



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**GARY E. JOHNSON**  
Governor  
**BETTY RIVERA**  
Cabinet Secretary

**Lori Wrotenbery**  
Director  
**Oil Conservation Division**

March 8, 2002

Mr. M. Craig Clark  
Land Consultant  
Nearburg Producing Company  
3300 North "A" Street  
Building 2, Suite 120  
Midland, Texas 79705

Dear Mr. Clark:

Based upon the reasons stated in your letter of March 6, 2002, and in accordance with the provisions of Division Order No. R-11724, Nearburg Exploration Company, L.L.C. is hereby granted an extension of time until July 15, 2002, in which to commence drilling the well pooled by this order.

Sincerely,

  
LORI WROTENBERY  
Division Director

fd/

cc: Case No. 12791  
OCD - Hobbs

**Nearburg Producing Company**

Exploration and Production  
3300 North "A" Street  
Building 2, Suite 120  
Midland, Texas 79705  
915 686-8235  
Fax 915 686-7806

RECEIVED  
MARCH 06 2002

March 6, 2002

Ms. Lori Wrotenbery, Director  
State of New Mexico  
Oil Conservation Division  
1220 S. Saint Francis Drive  
Santa Fe, NM 87505

RE: Case No. 12791  
Order No. R-11724

Dear Ms. Wrotenbery:

Nearburg Exploration Company, L.L.C. ("NEC") hereby requests an extension until July 15, 2002 in which it must commence the drilling of its Wapiti "31" Fed. Com. #1 well as provided for in the above captioned order.

Nearburg has received an approved APD from the BLM to drill the well, however, said permit does not allow for drilling activity during the lesser prairie chicken's booming season. I have enclosed a copy of the approved APD for your records.

Should you require any additional information to evaluate our request, please let me know.

Very truly yours,



M. Craig Clark  
Land Consultant

MCC/dw  
encl.

cc: Bill Carr

**OPERATOR'S COPY**

Form 3160-3  
(July 1992)

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**SUBMIT IN TRIPPLICATE\***  
(Other instructions on  
reverse side)

**FORM APPROVED**  
OMB NO. 1004-0138  
Expires: February 28, 1995

5. LEASE DESIGNATION AND SERIAL NO  
**NM 92780**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO  
**Wapiti 31 Federal Com #1**

9. API WELL NO

10. FIELD AND POOL, OR WILDCAT

**La Rica Morrow; West**

11. SEC. T., R., M., OR BLK.  
AND SURVEY OR AREA

**Section 31-18S-34E**

12. COUNTY OR PARISH

**Lea**

13. STATE

**NM**

1a. TYPE OF WORK

**DRILL**

**DEEPEN**

b. TYPE OF WELL

OIL WELL

GAS WELL

OTHER

SINGLE ZONE

MULTIPLE ZONE

2. NAME OF OPERATOR

**Nearburg Producing Company**

3. ADDRESS AND TELEPHONE NO

**3300 North "A" Street, Bldg 2, Ste 120, Midland, TX 79705 (915) 686-8235**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface **Unit 1, 1650' FSL and 660' FEL**  
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

**4 miles southwest of Buckeye, New Mexico**

15. DISTANCE FROM PROPOSED\*  
LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT  
(Also to nearest dir. unit line, if any)

**660'**

16. NO. OF ACRES IN LEASE

**80'**

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

**320'**

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

**13,700'**

20. ROTARY OR CABLE TOOLS

**Rotary**

21. ELEVATIONS (Show whether OF, RT, GR, & C.)

**3957' GR**

**Capitan Controlled Water Basin**

22. APPROX. DATE WORK WILL START\*

**02/01/2002**

23.

**PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8" J55	48#	350'	300 sx cmt, circ to surface
11"	8-5/8" J55	32#	5200'	1800 sx cmt, circ to surface
7-7/8"	5-1/2" J55,N80	17# & 20#	13,700'	925 sx cmt

Propose to drill the well to sufficient depth to evaluate the Morrow formation. After reaching TD, logs will be run and casing set if the evaluation is positive. Perforate, test and stimulate as necessary to establish production.

Acreage dedication 320; E/2 of Section 31

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED**

IN ABOVE SPACE DESCRIBE PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*Kim Stewart*

TITLE **Regulatory Analyst**

DATE **01/03/2002**

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

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:

APPROVED BY

*Leslie L. Shen*

TITLE **FIELD MANAGER**

DATE **2/19/02**

\*See Instructions On Reverse Side

**APPROVAL FOR 1 YEAR**

Title 18 U.S.C. Section 1001, makes 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.

