

APPLICATION TO DRILL

GRUY PETROLEUM MANAGEMENT CO.  
 RHODES FEDERAL UNIT # 415  
 UNIT "M" SECTION 4  
 T26S-R37E LEA CO. NM

In response to questions asked under Section II B of Bulletin NTL-6 the following information is provided for your consideration:

1. Location: 660' FSL & 660' FWL SEC. 4 T26S-R37E LEA CO. NM
2. Elevation above sea level: GR. 2984'
3. Geologic name of surface formation: Quaternary Aeolian Deposits.
4. Drilling tools and associated equipment: Conventional rotary drilling rig using fluid as a circulating medium for solids removal.
5. Proposed drilling depth: 3380'
6. Estimated tops of geological markers:

Rustler Anhydrite	1030'	Yates	2700'
Salado Salt	1330'	7 Rivers	3050'
Tansil	2535'		
7. Possible mineral bearing formation:

Tansil	Gas
Yates	Gas
7 Rivers	Gas
8. Casing program:

Hole size	Interval	Casing OD	Weight	Thread	Collar	Grade
12½"	0-750'	8 5/8"	24	8-R	ST&C	J-55
7 7/8"	0-3380'	4½"	11.6	8-R	ST&C	J-55

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9. Cementing & Setting Depth:

8 5/8"	Surface	Set 750' of 8 5/8" J-55 24# ST&C casing. Cement with 600 Sx. of Class "C" cement + additives, circulate cement to surface.
4 1/2"	Production	Set 3380' of 4 1/2" J-55 11.6# ST&C casing. Cement in two stages, first stage cement with 400 Sx. of Class "C" Cement + additives, second stage cement with 600 Sx. of Class "C" Halco Light + additives, circulate cement to surface.

10. Pressure Control Equipment: Exhibit "E". A series 900 3000 PSI working pressure B.O.P. consisting of a double ram type preventor with a bag type annular preventor. BOP unit will be hydraulically operated. Exhibit "E-1" is a Choke manifold and closing unit. BOP will be nipped up on the 8 5/8" casing and will be operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. Flo sensor, PVT, full opening stabbing valve and upper kelly cock will be utilized. No abnormal pressure or temperature is expected while drilling.

11. Proposed Mud Circulating System:

Depth	Mud Wt.	Viscosity	Fluid Loss	Type Mud
0-750'	8.6-8.9	29-36	NC	Fresh water spud mud add paper to control seepage and high viscosity sweeps to clean hole.
750-3380'	10-10-3	29-38	NC	Brine water add paper as needed to control seepage and add lime to control pH, Use high viscosity sweeps to clean hole.

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

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12. Testing, Logging and Coring Program:

- A. Open hole logs: Dual Laterolog, Side Wall Neutron, Density Gamma Ray Caliper from TD to 750'.
- B. Run Gamma Ray, Neutron from 750' to surface.
- C. No DST's, cores or Mud Logger are planned at this time.

13. Potential Hazards:

No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered, H<sub>2</sub>S detectors will be in place to detect any presence. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used. Estimated BHP 750 PSI, estimated BHT 120° .

14. Anticipated Starting Date and Duration of Operation:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 10-15 days. If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15. Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals. The Tansil, Yates, 7 Rvs pay will be perforated and stimulated. The well will be swab tested and potentialized as a gas well.

## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H<sub>2</sub>S 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<sub>2</sub>S Detection and Alarm Systems
  - A. H<sub>2</sub>S detectors and audio alarm system to be located at bell nipple, end of bloopie 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<sub>2</sub>S 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<sub>2</sub>S has on tubular goods and other mechanical equipment.
9. If H<sub>2</sub>S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H<sub>2</sub>S scavengers if necessary.

