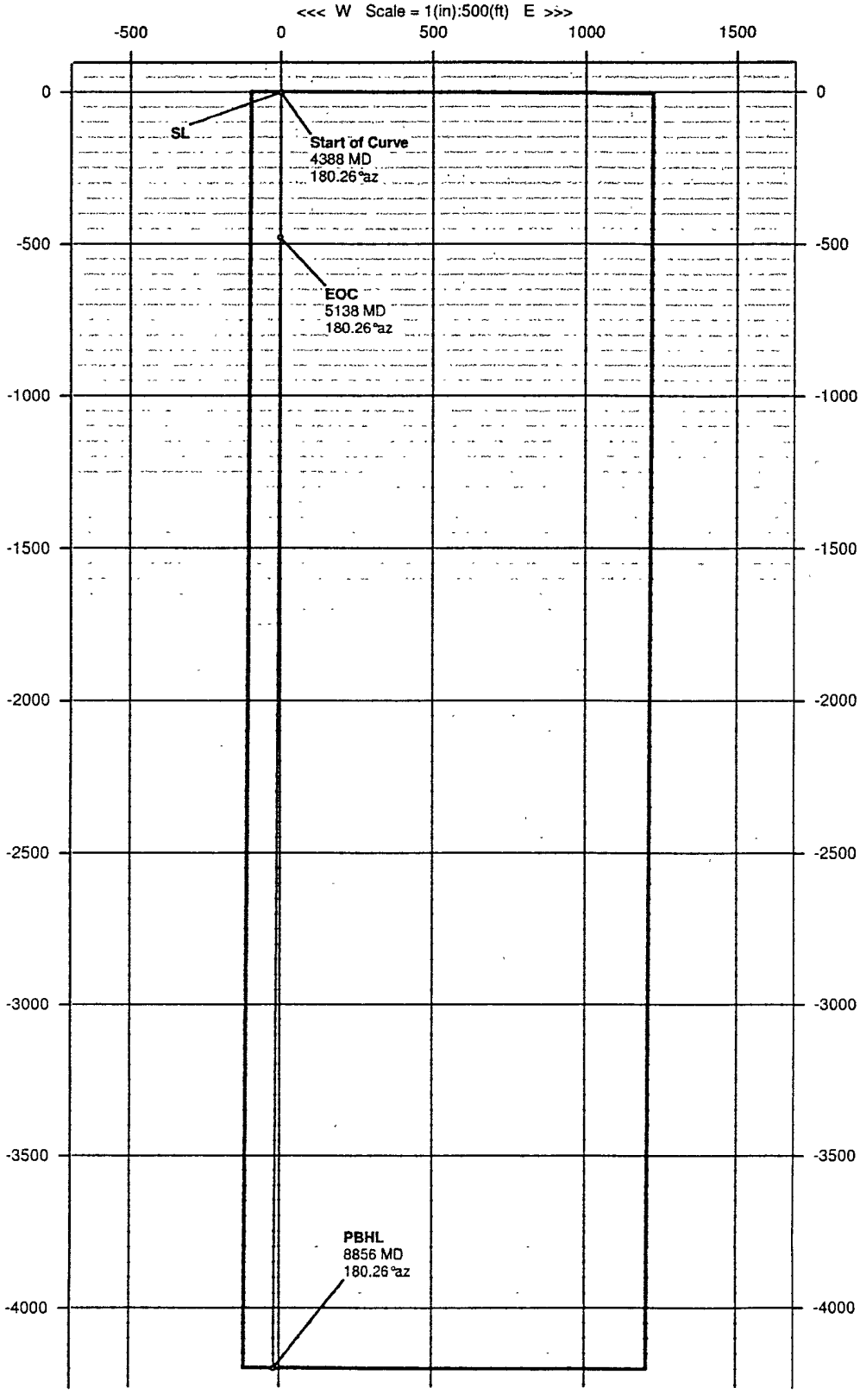
| Comments | Measured Depth (ft) | Inclination (deg) | Azimuth (deg) | TVD (ft) | Vertical Section (ft) | NS (ft) | EW (ft) | Closure (ft) | Closure Azimuth (deg) | DLS (deg/100 ft) | Mag / Grav Tool Face (deg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Tie-In | 0.00 | 0.00 | 180.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 100.00 | 0.00 | 180.26 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 200.00 | 0.00 | 180.26 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 300.00 | 0.00 | 180.26 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 400.00 | 0.00 | 180.26 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 500.00 | 0.00 | 180.26 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 600.00 | 0.00 | 180.26 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 700.00 | 0.00 | 180.26 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 800.00 | 0.00 | 180.26 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 900.00 | 0.00 | 180.26 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1000.00 | 0.00 | 180.26 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1100.00 | 0.00 | 180.26 | 1100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1200.00 | 0.00 | 180.26 | 1200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1300.00 | 0.00 | 180.26 | 1300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1400.00 | 0.00 | 180.26 | 1400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1500.00 | 0.00 | 180.26 | 1500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1600.00 | 0.00 | 180.26 | 1600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1700.00 | 0.00 | 180.26 | 1700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1800.00 | 0.00 | 180.26 | 1800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 1900.00 | 0.00 | 180.26 | 1900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2000.00 | 0.00 | 180.26 | 2000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2100.00 | 0.00 | 180.26 | 2100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2200.00 | 0.00 | 180.26 | 2200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2300.00 | 0.00 | 180.26 | 2300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2400.00 | 0.00 | 180.26 | 2400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2500.00 | 0.00 | 180.26 | 2500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2600.00 | 0.00 | 180.26 | 2600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2700.00 | 0.00 | 180.26 | 2700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2800.00 | 0.00 | 180.26 | 2800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 2900.00 | 0.00 | 180.26 | 2900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3000.00 | 0.00 | 180.26 | 3000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3100.00 | 0.00 | 180.26 | 3100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3200.00 | 0.00 | 180.26 | 3200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3300.00 | 0.00 | 180.26 | 3300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3400.00 | 0.00 | 180.26 | 3400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3500.00 | 0.00 | 180.26 | 3500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3600.00 | 0.00 | 180.26 | 3600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3700.00 | 0.00 | 180.26 | 3700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |

| Comments | Measured Depth (ft) | Inclination (deg) | Azimuth (deg) | TVD (ft) | Vertical Section (ft) | NS (ft) | EW (ft) | Closure (ft) | Closure Azimuth (deg) | DLS (deg/100 ft) | Mag / Grav Tool Face (deg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3800.00 | 0.00 | 180.26 | 3800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 3900.00 | 0.00 | 180.26 | 3900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 4000.00 | 0.00 | 180.26 | 4000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 4100.00 | 0.00 | 180.26 | 4100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 4200.00 | 0.00 | 180.26 | 4200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| | 4300.00 | 0.00 | 180.26 | 4300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | --- |
| Start of Curve | 4387.53 | 0.00 | 180.26 | 4387.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 180.26M |
| | 4400.00 | 1.50 | 180.26 | 4400.00 | 0.16 | -0.16 | 0.00 | 0.16 | 180.26 | 12.00 | 180.26M |
| | 4500.00 | 13.50 | 180.26 | 4498.96 | 13.18 | -13.18 | -0.06 | 13.18 | 180.26 | 12.00 | HS |
| | 4600.00 | 25.50 | 180.26 | 4593.06 | 46.50 | -46.50 | -0.21 | 46.50 | 180.26 | 12.00 | HS |
| | 4700.00 | 37.50 | 180.26 | 4678.17 | 98.65 | -98.64 | -0.44 | 98.65 | 180.26 | 12.00 | HS |
| | 4800.00 | 49.50 | 180.26 | 4750.58 | 167.35 | -167.35 | -0.75 | 167.35 | 180.26 | 12.00 | HS |
| | 4900.00 | 61.50 | 180.26 | 4807.12 | 249.61 | -249.61 | -1.12 | 249.61 | 180.26 | 12.00 | HS |
| | 5000.00 | 73.50 | 180.26 | 4845.33 | 341.82 | -341.82 | -1.53 | 341.82 | 180.26 | 12.00 | HS |
| | 5100.00 | 85.50 | 180.26 | 4863.52 | 439.97 | -439.96 | -1.97 | 439.97 | 180.26 | 12.00 | HS |
| EOC | 5137.53 | 90.00 | 180.26 | 4865.00 | 477.46 | -477.46 | -2.14 | 477.46 | 180.26 | 12.00 | HS |
| | 5200.00 | 90.00 | 180.26 | 4865.00 | 539.93 | -539.92 | -2.42 | 539.93 | 180.26 | 0.00 | --- |
| | 5300.00 | 90.00 | 180.26 | 4865.00 | 639.93 | -639.92 | -2.87 | 639.93 | 180.26 | 0.00 | --- |
| | 5400.00 | 90.00 | 180.26 | 4865.00 | 739.93 | -739.92 | -3.32 | 739.93 | 180.26 | 0.00 | --- |
| | 5500.00 | 90.00 | 180.26 | 4865.00 | 839.93 | -839.92 | -3.76 | 839.93 | 180.26 | 0.00 | --- |
| | 5600.00 | 90.00 | 180.26 | 4865.00 | 939.93 | -939.92 | -4.21 | 939.93 | 180.26 | 0.00 | --- |
| | 5700.00 | 90.00 | 180.26 | 4865.00 | 1039.93 | -1039.92 | -4.66 | 1039.93 | 180.26 | 0.00 | --- |
| | 5800.00 | 90.00 | 180.26 | 4865.00 | 1139.93 | -1139.92 | -5.11 | 1139.93 | 180.26 | 0.00 | --- |
| | 5900.00 | 90.00 | 180.26 | 4865.00 | 1239.93 | -1239.92 | -5.56 | 1239.93 | 180.26 | 0.00 | --- |
| | 6000.00 | 90.00 | 180.26 | 4865.00 | 1339.93 | -1339.92 | -6.00 | 1339.93 | 180.26 | 0.00 | --- |
| | 6100.00 | 90.00 | 180.26 | 4865.00 | 1439.93 | -1439.92 | -6.45 | 1439.93 | 180.26 | 0.00 | --- |
| | 6200.00 | 90.00 | 180.26 | 4865.00 | 1539.93 | -1539.91 | -6.90 | 1539.93 | 180.26 | 0.00 | --- |
| | 6300.00 | 90.00 | 180.26 | 4865.00 | 1639.93 | -1639.91 | -7.35 | 1639.93 | 180.26 | 0.00 | --- |
| | 6400.00 | 90.00 | 180.26 | 4865.00 | 1739.93 | -1739.91 | -7.80 | 1739.93 | 180.26 | 0.00 | --- |
| | 6500.00 | 90.00 | 180.26 | 4865.00 | 1839.93 | -1839.91 | -8.24 | 1839.93 | 180.26 | 0.00 | --- |
| | 6600.00 | 90.00 | 180.26 | 4865.00 | 1939.93 | -1939.91 | -8.69 | 1939.93 | 180.26 | 0.00 | --- |
| | 6700.00 | 90.00 | 180.26 | 4865.00 | 2039.93 | -2039.91 | -9.14 | 2039.93 | 180.26 | 0.00 | --- |
| | 6800.00 | 90.00 | 180.26 | 4865.00 | 2139.93 | -2139.91 | -9.59 | 2139.93 | 180.26 | 0.00 | --- |
| | 6900.00 | 90.00 | 180.26 | 4865.00 | 2239.93 | -2239.91 | -10.04 | 2239.93 | 180.26 | 0.00 | --- |
| | 7000.00 | 90.00 | 180.26 | 4865.00 | 2339.93 | -2339.91 | -10.48 | 2339.93 | 180.26 | 0.00 | --- |
| | 7100.00 | 90.00 | 180.26 | 4865.00 | 2439.93 | -2439.91 | -10.93 | 2439.93 | 180.26 | 0.00 | --- |
| | 7200.00 | 90.00 | 180.26 | 4865.00 | 2539.93 | -2539.90 | -11.38 | 2539.93 | 180.26 | 0.00 | --- |
| | 7300.00 | 90.00 | 180.26 | 4865.00 | 2639.93 | -2639.90 | -11.83 | 2639.93 | 180.26 | 0.00 | --- |
| | 7400.00 | 90.00 | 180.26 | 4865.00 | 2739.93 | -2739.90 | -12.28 | 2739.93 | 180.26 | 0.00 | --- |
| | 7500.00 | 90.00 | 180.26 | 4865.00 | 2839.93 | -2839.90 | -12.73 | 2839.93 | 180.26 | 0.00 | --- |
| | 7600.00 | 90.00 | 180.26 | 4865.00 | 2939.93 | -2939.90 | -13.17 | 2939.93 | 180.26 | 0.00 | --- |
| | 7700.00 | 90.00 | 180.26 | 4865.00 | 3039.93 | -3039.90 | -13.62 | 3039.93 | 180.26 | 0.00 | --- |
| | 7800.00 | 90.00 | 180.26 | 4865.00 | 3139.93 | -3139.90 | -14.07 | 3139.93 | 180.26 | 0.00 | --- |
| | 7900.00 | 90.00 | 180.26 | 4865.00 | 3239.93 | -3239.90 | -14.52 | 3239.93 | 180.26 | 0.00 | --- |
| | 8000.00 | 90.00 | 180.26 | 4865.00 | 3339.93 | -3339.90 | -14.97 | 3339.93 | 180.26 | 0.00 | --- |
| | 8100.00 | 90.00 | 180.26 | 4865.00 | 3439.93 | -3439.90 | -15.41 | 3439.93 | 180.26 | 0.00 | --- |
| | 8200.00 | 90.00 | 180.26 | 4865.00 | 3539.93 | -3539.89 | -15.86 | 3539.93 | 180.26 | 0.00 | --- |
| | 8300.00 | 90.00 | 180.26 | 4865.00 | 3639.93 | -3639.89 | -16.31 | 3639.93 | 180.26 | 0.00 | --- |
| | 8400.00 | 90.00 | 180.26 | 4865.00 | 3739.93 | -3739.89 | -16.76 | 3739.93 | 180.26 | 0.00 | --- |
| | 8500.00 | 90.00 | 180.26 | 4865.00 | 3839.93 | -3839.89 | -17.21 | 3839.93 | 180.26 | 0.00 | --- |
| | 8600.00 | 90.00 | 180.26 | 4865.00 | 3939.93 | -3939.89 | -17.65 | 3939.93 | 180.26 | 0.00 | --- |
| | 8700.00 | 90.00 | 180.26 | 4865.00 | 4039.93 | -4039.89 | -18.10 | 4039.93 | 180.26 | 0.00 | --- |
| | 8800.00 | 90.00 | 180.26 | 4865.00 | 4139.93 | -4139.89 | -18.55 | 4139.93 | 180.26 | 0.00 | --- |
| PBHL | 8855.89 | 90.00 | 180.26 | 4865.00 | 4195.82 | -4195.78 | -18.80 | 4195.82 | 180.26 | 0.00 | --- |