# SPECIAL DRILLING STIPULATIONS

## THE FOLLOWING DATA IS REQUIRED ON THE WELL SIGN

Operator's Name Nearburg Producing Co. Well Name & No. 1-Wapiti 31 Fed. Com.  
Location 1650 F S L & 660 F E L Sec. 31, T. 18S, R. 34E  
Lease No. NM-92780 County Lea State New Mexico

The Special stipulations check marked below are applicable to the above described well and approval of this application to drill is conditioned upon compliance with such stipulations in addition to the General Requirements. The permittee should be familiar with the General Requirements, a copy of which is available from a Bureau of Land Management office. EACH PERMITTEE HAS THE RIGHT OF ADMINISTRATIVE APPEAL TO THESE STIPULATIONS PURSUANT TO TITLE 43 CFR 3165.3 AND 3165.4.

This permit is valid for a period of one year from the date of approval or until lease expiration or termination whichever is shorter.

### I. SPECIAL ENVIRONMENT REQUIREMENTS

- Lesser Prairie Chicken (slips attached)      ( ) Floodplain (slips attached)  
 San Simon Swale (slips attached)      ( ) Other

### II. ON LEASE - SURFACE REQUIREMENTS PRIOR TO DRILLING

The BLM will monitor construction of this drill site. Notify the  Carlsbad Field Office at (505) 234-5972 ( ) Hobbs Office (505) 393-3612, at least 3 working days prior to commencing construction.

Roads and the drill pad for this well must be surfaced with 6 inches of compacted caliche.

( ) All topsoil and vegetation encountered during the construction of the drill site area will be stockpiled and made available for resurfacing of the disturbed area after completion of the drilling operation. Topsoil on the subject location is approximately \_\_\_ inches in depth. Approximately \_\_\_ cubic yards of topsoil material will be stockpiled for reclamation.

( ) Other.

### III. WELL COMPLETION REQUIREMENTS

( ) A communitization Agreement covering the acreage dedicated to the well must be filed for approval with the BLM. The effective date of the agreement must be prior to any sales.

Surface Restoration: If the well is a producer, the reserve pit(s) will be backfilled when dry, and cut-and-fill slopes will be reduced to a slope of 3:1 or less. All areas of the pad not necessary for production must be re-contoured to resemble the original contours of the surrounding terrain, and topsoil must be re-distributed and re-seeded with a drill equipped with a depth indicator (set at a depth of 1/2 inch) with the following seed mixture, in pounds of Pure Live Seed (PLS), per acre.

- |   |   |
|---|---|
| ( ) A. Seed Mixture 1 (Loamy Sites)                   | <input checked="" type="checkbox"/> B. Seed Mixture 2 (Sandy Sites) |
| Side Oats Grama ( <i>Bouteloua curtipendula</i> ) 5.0 | Sand Dropseed ( <i>Sporobolus cryptandrus</i> ) 1.0                 |
| Sand Dropseed ( <i>Sporobolus cryptandrus</i> ) 1.0   | Sand Lovegrass ( <i>Eragrostis trichodes</i> ) 1.0                  |
|   | Plains Bristlegrass ( <i>Setaria macrostachya</i> ) 2.0             |
| ( ) C. Seed Mixture 3 (Shallow Sites)                 | ( ) D. Seed Mixture 4 (Gypsum Sites)                                |
| Sideoats Grama ( <i>Boute curtipendula</i> ) 1.0      | Alkali Sacaton ( <i>Sporobolus airoides</i> ) 1.0                   |
|   | Four-Wing Saltbush ( <i>Atriplex canescens</i> ) 5.0                |

Seeding should be done either late in the fall (September 15 - November 15, before freeze up, or early as possible the following spring to take advantage of available ground moisture.

( ) Other.

### RESERVE PIT CONSTRUCTION STANDARDS

The reserve pit shall be constructed entirely in cut material and lined with 6 mil plastic.

Mineral material extracted during construction of the reserve pit may be used for development of the pad and access road as needed. Removal of any additional material on location must be purchased from BLM.

Reclamation: Reclamation of this type of deep pit will consist of pushing the pit walls into the pit when sufficiently dry to support track equipment. The pit liner is **NOT TO BE RUPTURED** to facilitate drying, a ten month period after completion of the well is allowed for drying of the pit contents.

