ATS-08-172

FEB 11 2008
OCD-ARTESIA

OCD-ARTESIA

Form 3160-3
(February 2005)

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. **NMNM-119271**

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

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

1a Type of work. ☑ DRILL ☐ REENTER

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

8. Lease Name and Well No. 37002
Harroun Ranch Fed, ~~20702,~~ #2

2 Name of Operator **BTA Oil Producers** 3002

9 API Well No **30-015-36115**

3a. Address **104 S. Pecos, Midland, TX 79701**

3b. Phone No. *(include area code)* **(432) 682-3753**

10. Field and Pool, or Exploratory **Harroun Ranch;Delaware, NE96878**

4. Location of Well *(Report location clearly and in accordance with any State requirements *)*

At surface **330' FSL & ~~2310'~~ 890' FEL SESE** B. Hunt

At proposed prod zone **Carlsbad Controlled Water Basin**

11 Sec , T. R. M. or Blk. and Survey or Area **Sec. 20, T23S-R29E**

14 Distance in miles and direction from nearest town or post office*
2 miles northeast from Malaga, NM

12 County or Parish **Eddy**

13. State **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) **330'**	16 No. of acres in lease **160**	17 Spacing Unit dedicated to this well **40 acres**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft **1650'**	19 Proposed Depth **6900'**	20. BLM/BIA Bond No. on file **NM1195**
21 Elevations (Show whether DF, KDB, RT, GL, etc) **3018' GL**	22. Approximate date work will start* **ASAP**	23. Estimated duration **25 days**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must 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 BLM.

25. Signature Pam Inskeep	Name *(Printed/Typed)* **Pam Inskeep**	Date **01/07/2008**

Title **Regulatory Administrator**

Approved by *(Signature)* **/S/ DAVID D. EVANS**	Name *(Printed/Typed)* **/S/ DAVID D. EVANS**	Date FEB 7 2008
Title **FIELD MANAGER**	Office **CARLSBAD FIELD OFFICE**	

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

Title 18 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

*(Instructions on page 2)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals 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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015-36115	96878	Harroun Ranch;Delaware, NE

Property Code	Property Name	Well Number
	HARROUN RANCH FEDERAL	2

OGRID No.	Operator Name	Elevation
003002	BTA OIL PRODUCERS	3018'

Surface Location

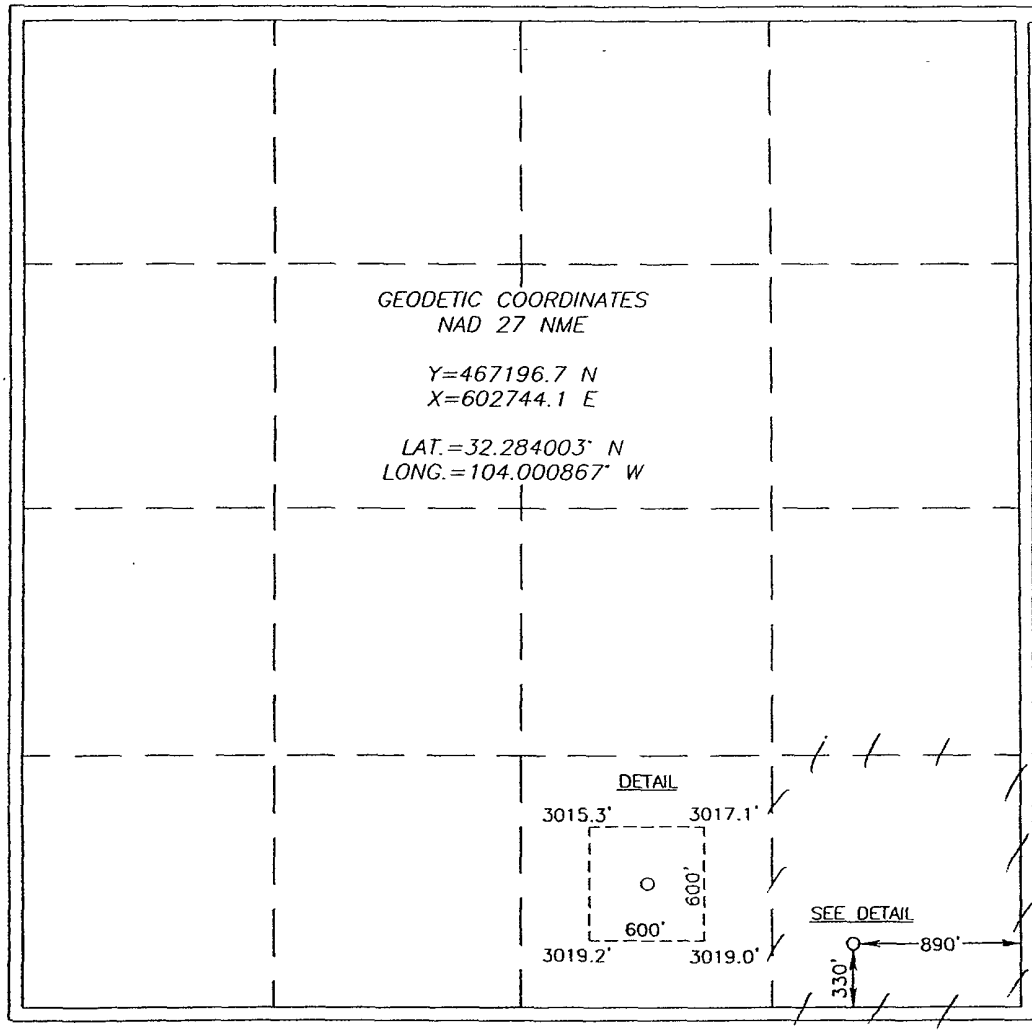
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	20	23-S	29-E		330	SOUTH	890	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.