SURFACE USE PLAN

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1. EXISTING ROADS: Area maps, Exhibit "B" is a reproduction of Lea Co. General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.
  - A. Exhibit "A" shows the proposed well site as staked.
  - B. From Jal New Mexico take State Hi-way 18 South 4.4 miles, turn West cross railroad track bear right follow road .7 miles location is on South side of road.
  - C. Construct power lines and lay pipelines that will be necessary to produce this lease along road R-O-W.
  
2. PLANNED ACCESS ROADS : Approximately 300' of new road will be constructed.
  - A. the access road will be crowned and ditched to a 12'00" wide travel surface with a 40' right-of-way.
  - B. Gradient on all roads will be less tha 5.00%.
  - C. No turnouts will be necessary.
  - D. If needed, road will be surfaced with a minimum of 4" of caliche. This material will be obtained from a local source.
  - E. Centerline for the new access road has been flagged. Earthwork will be as required by field conditions.
  - F. Culverts in the access road will not be used. The road will be constructed to utilize low water crossings for drainage as required by the Lopography.
  
3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A-1"
  - A. Water wells - None known
  - 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"

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4. If, on completion this well is a producer Gruy Petroleum Management Co. will furnish maps and/or plats showing on site facilities or off site facilities if needed. This will be accompanied with a Sundry Notice.

5. LOCATION AND TYPE OF WATER SUPPLY:

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

6. SOURCE OF CONSTRUCTION MATERIAL:

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

7. METHODS OF HANDLING WASTE MATERIAL:

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

B. All trash, junk and other waste material will be contained in trash cages or 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 supplier including broken sacks.

D. Sewage from living quarters will drain into holes with a minium depth of 10'. These holes will be covered during drilling and will be back filled upon completion. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of the well.

E. Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for breaking out. In the event that drilling fluids do not evaporate in a reasonable time they will be hauled off by transports and be disposed of at a state approved disposal facility. Later pits will be broken out to speed drying. Water produced during testing will be put in reserve pits. Any oil or condensate produced will be stored in test tanks until sold and hauled from the site.

8. ANCILLARY FACILITIES:

A. No camps or airstrips to be constructed.

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### 9. WELL SITE LAYOUT

- A. Exhibit "D" shows location and rig layout.
- B. This exhibit indicates proposed location of reserve and trash pits; and living facilities.
- C. Mud pits in the active circulating system will be steel pits and the reserve pit is proposed to be unlined, unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.
- D. If needed, the reserve pit is to be lined with PVC or polyethylene line. The pit liner will be 6 mils thick. Pit liner will extend a minimum, 2'00" over the reserve pits dikes where the liner will be anchored down.
- E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

### 10. PLANS FOR RESTORATION OF SURFACE

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B 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 erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be recontoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

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



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11. OTHER INFORMATION:

- A. Topography consists of sand dunes with a slight dip in the Southwesterly direction. Vegetation is mainly native grasses and Mesquite trees with Shinnery Oak.
- B. Surface and minerals are owned by The Bureau of Land Management, The U.S. DEPARTMENT OF INTERIOR. The surface is used mainly for grazing of livestock and the production of Oil & Gas.
- C. An Archaeological survey will be conducted of the location and proposed roads, then this report will be filed with the Bureau of Land Management in the Carlsbad BLM office.
- D. There are no known dwellings within 1½ mile of this location.

12. OPERATORS REPRESENTATIVE:

Before construction:

TIERRA EXPLORATION INC.  
P.O. BOX 2188  
HOBBS, NEW MEXICO 88241  
OFFICE PHONE 505-392-2112  
JOE T. JANICA

During and after construction:

GRUY PETROLEUM MANAGEMENT COMPANY  
P.O. BOX 14097  
IRVING, TEXAS 75014  
OFFICE PHONE 972-443-6489  
ZENO FARRIS

13. CERTIFICATION: - I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Gruy Petroleum Management Co. contractors/subcontractors in the conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.

NAME : Joe T. Janica  
DATE : 04/07/98  
TITLE : Agent