The pit area must be contoured to the natural terrain with all contaminated drilling mud buried with at least 3 feet of clean soil. The reclaimed area will then be seeded as specified in this permit.

### OPTIONAL PIT CONSTRUCTION STANDARDS

The reserve pit may be constructed in predominantly fill material if:

- (1) Lined as specified above and
- (2) A borrow/caliche/gravel pit can be constructed immediately adjacent to the reserve pit and it capable of containing all reserve pit contents. The mineral material removed in the process can be used for pad and access road construction. However, a material sales contract must be purchased from the BLM prior to removal of the material.

Reclamation of the reserve pit consists of bulldozing all reserve pit contents and contaminants into the borrow pit and covering with a minimum of 3 feet of clean soil material. The entire area must be recontoured, all trash removed, and reseeded as specified in this permit.

### CULTURAL

Whether or not an archaeological survey has been completed and notwithstanding that operations are being conducted as approved, the lessee/operator/grantee shall notify the BLM immediately if previously unidentified cultural resources are observed during surface disturbing operations. From the time of the observation, the lessee/operator/grantee shall avoid operations that will result in disturbance to these cultural resources until directed to proceed by BLM.

### TRASH PIT STIPS

All trash, junk, and other waste material shall be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not permitted.

PRAIRIE CHICKENS

No surface use is allowed during the following time periods; unless otherwise specified, this stipulation does not apply to operation and maintenance of production facilities.

On the lands described below:

All of Section 31, T18R34

For the purpose of: Protecting Prairie Chickens:

Drilling for oil and gas, and 3-D geophysical exploration operations will not be allowed in Lesser Prairie Chicken Habitat during the period of March 15 through June 15, each year. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 a.m. and 9:00 a.m. The 3:00a.m. and 9:00a.m. restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during the period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

CULTURAL RESOURCES STIPULATIONS  
CARLSBAD FIELD OFFICE

PROJECT Wapiti Wash 31 #1 Access Rd. Report No. 02-NM-080-256

SITE PROTECTION AND EMPLOYEE EDUCATION: All employees of the project will be informed that cultural sites are to be avoided by all personnel, personal vehicles and company equipment. They will be also be notified that it is illegal to collect, damage or disturb cultural resources.

yes A. Monitoring is required.

yes 1. A copy of these stipulations will be supplied to the archaeological monitor at least two (2) working days prior to the start of construction activities.

yes 2. No construction activities, including vegetation removal, may begin before the arrival of the archaeological monitor.

yes 3. The archaeological monitor will:

no a. Ensure that the site protection barrier is located as indicated on the attached map(s).

no b. Observe all surface disturbing activities within \_\_\_\_\_ feet of cultural site

\_\_\_\_\_ (see attached map(s)).

yes c. Other: Monitor All construction of Rd + Access & Initial  
yes d. Submit a report of the monitoring activities within thirty (30) days of completion of construction monitoring unless other arrangements are made with the BLM. These stipulations of location must be attached to the report.

no B. The grantee must select one of the following alternatives:

- \_\_\_\_\_ 1. Controlled test excavations to determine if cultural resources are present;
- \_\_\_\_\_ 2. Reduction of the project size to avoid all significant cultural materials;
- \_\_\_\_\_ 3. Relocation of the project;
- \_\_\_\_\_ 4. Preparation and implementation of a data recovery plan for cultural sites(s)

no C. SITE BARRIER/FENCING:

\_\_\_\_\_ 1. A temporary site protection barrier(s) will be erected prior to \_\_\_\_\_ construction. The barrier(s) will, at a minimum, consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There will be no construction activities or vehicular traffic past the barrier(s). The barrier(s) will remain in place through reclamation and reseeding.

\_\_\_\_\_ 2. A permanent fence(s) will be erected prior to \_\_\_\_\_ construction. There will be no construction activities or vehicle traffic past the fence(s).