# LCX Energy

| WELL | FIELD | STRUCTURE |
|---|---|---|
| 1724 Federal Com #112 | Eddy County, NM Nad 83 | 1724 Federal Com #112 |

| Magnetic Parameters | Surface Location | Miscellaneous |
|---|---|---|
| Model: IGRF 2005 | Lat: N32 51 22.643 | Northing: 675324.25 flUS |
| Dip: 60.694° | Lon: W104 13 24.857 | Easting: 472684.78 flUS |
| Mag Dec: 8.504° | | Grid Conv: -0.121295481° |
| Date: November 01, 2007 | | Scale Fact: 0.99981148682 |
| FS: 48233.2 nT | | Slot: 1724 Federal Com #112 |
| | | Plan: 1724 Federal Com #112 (1 |
| | | TVD Ref: RKB (0.00 ft above ) |
| | | Sonic Data: November 01, 2007 |

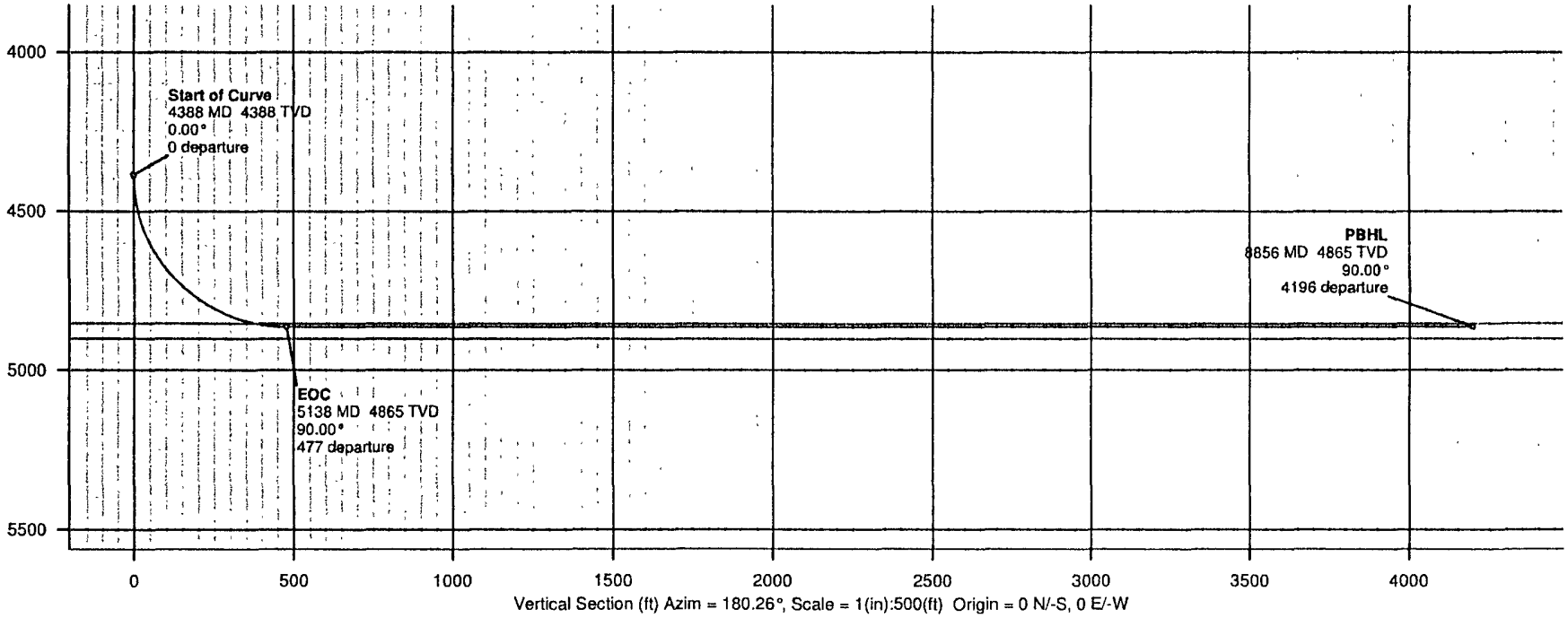



INTREPID
Directional Drilling Specialists

# LCX Energy

| WELL | FIELD | STRUCTURE |
|---|---|---|
| 1724 Federal Com #112 | Eddy County, NM Nad 83 | 1724 Federal Com #112 |

| Magnetic Parameters | | | | Surface Location | | | | NAD83 New Mexico State Planes, Eastern Zone, US Feet | | | | Miscellaneous | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Model | IGRF 2005 | Dip | 60 694° | Date | November 01, 2007 | Lat | N32 51 22 843 | Northing | 873324 25 ftUS | Grid Conv | 0 12129546° | Slot | 1724 Federal Com #112 | TVD Ref | RKB (0 00 ft above ) |
| | | Mag Dec | +8 504° | FS | 49293 2 nT | Lon | W104 33 24 857 | Easting | 472684 79 ftUS | Scale Fact | 0 9999144882 | Plan | 1724 Federal Com #112 r1 | Srvy Date | November 01, 2007 |




INTREPID
Directional Drilling Specialists

# HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified $H_2S$ safety instructor to the following:

   A. Characteristics of $H_2S$
   B. Physical effects and hazzards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of $H_2S$ detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

2. $H_2S$ Detection and Alarm Systems

   A. $H_2S$ detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.

3. Windsock and/or wind streamers

   A. Windsock at mudpit area should be high enough to be visible.
   B. Windsock at briefing area should be high enough to be visible.
   C. There should be a windsock at entrance to location.

4. Condition Flags and Signs

   A. Warning sign on access road to location.
   B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, $H_2S$ present in dangerous concentration. Only emergency personnel admitted to location.

5. Well control equipment

   A. See exhibit "E"

6. Communication

   A. While working under masks chalkboards will be used for communication.
   B. Hand signals will be used where chalk board is inappropriate.
   C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.

7. Drillstem Testing

   A. Exhausts will be watered.
   B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
   C. If location is near any dwelling a closed D.S.T. will be performed.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects $H_2S$ has on tubular goods and other mechanical equipment.

9. If $H_2S$ is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with $H_2S$ scavengers if necessary.

1. EXISTING AND PROPOSED ROADS:

A. Exhibit "B" is a reporduction of a County General Hi-way map showing existing roads. Exhibit "C" is a reproduction of a USGS topographic map showing existing roads and and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. All new roads will be constructed to BLM specifications.

B. Exhibit "A" shows the proposed well site as staked.

C. Directions to location: From the junction of U.S. Hi-way 82 and U.S. Hi-way 285 in Artesia New Mexico Go West 6 miles(.7 miles West of Mile post 102) Turn Right on Lonesome Trail Road, go 1 mile and bear Left and follow well traveled lease road 3.7 miles turn Left (South) cross cattle guard and go .9 miles turn Right (West) go approximately .5 miles, turn Left (South) go 800±' to location.

D. Exhibit "C" shows a topographic map with existing roads and proposed roads with possible gas line routes to a gas sales line.

2. PLANNED ACCESS ROADS: Approximately 3000' of new road will be constructed.

A. The access roads will be crowned and sitched to a 14' wide travel surface, within a 30' R-O-W.

B. Gradient of all roads will be less than 5%.

C. Turn-outs will be constructed where necessary.

D. If require new access roads will be surface with a minimum of 4-6" of caliche. this material will be obtained from a local source.

E. Center line for new roads will be flagged, road construction will be done as field conditions require.

F. Culverts will be placed in the access road as drainage conditions require. Roads will be constructed to use low water crossings for drainage as required by the topographic conditions.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS: EXHIBIT "A-1"

A. Water wells - Some wells approximately .5 miles south of location

B. Disposal wells - None known

C. Drilling wells - None known

D. Producing wells -As shown on Exhibit "A-1"

E. Abandoned wells - As shown on Exhibit "A-1"

4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Exhibit "C" shows proposed routes of roads, flowlines and powerlines.

5. LOCATION AND TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the access roads or piped to location in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of drill site, if additional material is needed it will be obtained from a local source and transported over the access roads as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE MATERIAL:

A. Drill cuttings will be disposed of in the reserve pits.

B. All trash, junk and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed all contents will be removed and disposed of in a approved sanitary land fill.

C. Salts remaining after completion of well will be picked up by the supplier, including broken sacks.

D. Waste water from living quaters will be drained into holes with a manium of 10'. These holes will be covered during drilling and will be back filled when the well is completed. A Porto-John will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

E. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for furthed drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approve disposal site. Later pips will be broken out to speed drying. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in storage tanks and sold.

8. ANCILLARY FACILITIES:

A. No camps or air strips will be constructed on location.

9. WELL SITE LAYOUT:

A. Exhibit "D" shows the proposed well site layout.

B. This Exhibit shows the location of reserve pit, sump pits, and living facilities.

C. Mud pits in the active circulating system will be steel pits and the reserve pits will be unlined unless subsurface conditions encontered during pit construction indicate that a plastic liner is required to contain lateral migration.

D. If needed the reserve pits will be lined with polyethelene. The pit liner will be no less than 6 mils thick and the liner will be extended at least 3 feet over the top of the dikes and secured in place to keep edge of liner in place.

E. The reserve pit will be fenced on three sides and fenced with four strands of barbed wire during drilling and completionphases. The 4th side will be fenced after drilling operations are complete and the drilling rig has moved out.If the well is a producer the mud pits will remain fenced in until the mud has dried up enough to break out the pits and reclaimed according to BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE:

Rehabilitation of the location and reserve pits will be allowed to dry properly, fluids may be moved and disposed of in accordance with article 7-E as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any will be reshaped to the original configuration with provisions made to alleviate furture erosion. In case of the well completed as a producer the drilling pad will be necessary to construct production facilities. After the area has been shaped and contoured top soil from the spoil pile will be placed over the disturbed area to the extent possible so that revegetation procedures can be accomplished to comply with the BLM specifications.

If the well is a dry hole the pad and road area will be contoured to match the existing terrain. Top soil will be spread to the extent possible and revegetation will be carried out according to the BLM specifications.

Should the well be a producer the previously noted procedures will apply to those areas which are not required for production facilities.

# CERTIFICATION

I HEREBY CERTIFY THAT I OR PERSONS UNDER MY SUPERVISION HAVE INSPECTED THE PROPOSED DRILL SITE AND THE ACCESS ROAD ROUTES, THAT I AM FAMILIAR WITH THE CONDITIONS THAT CURRENTLY EXIST, AND THAT THE STATEMENTS MADE IN THIS PLAN ARE TO THE BEST OF MY KNOWLEDGE ARE TRUE AND CORRECT, AND THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED BY LCX ENERGY, LLC. ITS CONTRACTORS OR ITS SUB-CONTRACTORS IS IN CONFORMANCE WITH THIS PLAN AND THE TERMS AND THE CONDITIONS UNDER WHICH IT IS APPROVED. THIS STATEMENT IS SUBJECT TO THE PROVISIONS OF U.S.C. 1001 FOR THE FILING OF A FALSE STATEMENT.

OPERATORS REPRESENTATIVES

BEFORE CONSTRUCTION

JOE T. JANICA

TIERRA EXPLORATION, INC.
P. O. BOX 2188
HOBBS, NEW MEXICO 88241

PHONE 505-391-8503
CELL 505-390-1598

DURING AND AFTER CONSTRUCTION

KELVIN FISHER

LCX ENERGY, LLC.
110 NORTH MARIENFELD
SUITE 200
MIDLAND, TEXAS 79701
PHONE 432-262-4011
CELL 432-634-5621

NAME; JOE JANICA Joe T Janica

TITLE; Agent

DATE; 11/13/07

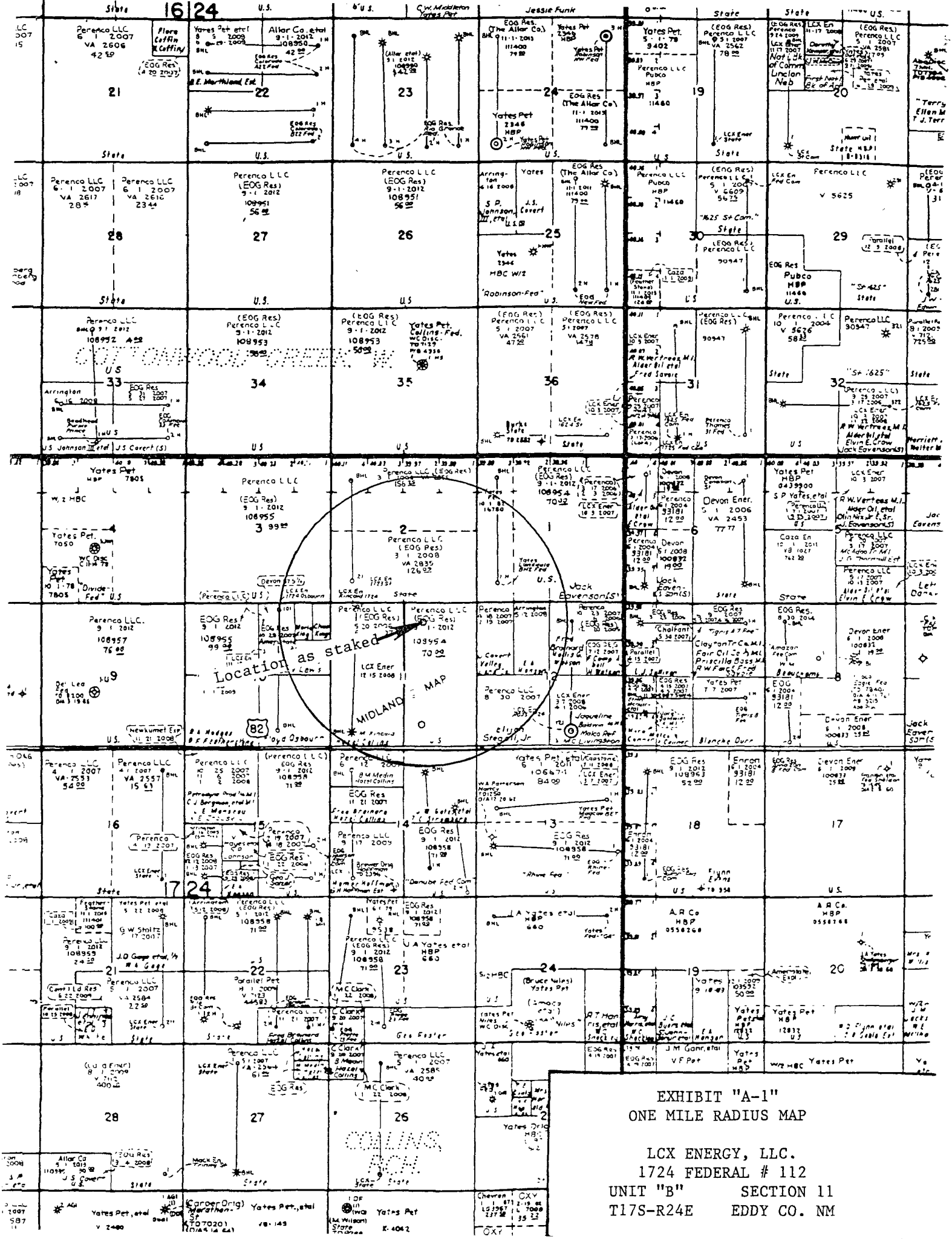



EXHIBIT "A-1"
ONE MILE RADIUS MAP

LCX ENERGY, LLC.
1724 FEDERAL # 112
UNIT "B" SECTION 11
T17S-R24E EDDY CO. NM

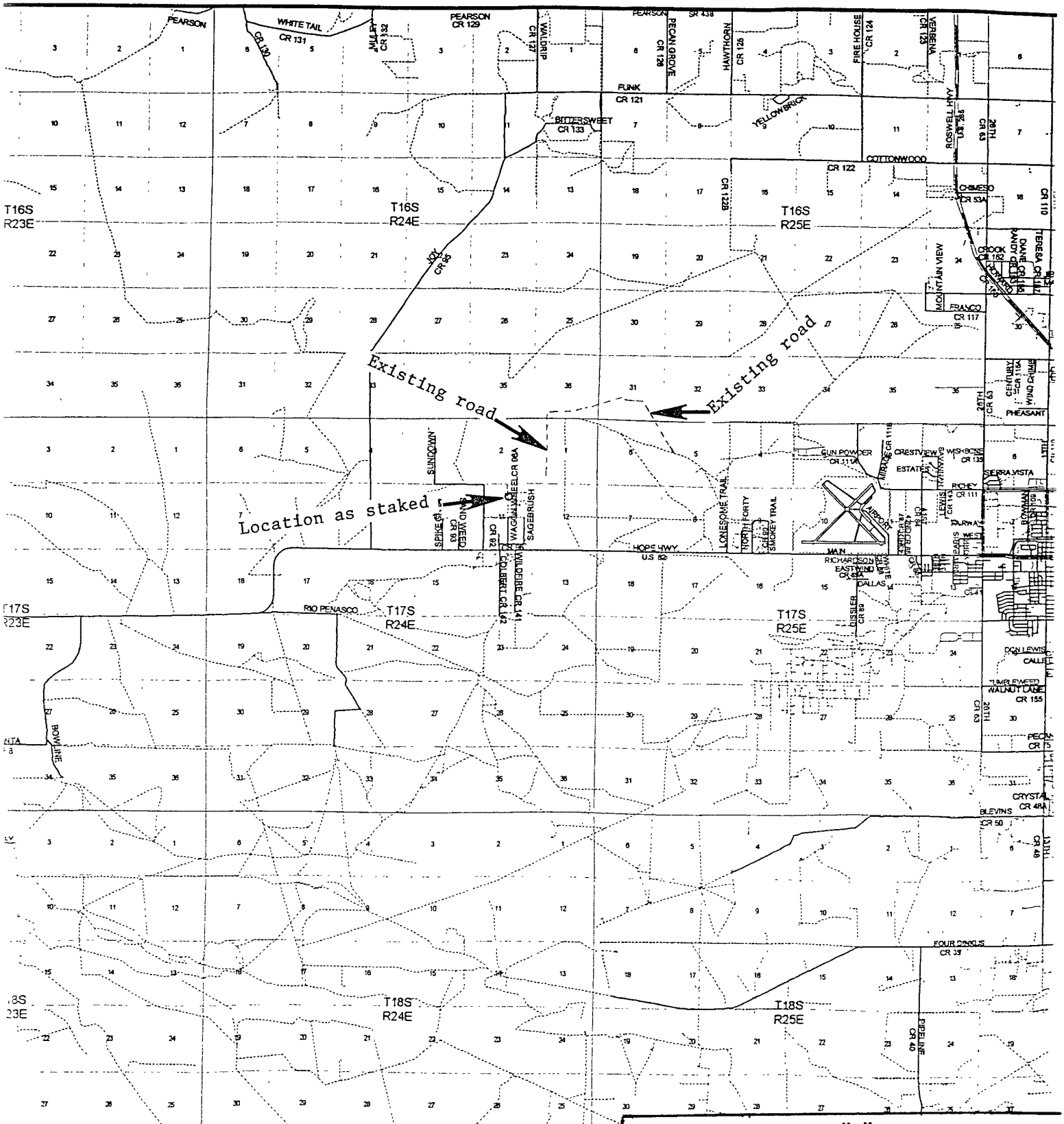



EXHIBIT "B"
LOCATION & ACCESS ROAD MAP

LCX ENERGY, LLC.
1724 FEDERAL # 112
UNIT "B" SECTION 11
T17S-R24E EDDY CO. NM

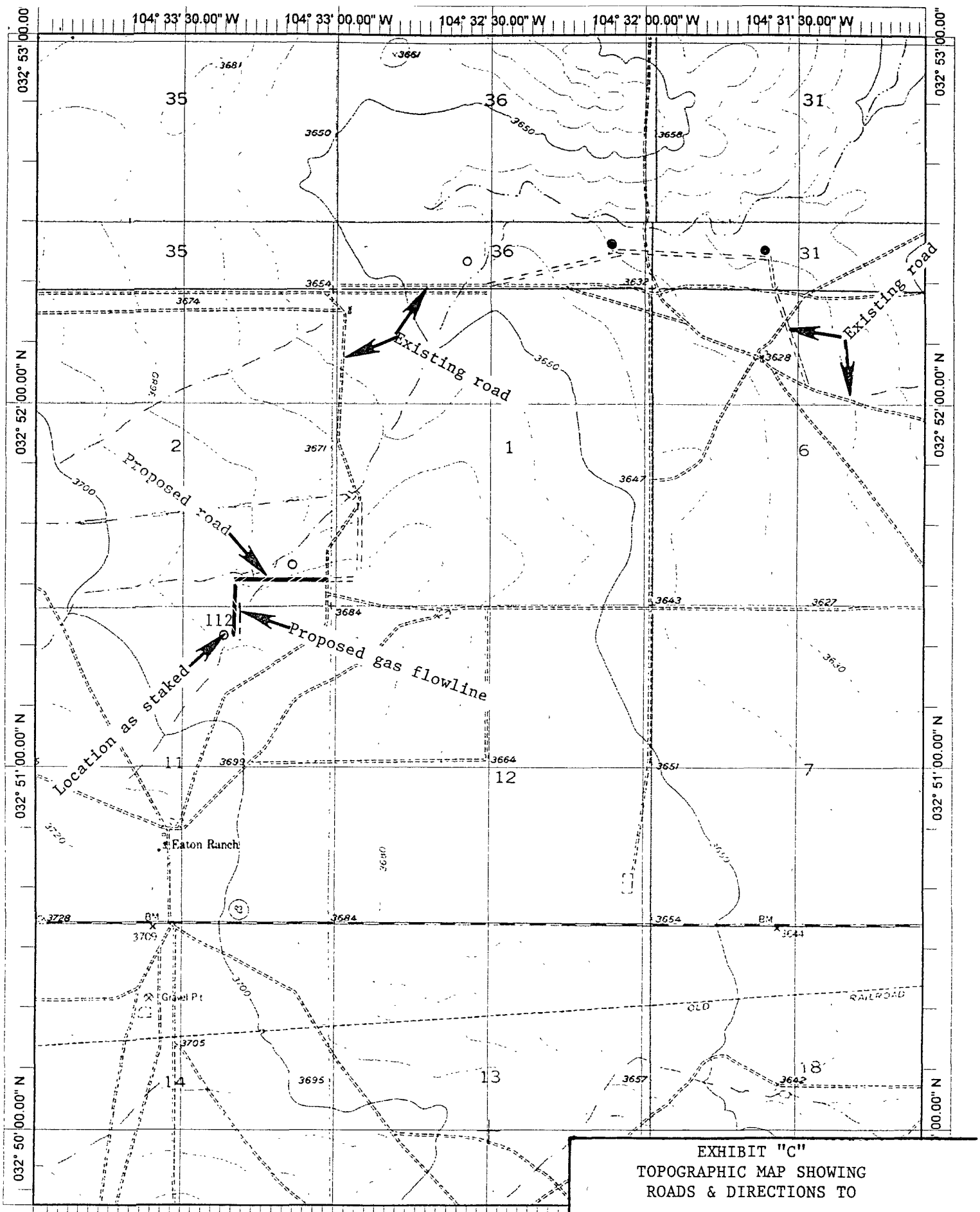



EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

LCX ENERTY, LLC.
1724 FEDERAL # 112
UNIT "B" SECTION 11
T17S-R24E EDDY CO. NM

# PECOS DISTRICT
# CONDITIONS OF APPROVAL

| | |
|---|---|
| OPERATOR'S NAME: | LCX Energy |
| LEASE NO.: | NMNM108954 |
| WELL NAME & NO.: | 1724 Federal No 112 |
| SURFACE HOLE FOOTAGE: | 440' FNL & 1880' FEL |
| BOTTOM HOLE FOOTAGE | 660' FSL & 1880' FEL |
| LOCATION: | Section 11, T. 17 S., R 24 E., NMPM |
| COUNTY: | Eddy County, New Mexico |

## TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

## I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## V. SPECIAL REQUIREMENT(S)

**Stipulations for Drilling in Aplomado Falcon Habitat**

The following well pad construction and reclamation measures will be implemented to provide for minimal long-term disturbance:

No Yuccas over 5 feet in height will be damaged by vehicular use or any other activity associated with this project.

Remove all caliche from well pads and roads that are plugged and abandoned. Reclamation will consist of disking, mulching, seeding with a drill (See seed mixture below), and application of water to encourage seed germination.

Well pad size will not exceed 300 ft. x 390 ft. (unless multiple wells are drilled from the same well pad). All unused portions of the well pad associated with producing wells will be reclaimed using the seed mixture below:

| | |
|---|---|
| Buffalograss (Buchloe dactyloides) | 4 lbs/acre |
| Blue grama (Bouteloua gracilis) | 1 lbs/acre |
| Cane bluestem (Bothriochloa barbinodis) | 5 lbs/acre |
| Sideoats grama (Boutelou curtipendula) | 5 lbs/acre |
| Plains bristlegrass (Setaria macrostachya) | 6 lbs/acre |

**Reserve pits for drilling and disposal are not allowed unless the pit can be effectively netted to the satisfaction of the BLM. Steel tank circulation system must be used if the reserve pit is not netted.**

All active raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete.

All inactive raptor nests will be avoided by a minimum of 200 meters by all activities.

All roads associated with well development will not exceed 30 ft in width

BURIED PIPELINE STIPULATIONS

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder.

Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. Blading of all vegetation will be allowed. Blading is defined as the complete removal of brush and ground vegetation. Clearing of brush species will be allowed. Clearing defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface. In areas where blading and/or clearing is allowed, maximum width of these operations will not exceed **35** feet.

8. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

9. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in row, piles, or berms, unless otherwise approved by the Authorized Officer. A berm will be left over the ditch line to allow for settling back to grade.

10. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

11. The holder will reseed. Seeding will be done according to the attached seeding requirements, using the following seed mix.

| | |
|---|---|
| ( X ) seed mixture 1 | ( ) seed mixture 3 |
| ( ) seed mixture 2 | ( ) seed mixture 4 |

12. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported.

All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

# 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 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

## C. RESERVE PITS

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 130' X 150' on the North side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

It has been recommended that the company use the existing fresh water frac pit that is just northeast of this location.

## 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 not required.

If the operator elects to surface the well pad, 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

**Road Width**
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

**Surfacing**
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

**Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

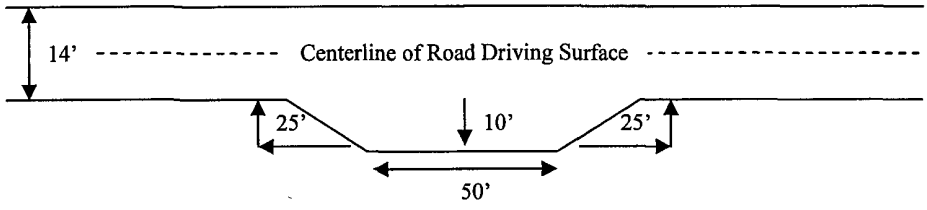
**Ditching**

Ditching shall be required on both sides of the road.

**Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

**Standard Turnout – Plan View**

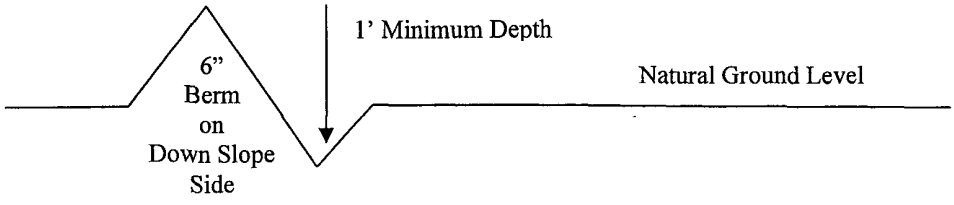



**Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

**Cross Section of a Typical Lead-off Ditch**




All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

**Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

**Culvert Installations**
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

**Cattleguards**
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

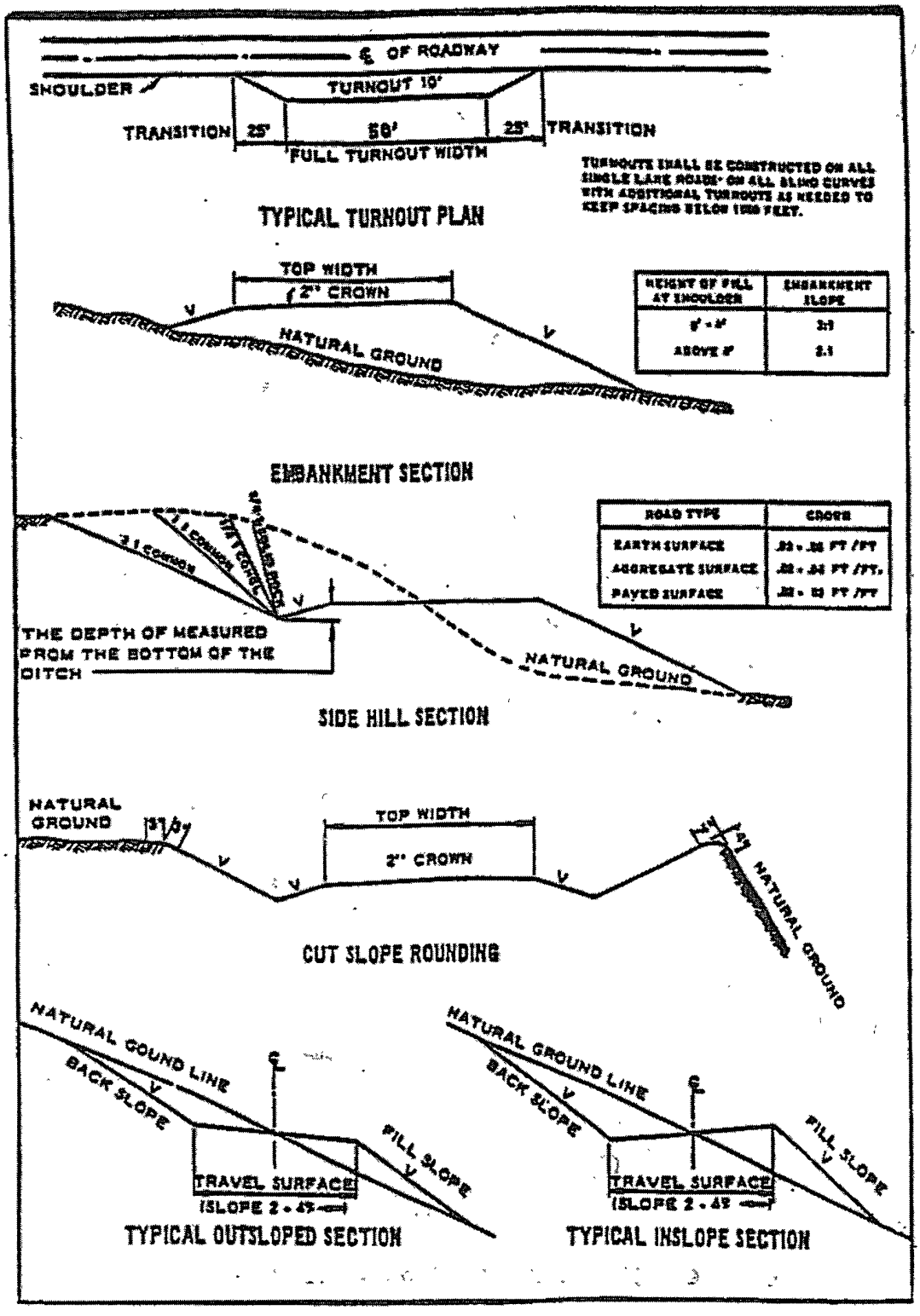
A gate shall be constructed and fastened securely to H-braces.

**Fence Requirement**
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

**Public Access**
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

## Figure 1 – Cross Sections and Plans For Typical Road Sections



# 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, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts 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.

## B. CASING

1. **The 13-3/8 inch casing will be used as surface casing when lost circulation occurs prior to 350 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). **Please provide WOC times to inspector for cement slurries.**

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.

**Possible lost circulation in the Grayburg and San Andres formations.**

2. **If lost circulation does not occur in the surface hole, 8-5/8" casing** shall be set **as surface casing at approximately 1200 feet. Otherwise, the casing will be set as intermediate casing.**

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above.
   **Please provide WOC times to inspector for cement slurries.**

3. 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. Operator shall provide method of verification.
   **Please provide WOC times to inspector for cement slurries.**

   **If 13-3/8" casing is not set, the cement on the production casing must come to surface.**

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.

## 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. 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.

## 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.

**Engineer on call phone (after hours): Carlsbad: (575) 706-2779**

**WWI 122107**

# 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

## B. Pipelines

BURIED PIPELINE STIPULATIONS

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. Blading of all vegetation will be allowed. Blading is defined as the complete removal of brush and ground vegetation. Clearing of brush species will be allowed. Clearing defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface. In areas where blading and/or clearing is allowed, maximum width of these operations will not exceed **35** feet.

8. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

9. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in row, piles, or berms, unless otherwise approved by the Authorized Officer. A berm will be left over the ditch line to allow for settling back to grade.

10. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

11. The holder will reseed. Seeding will be done according to the attached seeding requirements, using the following seed mix.

| | |
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| ( X ) seed mixture 1 | ( ) seed mixture 3 |
| ( ) seed mixture 2 | ( ) seed mixture 4 |

12. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

# IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

## A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

## B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

| | |
|---|---|
| Buffalograss (Buchloe dactyloides) | 4 lbs/acre |
| Blue grama (Bouteloua gracilis) | 1 lbs/acre |
| Cane bluestem (Bothriochloa barbinodis) | 5 lbs/acre |
| Sideoats grama (Boutelou curtipendula) | 5 lbs/acre |
| Plains bristlegrass (Setaria macrostachya) | 6 lbs/acre |

## X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.