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



OPERATOR CERTIFICATION

I hereby certify that the information 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 or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Pam Inskeep 01/07/08
Signature Date

Pam Inskeep
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

NOVEMBER 21, 2007
Date Surveyed AR

Signature & Seal of Professional Surveyor
RONALD J. EIDSON NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR
12/13/07 07:11:16 AM

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

-E-

APPLICATION FOR DRILLING

BTA OIL PRODUCERS
Harroun Ranch Federal, 20702, No. 2
330' FSL & 890' FEL
Sec. 20, T23S, R29E
Eddy County, New Mexico

In conjunction with Form 3160-3, Application for Permit to Drill, BTA Oil Producers submits the following 10 items for pertinent information in accordance with BLM requirements:

1. Geologic surface formation is Quaternary.

2. Estimated top of geologic markers & depths of anticipated fresh water, oil or gas:

Base Salt	2,593'	
Delaware Mountain Group	2,818'	
Brushy Canyon	4,868'	Oil
Brushy Canyon Marker	6,193'	Oil
Bone Spring	6,503'	Oil

No other formations are expected to yield oil, gas, or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13-3/8" csg at 450' and circulating cement back to surface. Potash/fresh water sands will be protected by setting 8-5/8" csg at 2850' and circulating cement back to surface. The Delaware and Bone Spring intervals will be isolated by setting 5-1/2" csg to total depth and circulating cement above the base of the 8-5/8" casing.

All shows of fresh water and minerals will be reported and protected. A sample will be taken of any water flows and furnished to the BLM, Division of Minerals. All oil and gas shows will be adequately tested for commercial possibilities, reported and protected.

3. Proposed Casing and Cementing Program:

Hole Size	OD Casing	Setting From	Depth to	Weight	Grade	Joint	Collapse Factor	Burst Factor	Tension Factor
17-1/2"	13-3/8"	0	450'	54.5#	J55	STC	4.73	4.96	19.00J
11"	8-5/8"	0	2,850'	32#	J55	STC	1.80	2.59	4.31J
7-7/8"	5-1/2"	0	6,900'	17#	J55	LTC	1.48	1.26	2.10J

Depending upon availability at the time that the casing is run, equivalent weights and grades may be substituted.

All casing will be new.

4. Cement Program:

   13-3/8" casing will be cemented with 550 sx Prem Plus w/1% $CaCl_2$, circulated to surface. 14.8 ppg, 1.34 yield.

   8-5/8" casing will be cemented with 400 sx Light Prem Plus with 5 #/sx salt, 0.6% Halad-9, 1/8#/sx Poly-E-Flake, 12.6 ppg, 2.02 yield. Tail with 300 sx Prem Plus 14.8 ppg, 1.33 yield, circulated to surface.

   5-1/2" casing will be cemented with 400 sx Interfill C with 1/8#/sx Poly-E-Flake, 11.9 ppg, 2.47 yield. Tail with w/500 sx Super H w/3% salt, 0.5% Halad-344, 5 #/sx Gulsonite, 0.4% CFR-3, 13.2 ppg, 1.63 yield, to cement back 500' above 8-5/8" shoe.

   Note: All casing strings will be pressure tested to 0.22 psi/ft. of setting depth or 1500 psi (whichever is greater) after cementing and prior to drillout.

5. Pressure Control Equipment:

   The blowout preventer equipment (BOP) shown in Exhibit A will consist of a (3M system) double ram type (3000 psi WP) preventor and a bag-type (Hydril) preventor (3000 psi WP). Both units will be hydraulically operated and the ram type preventor will be equipped with blind rams on top and 4-½" drill pipe rams on bottom. The BOP's will be installed on the 13-3/8" surface casing and utilized continuously until TD is reached. All BOP's and associated equipment will be tested as per BLM drilling Operations Order No. 2.

   Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines, and choke manifold having a 3000 psi WP rating.

6. Mud Program:

   Surface to 450': 8.5 to 8.8 ppg fresh water spud with 35 to 45 sec/1000 cc viscosity.

   450' to 2,850': Brine water. Will use lime for pH control in range 10 to 11. Will sweep hole with gel slugs as required for hole cleaning. Mud wt = 10 ppg.

   2,850' to TD: 8.6 to 9.2 ppg controlled brine water. Will use lime for pH control in range 10 to 11. Will sweep hole with salt gel slugs as required for hole cleaning. Will use paper for seepage losses. Will adjust fluid weight as required using brine water.

7. Auxiliary Equipment:

    a) Upper Kelly cock valve with handle available.
    b) Lower Kelly cock valve with handle available.
    c) Safety valves and subs to fit all drill string connections in use.
    d) Monitoring of mud system will be mechanical.

8. Testing Logging and Coring Program:

    Drill Stem Tests will be based on geological sample shows.

    Open electrical logging program will be:

    i. TD to Surface: Gamma Ray/Compensated Neutron
    ii. TD to Intermediate Csg: Dual Laterolog, Gamma Ray, Compensated Neutron, Density, Sonic.
    iii. No coring program is planned.
    iv. Additional testing will be initiated subsequent to setting the 5-1/2" production csg. Specific intervals will be targeted based on log evaluation, geological sample shows, and drill stem tests.

9. Potential Hazards:

    No abnormal pressures or temperatures are anticipated. If H2S 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: 3000 psi. Estimated BHT: 115° F. No H_2S is anticipated to be encountered.

10. Anticipated Starting Date and Duration of Operations:

    Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig is available. Move in operations and drilling is expected to take 25 days. If production casing is run, an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flowlines to place the well on production.