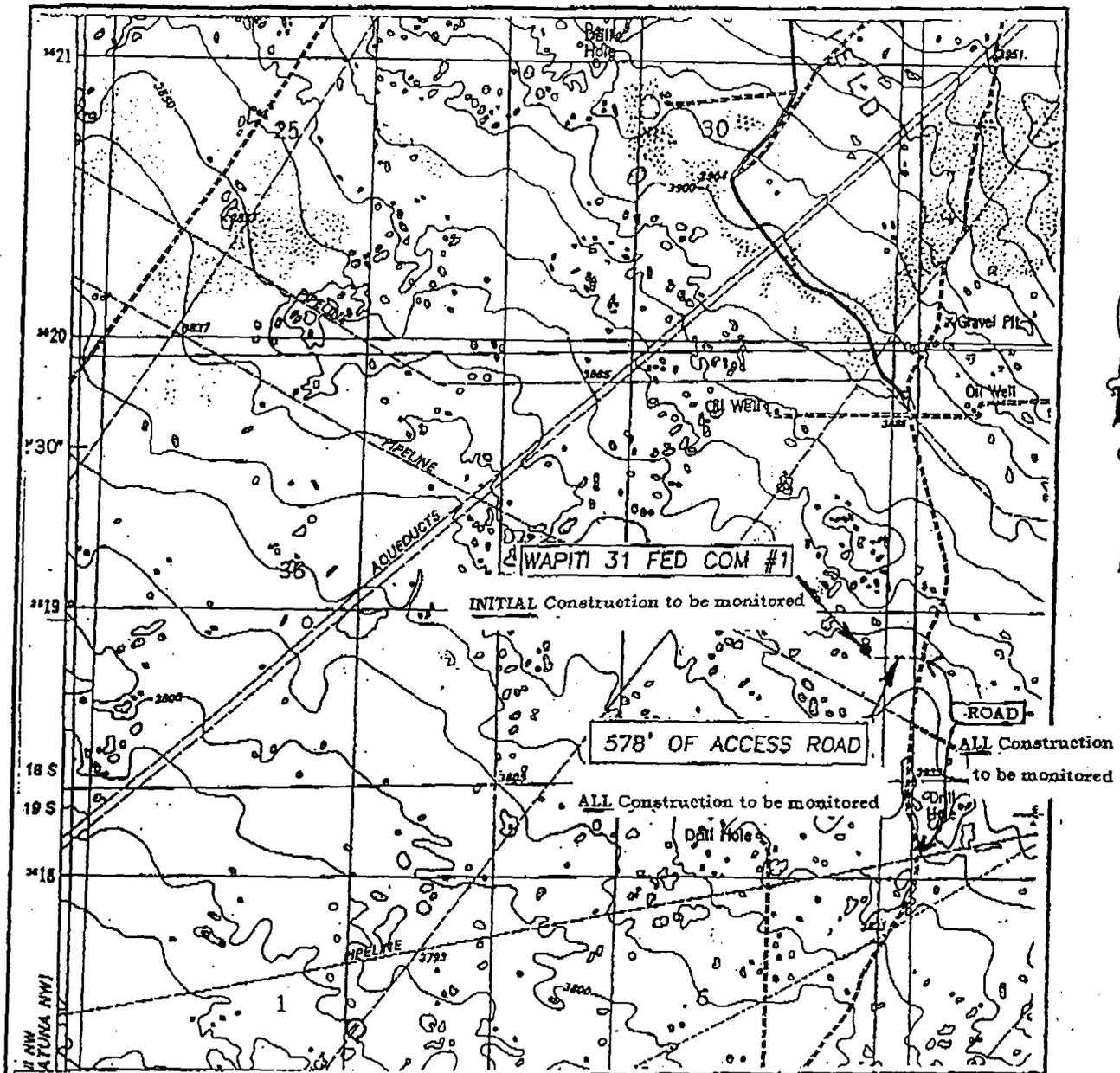
\_\_\_\_\_ 3. The barrier(s)/fence(s) will be placed as indicated on the attached map(s).

no D. CONSTRUCTION ZONES: There will be a no construction zone \_\_\_\_\_

yes E. OTHER:

See Attached MAP

# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'  
IRONHOUSE WELL, N.M.

SEC. 31 TWP. 18-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1650' FSL & 660' FEL

ELEVATION 3957'

OPERATOR NEARBURG PRODUCING COMPANY

LEASE WAPITI 31 FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP

IRONHOUSE WELL, N.M.

JOHN WEST SURVEYING  
HOBBS, NEW MEXICO  
(505) 393-3117

## CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Nearburg Producing

Well Name & No: Wapiti "31" Federal Com No. 01

Location: 1650 ' FSL & 660 ' FEL Sec. 31, T.18 S., R. 34E.

Lease: NM 92780 Lea County

### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5972 for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13 3/8 inch 8 5/8 inch 5 1/2 inch

C. BOP tests

2. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan should be activated prior to drilling the Queen formation. A copy of the plan shall be posted at the drilling site.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing ( size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

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

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

### II. CASING:

1. The 13 3/8 inch surface casing shall be set at 1700 Ft. or 25 Ft. into the Rustler or use the Lea County Alternative Conditions of Approval ( attached) and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 8 5/8 inch intermediate casing is to circulate to surface .

3. The minimum required fill of cement behind the 5 1/2 inch production casing is cover all H-C potential formations by at least 500 Ft.

### III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13 3/8 inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 5 M psi.  
(Con't)

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- The tests shall be done by an independent service company.
  - The results of the test shall be reported to the appropriate BLM office.
  - Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
  - Testing must be done in a safe workman-like manner. Hard line connections shall be required.

#### **IV. DRILLING MUD:**

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

- Recording pit level indicator to indicate volume gains and losses.
- Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
- Flow-sensor on the flow-line to warn of abnormal mud returns from the well.

## Alternative Conditions of Approval

### Drilling Fluids, Casing and Cementing Requirements for Most of Lea County:

#### Casing and Cementing

Surface casing is to be set at a sufficient depth to protect useable water zones and cement circulated to surface. In areas where the salt section (Salado) is present, surface casing should be set at least 25 feet into the top of the Rustler Anhydrite and cement circulated to the surface.

As an alternative, surface casing may be set through the Santa Rosa Formation or other potable water bearing zones and circulate cement to surface. For wells requiring an intermediate casing string, such string shall be cemented to the ground surface. In the case where intermediate casing is not required the operator shall case and cement the production hole to the ground surface.

While drilling from the surface casing to the Rustler fm it is recommended that operators periodically sweep the hole with viscous low water loss pills to help build a filter cake across useable water zones in the redbeds.

#### Drilling Fluid

Fresh water or fresh water spud mud shall be used to drill to surface casing depth. If surface casing is set at a lesser depth than the top of the Rustler fm., fresh water spud mud may be used to drill down to the first salt in the Rustler Fm. after which brine or fresh water may be used.

Non-toxic or biodegradable water based polymers, drilling paper, starch and gels may be used in the mud system in order to retard seepage into the redbeds.

Two to five percent diesel or crude oil may be used in the redbed section in order to control heaving shales and mudstones.

Caustics and Lime shall not be used in the red beds but may be added when the Rustler formation is reached. However, sodium carbonate maybe used for alkalinity or ph control while drilling the redbeds above the Rustler fm.

Additionally, questions of whether an additive may be used should be referred to the Roswell Field office.

EXHIBIT A

BLM Lease Number: NM-92780  
Company Reference: 1-Wapiti 31 Fed. Com.  
Nearburg Producing Co.

STANDARD STIPULATIONS FOR PERMANENT RESOURCE ROADS  
THE CARLSBAD FIELD OFFICE AREA, BLM

The Holder/grantee/permittee shall hereafter be identified as the Holder in these stipulations. The Authorized Officer is the person who approves the Application for Permit to Drill (APD) and/or Right-of-Way (ROW). The Holder shall ensure that a copy of the grant and attachments, including stipulations and map, will be on location during construction. BLM personnel may request to view a copy of your permit during construction to ensure compliance with all stipulations.

GENERAL REQUIREMENTS

- A. 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.
- B. 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 U.S.C. 2601, *et. seq.*) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized by this 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.
- C. 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). This agreement applies without regard to whether a release is caused by the Holder, its agent, or unrelated third parties.
- D. If, during any phase of the construction, operation, maintenance, or termination of the road, any oil or other pollutant should be discharged, 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 the Holder, regardless of fault. Upon failure of the Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup 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 the Holder of any liability or responsibility.
- E. The Holder shall minimize disturbance to existing fences and other improvements on public domain surface. 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 make a documented good-faith effort to 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.

F. The Holder shall ensure that the entire right-of-way, including the driving surface, ditching and drainage control structures, road verges and any construction sites or zones, will be kept free of the following plant species: Malta starthistle, African rue, Scotch thistle and salt cedar.

Holder agrees to comply with the following stipulations:

1. ROAD WIDTH AND GRADE

The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 12 feet, unless local conditions dictate a different width). The maximum grade is 10 percent unless the box below is checked. Maximum width of surface disturbance from construction will be 30 feet.