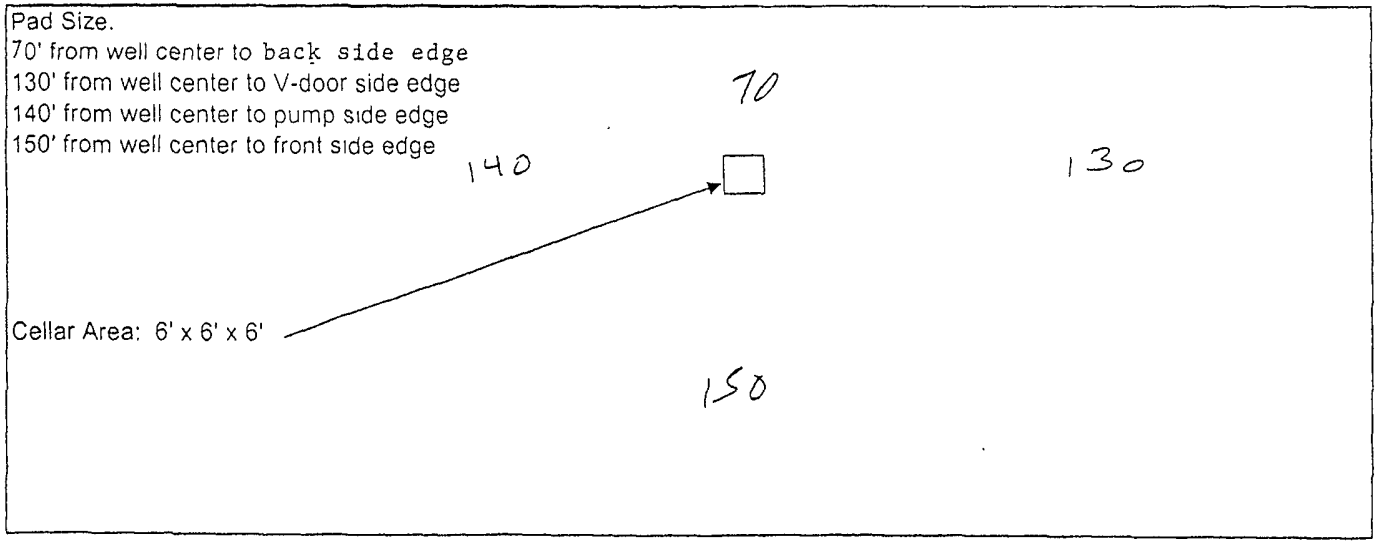
BTA OIL PRODUCERS - PROPOSED LOCATION

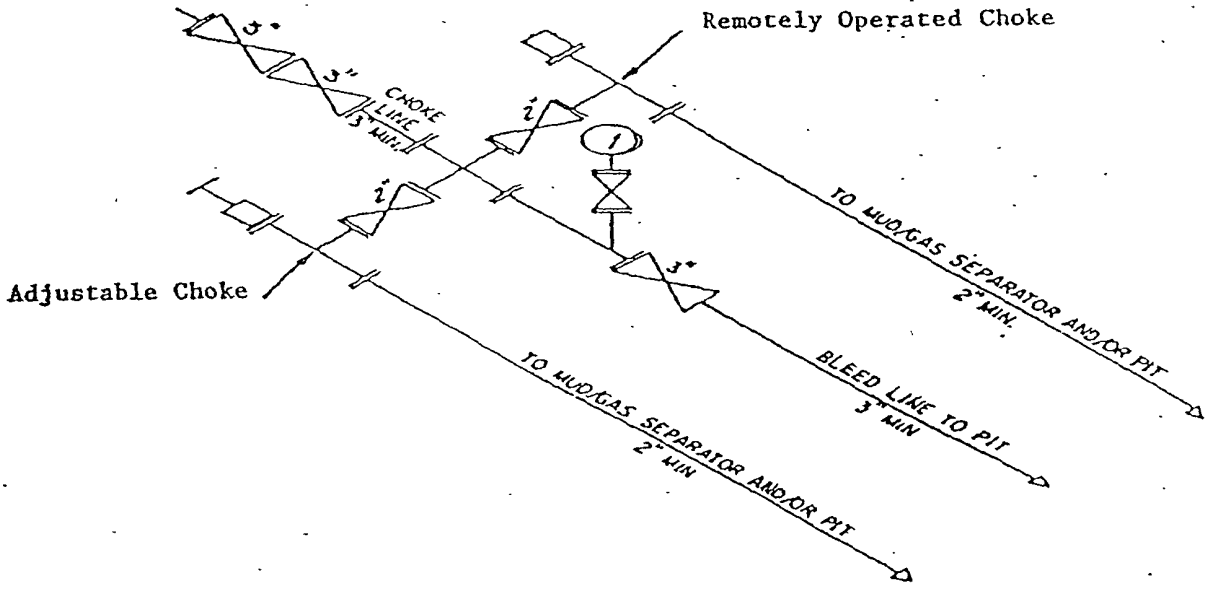
BTA OIL PRODUCERS
#2, Harroun Ranch Federal, 20702
330' FSL & 890' FEL
Sec. 20, T23S, R29E
Eddy County, New Mexico

PROPOSED LOCATION SIZE
RIG TBD

Entrance roads to be located as per BLM inspector recommendation

SEE ATTACHED FOR CONDITIONS OF APPROVAL

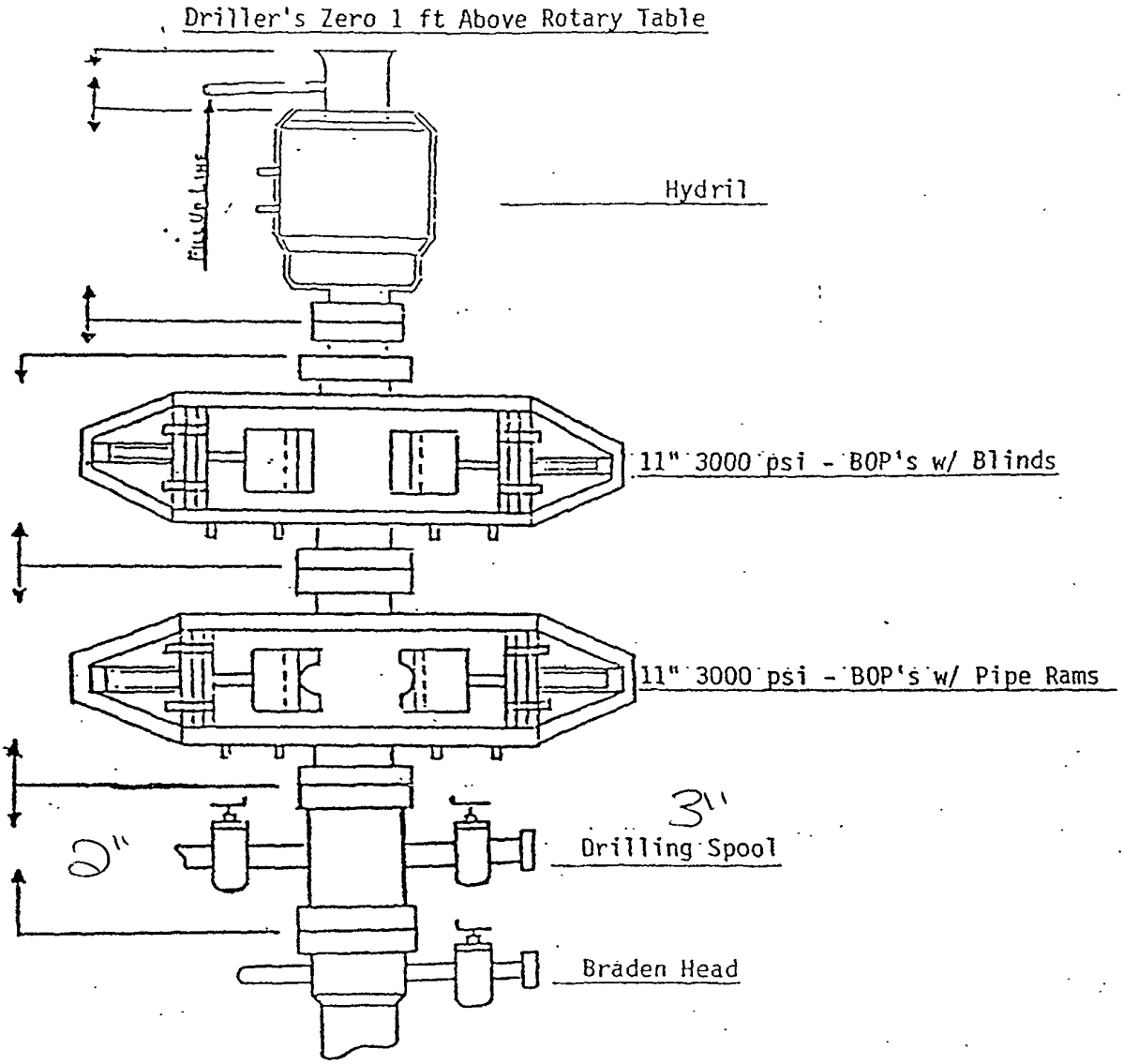




3M CHOKE MANIFOLD EQUIPMENT — CONFIGURATION MAY VARY

BTA OIL PRODUCERS
#2, Harroun Ranch Federal, 20702
330' FSL & 890' FEL
Sec. 20, T23S, R29E
Eddy County, New Mexico

BTA OIL PRODUCERS



BTA OIL PRODUCERS
#2, Harroun Ranch Federal, 20702
330' FSL & 890' FEL
Sec. 20, T23S, R29E
Eddy County, New Mexico

Exhibit -A- (2)

SURFACE USE PLAN SUMMARY

FOR

BTA OIL PRODUCERS
#2, Harroun Ranch Federal, 20702
Sec. 20, T23S, R29E
Eddy County, New Mexico

LOCATED:	2 Miles northeast from Malaga, NM
FEDERAL LEASE NUMBER:	NMNM-119271
SURFACE OWNERSHIP:	Federal
	Grazing Lessee: Tyson Mahaffey P. O. Box 161 Loving, NM 88256
POOL:	Harroun Ranch; Delaware, NE
DEDICATED ACRES:	40
EXHIBITS:	A. BOP Schematic B. Topographic Vicinity Map C. Topographic Road Map D. Well Location Map E. Well Location and Acreage Plat (C-102) F. Area Location Map

MULTI-POINT SURFACE USE & OPERATIONS PLAN

BTA OIL PRODUCERS

#2, Harroun Ranch Federal, 20702
330' FSL & 890' FEL
Sec. 20, T23S, R29E
Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the referenced well. The plan describes the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance, and the procedures to be followed in rehabilitating the surface after completion of the operation so that complete appraisal can be made concerning the environmental effects associated with the operations.

1. Existing Roads

   A. The well was staked by John West Surveying Company.
   B. Exhibit –B– is a topographic map showing the location of the proposed well as staked with existing roads and conditions within the one mile area. The proposed location is approximately 2 miles northeast from Malaga, New Mexico as shown on Exhibit –C–.
   C. From the intersection of State Hwy. 31 and Co. Rd. 741 (Fishermans Road), go south on Co. Rd. 741 approximately 1 mile. Turn left and go east approximately 2.2 miles. Turn left on main lease road and go north approximately .2 miles. Turn right and go east approximately .5 miles. Turn right and go south approximately .2 miles. The proposed location is approximately 200 feet west as shown on Exhibits –C– and –D–.

2. Access Roads

   A. Our proposed new access road will be 118 feet east from the well pad to the existing county road as shown on Exhibit –C–.
   B. The maximum width of the road will be 15'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion. The road will be maintained during drilling operations and, if productive, as long as producing.
   C. Native caliche will be used for the access road and drill pad, compacted and watered. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be 1°.
   D. No cattle guards, grates, or fence cuts will be required. No turnouts are planned.
   E. We are, with this application, applying for new access ROW from Eddy Co Rd 741 extending to this location for BLM surface.

3. Location of Existing Wells

   A. All existing wells within ½ mile radius of our proposed well are shown on Exhibit –F–.

4. Location of Existing and/ or Proposed Facilities if Well is Productive.

   A. If well is productive, we will use the existing well pad for the tank battery and all necessary production facilities.
   B. If necessary, the well will be operated by means of an electric prime mover. Electric power poles and lines will be set along side of the access road.
   C. All flow lines will adhere to API standards.
   D. Additional facilities, if necessary for operations, will be applied for via Sundry notice with a schematic diagram prior to installation.
   E. Should the well be successfully completed for production, the original topsoil from the site will be returned to the location. The drill site will be contoured as close as possible to the original state.
   F. All facilities will be painted a flat, nonreflective, earthtone color to match the standard environmental colors within six months of installation.

5. Location and Type of Water Supply

   A. Water for drilling and completion operations will either be purchased from commercial water stations in the area and trucked to the well site using the existing and proposed roads or transported from a pre-existing water well by plastic temporary "fas-line" laid on the surface alongside existing roads.

6. Source of Construction Materials

   A. Caliche used for construction of the drilling pad and access road will be obtained from the closest existing caliche pit as designated by the BLM or from prevailing deposits found under the location.
   B. If there is not sufficient material available, it will be purchased from the area designated by the BLM.

7. Methods of Handling Waste Disposal

   A. This will be a closed loop system.
   B. Water produced during operations will be collected in tanks until hauled to an approved disposal system or a separate disposal application will be submitted to the BLM for appropriate approval.

C. Oil and condensate produced during testing will be stored in test tanks until sold.
D. Current laws and regulations pertaining to the disposal of human waste will be complied with.
E. The supplier will pick up salts remaining after completion of well, including broken sacks.
F. Trash, waste paper and garbage will be disposed of by hauling to an approved and available disposal. All waste material will be contained in a totally enclosed trash basket with a fine wire mesh, to prevent wind scattering during collection. The road and pad will be kept litter free.

8. Ancillary Facilities

A. It is possible that a mobile home will be used at the well site during drilling operations.

9. Wellsite Layout

A. Exhibit –D– shows the proposed pad layout.
B. No major cut and fill will be required at the well site; however, it will require clearing and leveling.
C. Mud pits in the active circulating system will be steel pits.

10. Plans for Restoration of Surface

A. Following drilling and/or completion operations, all equipment and material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site as clean as possible.
B. The unused pad area will be contoured to the natural terrain. Topsoil will be evenly distributed over the entire location. The seedbed will be prepared by disking to a depth of four to six inches following the contour.
C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the BLM will be complied with and will be accomplished as expeditiously as possible.
D. All disturbed areas will be seeded on the contour at a depth of one-half inch using the following mixture:

1 pound per acre Alkali Sacaton (Sporobolus airoides)
5 pound per acre Four-wing Saltbush (Atriplex canescens)

E. Seeding will be completed after September 15 and prior to November 15th before freeze up or as early as possible the following spring to take advantage of available ground moisture.
F. Newly constructed access road will be recontoured, disked, and seeded as specified above. All rehabilitation work, including seeding, will be completed as specified by the BLM, or sooner if conditions permit.

11. Surface Topography

A. The surface ownership is Federal. Grazing Lessee: Tyson Mahaffey, P. O. Box 161, Loving, NM 88256. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.
B. The surface owner and grazing lessee have been contacted and notified of the staking of our well and our plans for drilling
C. The wellsite and access route are located to the south of Harroun Ranch. The area is fairly flat with sandy loam soil underlain with caliche.
D. The Pecos River is approximately 1-1/2 miles west/southwest of the general proximity of the location. There is also the Harroun Canal, which runs along the path of the river.
E. There are no houses or building within one mile of the drillsite.
F. Signs identifying and locating our well will be maintained at the drillsite and principle entrance, commencing with the spudding of the well.
G. An archaeological survey was conducted and a report has been prepared by Southern New Mexico Archaeological Services and furnished directly to the Carlsbad BLM office.

12. Bond Coverage: NM1195

13. Operator's Representative:

A. The field representative that is responsible for assuring compliance with the approved surface use plan is:

Drilling Manager: Mr. L. G. Johnson
Phone: 432/682-3753 (Office)
432/682-5149 (Home)
432/553-2756 (Mobile)

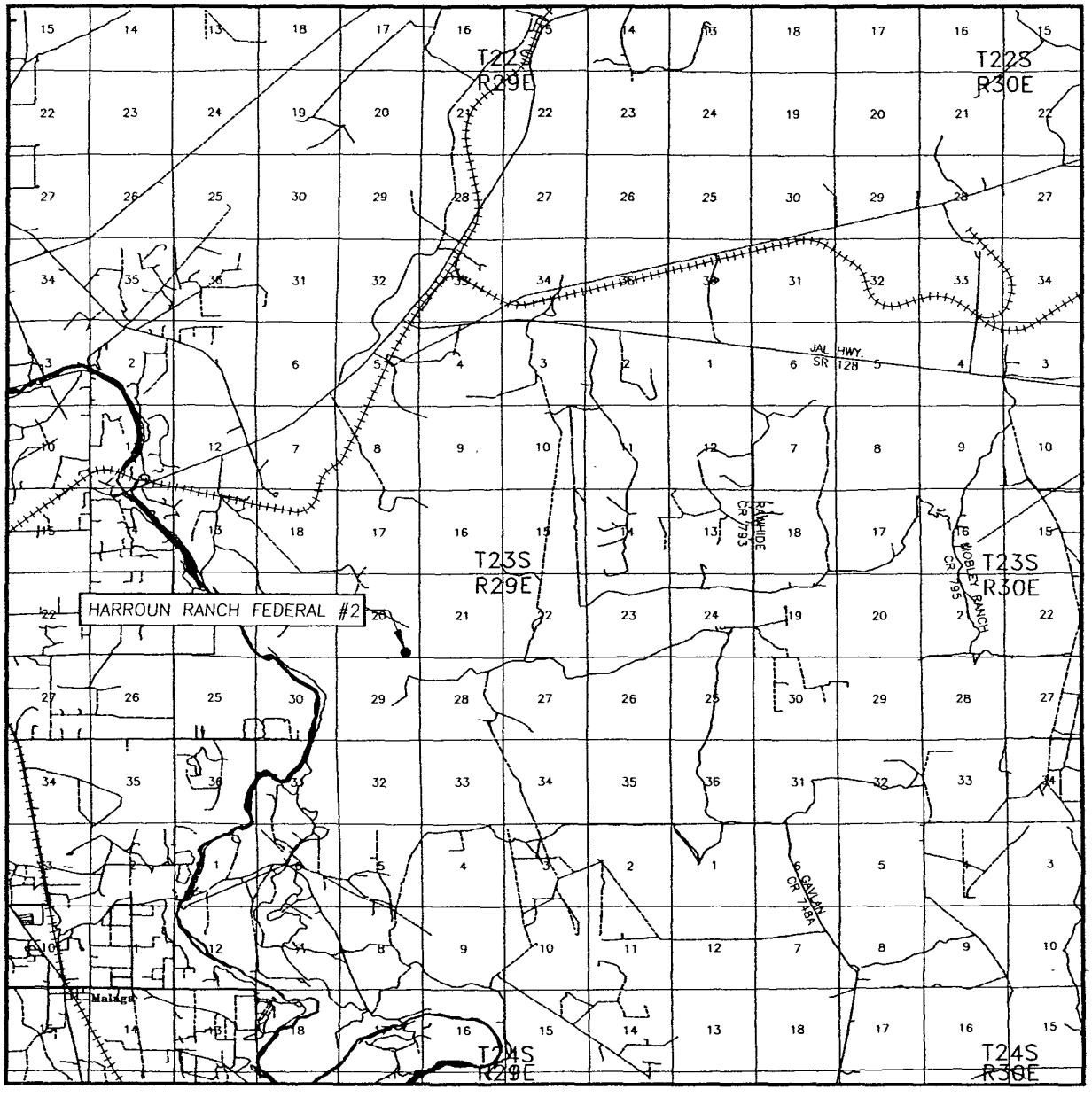
OPERATOR CERTIFICATION

BTA OIL PRODUCERS
Harroun Ranch Federal, 20702, No. 2
330' FSL & 890' FEL
Sec. 20, T23S, R29E
Eddy County, New Mexico

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 USC 1001 for the filing of false statements. Executed this 7th day of January, 2008.

L. G. Johnson
Drilling Manager
BTA Oil Producers
104 S. Pecos
Midland, TX 79701
(432) 682-3753

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 20 TWP. 23-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 330' FSL & 890' FEL

ELEVATION 3018'

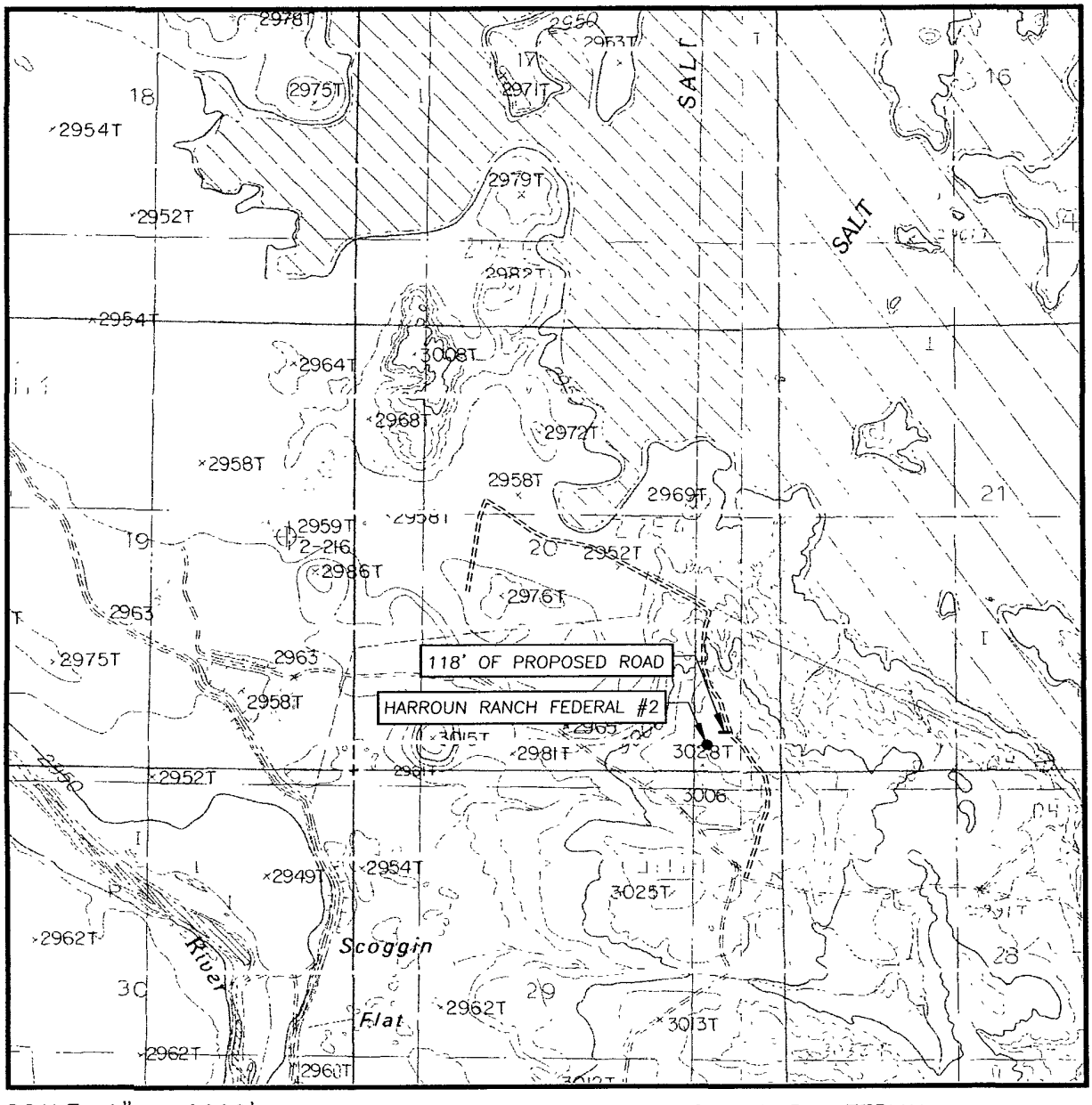
OPERATOR BTA OIL PRODUCERS

LEASE HARROUN RANCH FEDERAL

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

Exhibit -B-

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
LOVING, N.M. – 10'

SEC. 20 TWP. 23-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 330' FSL & 890' FEL

ELEVATION 3018'

OPERATOR BTA OIL PRODUCERS

LEASE HARROUN RANCH FEDERAL

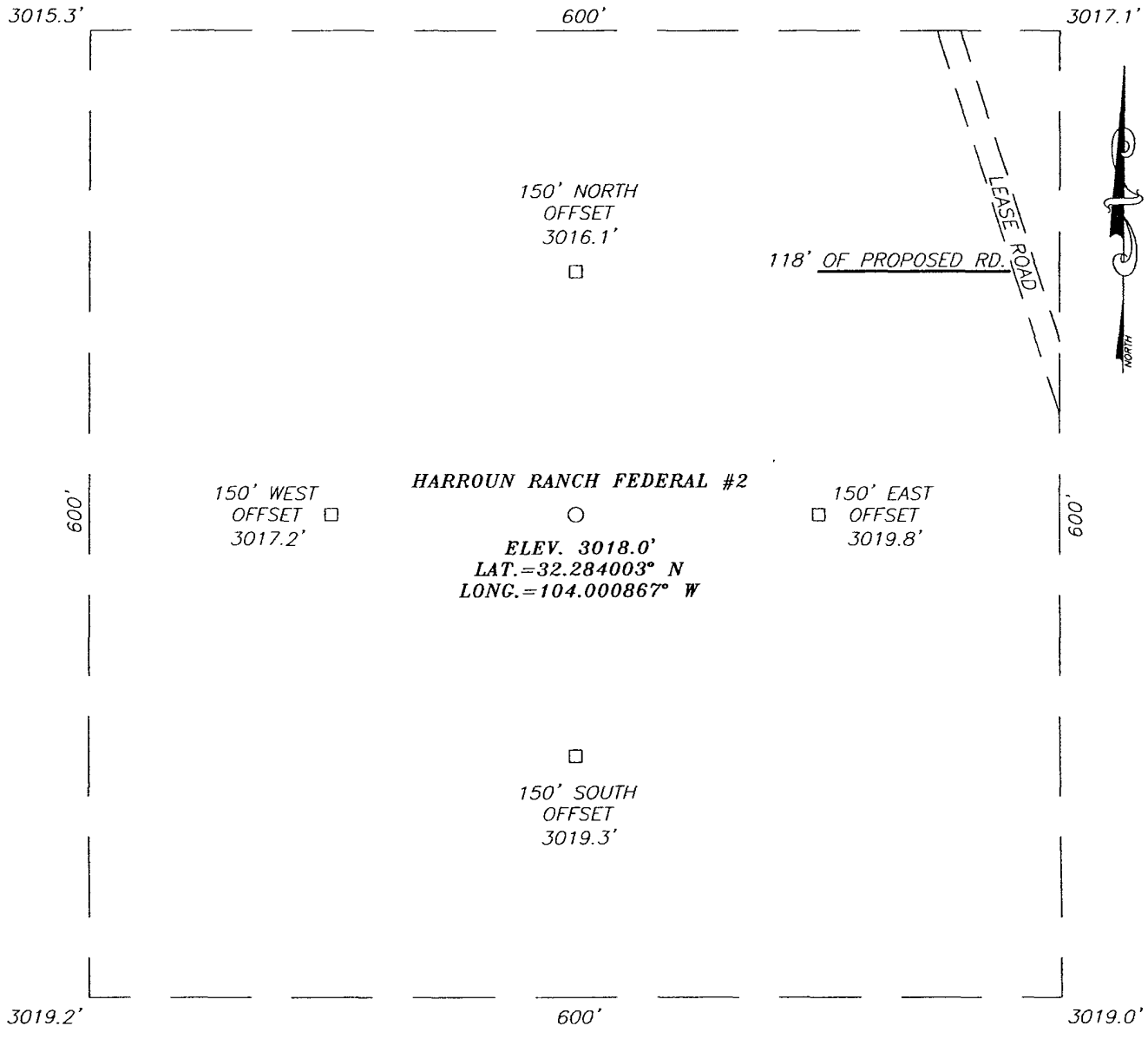
U.S.G.S. TOPOGRAPHIC MAP
LOVING, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

Exhibit -C-

SECTION 20, TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #31 AND CO. RD. #741 (FISHERMANS RD.), GO SOUTH ON CO. RD. #741 APPROX. 1.0 MILE. TURN LEFT AND GO EAST APPROX. 2.2 MILES. TURN LEFT ON MAIN LEASE ROAD AND GO NORTH APPROX. 0.2 MILES. TURN RIGHT AND GO EAST APPROX. 0.5 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.2 MILES. THIS LOCATION IS APPROX. 200 FEET WEST.

100 0 100 200 Feet

Scale: 1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO

HOBBS, N.M. 88240

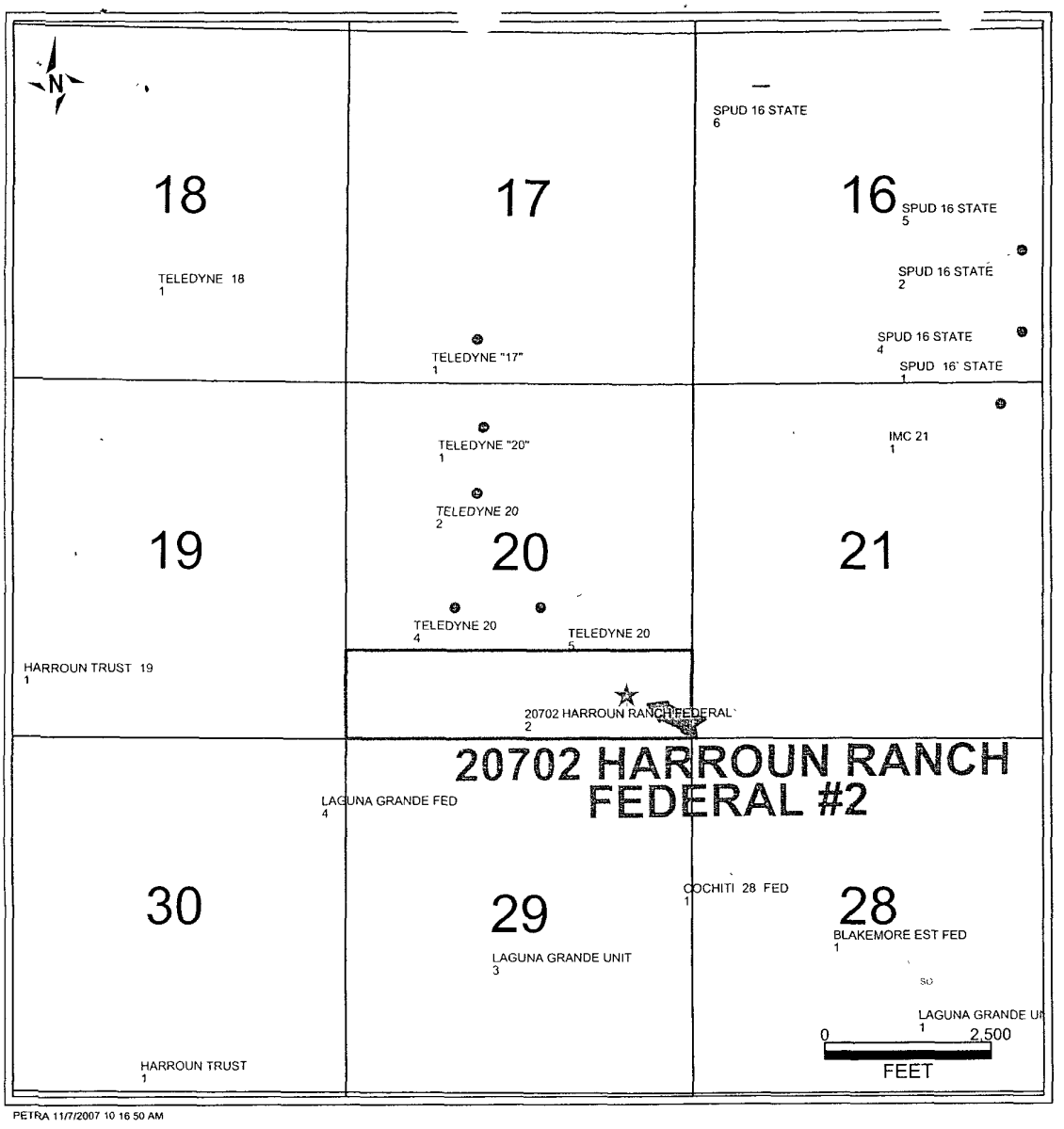
(505) 393-3117

BTA OIL PRODUCERS

HARROUN RANCH FEDERAL #2 WELL
LOCATED 330 FEET FROM THE SOUTH LINE
AND 890 FEET FROM THE EAST LINE OF SECTION 20,
TOWNSHIP 23 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 11/21/07	Sheet 1 of 1 Sheets		
W.O. Number: 07.11.1614	Dr By: AR	Rev 1:N/A	
Date: 11/29/07	Disk:	07111614	Scale: 1"=100'

Exhibit -D-



PETRA 11/7/2007 10 16 50 AM

Exhibit -F-

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BTA Oil Producers
LEASE NO.:	NM-119271
WELL NAME & NO.:	2-Harroun Ranch Federal
SURFACE HOLE FOOTAGE:	330' FSL & 890' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 20, T. 23 S., R 29 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)

V-DOOR WEST.

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

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

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.

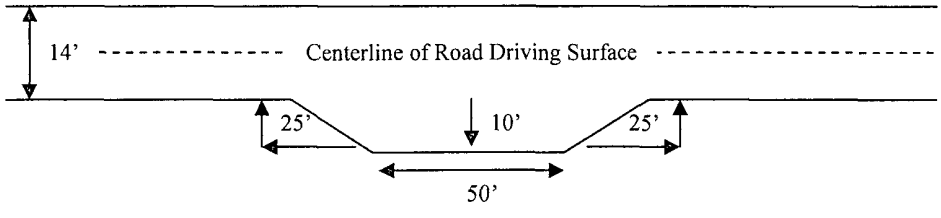
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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

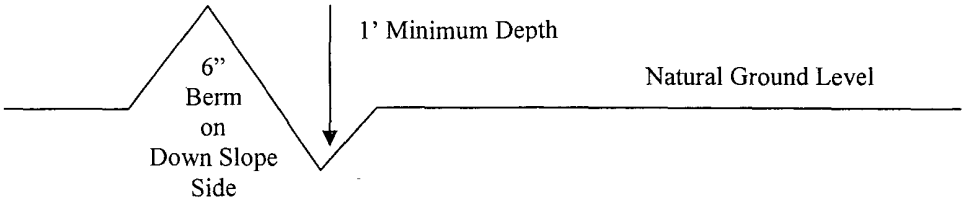


Drainage

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:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ 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.

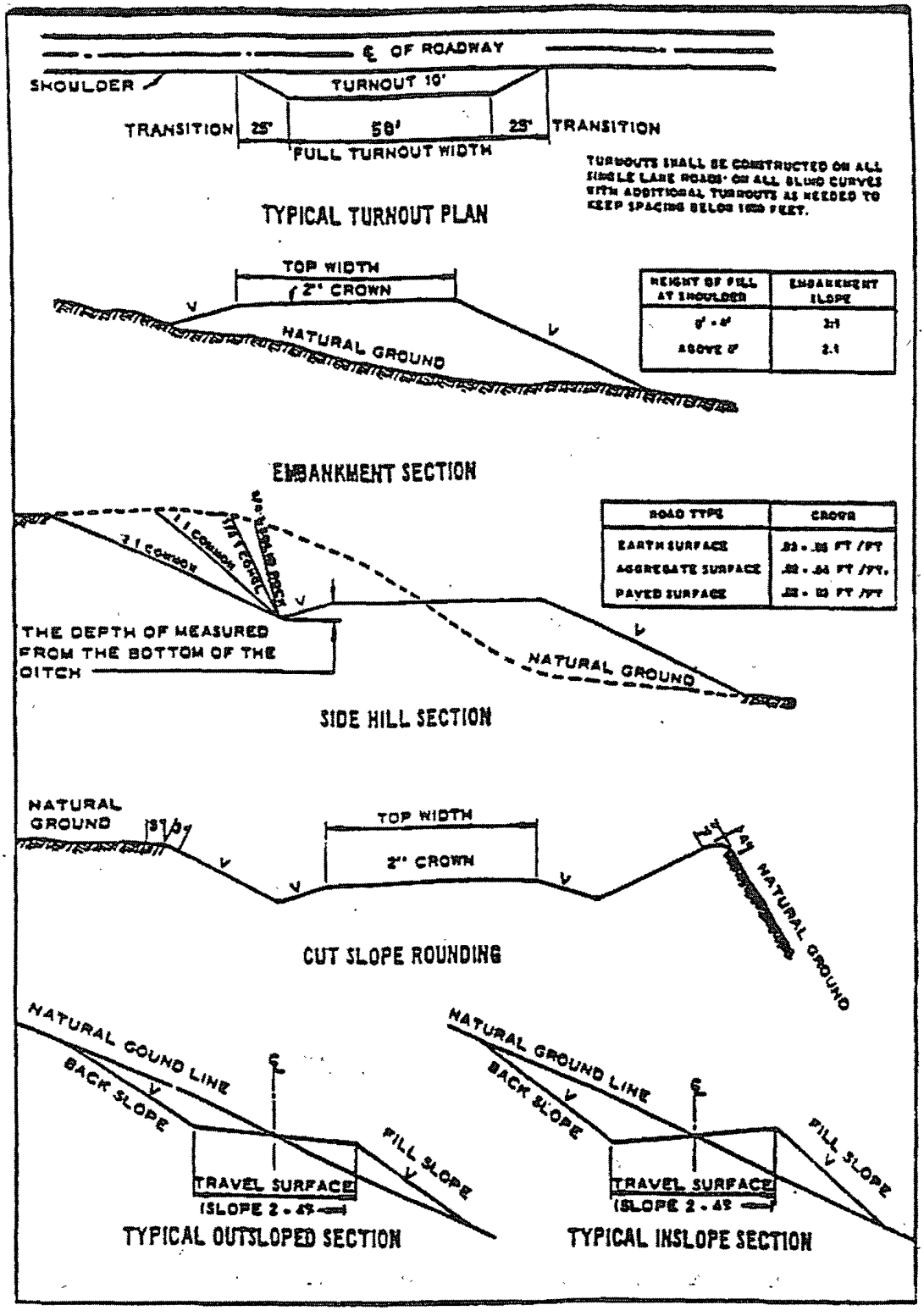
A gate shall be constructed and fastened securely to H-braces.

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 4 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 the area, 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 surface casing shall be set **a minimum of 25 feet above the salt at approximately 450** 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.

High cave/karst.
Possible lost circulation in the Delaware and Bone Spring formations.

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

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

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

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.

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 4 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.

D. DRILL STEM TEST

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

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

WWI 020208

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

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.

The 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.

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorised officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass (*Setaria magrostachya*) 1.0	
Green Spangletop (*Leptochloa dubia*)	2.0
Side oats Grama (*Bouteloua curtipendula)*	5.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

(Insert Seed Mixture Here)

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.