Those segments of road where grade is in excess of 10% for more than 300 feet shall be designed by a professional engineer.

2. CROWNING AND DITCHING

Crowning with materials on site and ditching on one side of the road on the uphill side will be required. The road cross-section will conform to the cross section diagrams in Figure 1. If conditions dictate, ditching may be required for both sides of the road; if local conditions permit, a flat-bladed road may be considered (if these conditions exist, check the appropriate box below). The crown shall have a grade of approximately 2% (i.e., 1" crown on a 12' wide road).

Ditching will be required on both sides of the roadway as shown on the attached map or as staked in the field.

Flat-blading is authorized on segment(s) delineated on the attached map.

3. DRAINAGE

Drainage control shall be ensured over the entire road through the use of borrow ditches, outsloping, insloping, natural rolling topography, lead-off (turnout) ditches, culverts, and/or drainage dips.

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

SPACING INTERVAL FOR TURNOUT DITCHES

Percent slope	Spacing interval
0% - 4%	400' - 150'
4% - 6%	250' - 125'
6% - 8%	200' - 100'
8% - 10%	150' - 75'

A typical lead-off ditch has a minimum depth of 1 foot below and a berm 6 inches above natural ground level. The berm will be on the down-slope side of the lead-off ditch. The ditch end will tie into vegetation whenever possible. For this road the spacing interval for lead-off ditches shall be at:

- 400 foot intervals.
- \_\_\_\_\_ foot intervals.
- locations staked in the field as per spacing intervals above.
- locations delineated on the attached map.

B. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter must be 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map (Further details can be obtained from the Roswell District Office or the appropriate Resource Area Office).

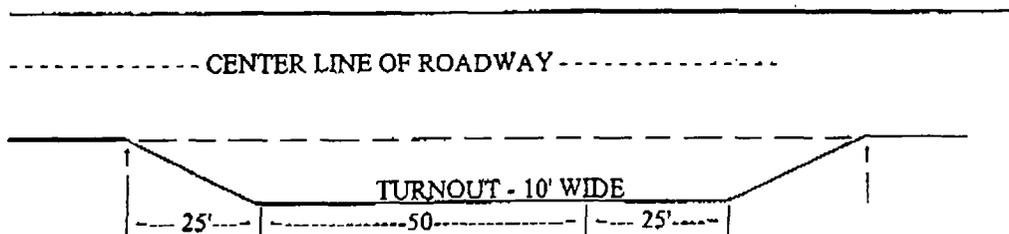
C. On road slopes exceeding 2%, drainage dips shall drain water into an adjacent lead-off ditch. Drainage dip location and spacing shall be determined by the formula:

$$\text{spacing interval} = \frac{400'}{\text{road slope in \%}} + 100'$$

Example: 4% road slope: spacing interval =  $\frac{400}{4} + 100 = 200$  feet

#### 4. TURNOUTS

Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000-foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the following diagram:



STANDARD TURNOUT - PLAN VIEW

#### 5. SURFACING

Surfacing of the road or those portions identified on the attached map with caliche or other surfacing material may, at the direction of the Authorized Officer, be required if necessary to maintain traffic within the right-of-way. When surfacing is required, surfacing materials will be compacted to a minimum thickness of six inches with caliche material. The width of surfacing shall be no less than the driving surface.

A sales contract for the removal of mineral materials (caliche, sand, gravel, fill dirt, etc.) from an authorized pit, site, or on location must be obtained from the BLM prior to using any such mineral material from public lands. Contact the BLM solid minerals staff for the various options to purchase mineral material.

6. CATTLEGUARDS

Where used, all cattleguard grids and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) Load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads (exceeding H-20 loading), are anticipated (See BLM standard drawings for cattleguards). Cattleguard grid length shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum width) will be provided on one side of the cattleguard unless requested otherwise by the surface user.

7. MAINTENANCE

The Holder shall maintain the road in a safe, usable condition. A maintenance program shall include, but not be limited to blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance, and surfacing.

8. PUBLIC ACCESS

Public access along this road will not be restricted by the Holder without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the Authorized Officer.

9. CULTURAL RESOURCES

Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the Holder, or any person working on the Holder's behalf, on public or Federal land shall be immediately reported to the authorized officer. The 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 the proper mitigation measures will be made by the authorized officer after consulting with the Holder.

10. SPECIAL STIPULATIONS: