

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER   
 SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 TERRA RESOURCES, INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 2500, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface 2700 SNL and 1200 EWL  
 At proposed prod. zone Same

**DUPLICATE COPY**

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 35 NW of Grand Junction, CO

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1200'

16. NO. OF ACRES IN LEASE 2080'

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. 2700' NNE of Well #C1

19. PROPOSED DEPTH 4000'

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 Approximate ground level is 5238'

22. APPROX. DATE WORK WILL START\*  
 March 7, 1980

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	32	300	250 sx Reg 'G' w/2% CaCl <sub>2</sub>
7 7/8	4 1/2	11.6	4000	350 sx RFC 10-0

1. Drill 12 1/4" hole to 300' and set surface casing.
2. A double ram BOP will be installed, tested and operational checks made daily and each trip for bit.
3. The hole will be air drilled to approx. 4000' to test the Salt wash member of the Morrison formation.
4. The hole will be logged, and if commercial production is obtained, 4 1/2" casing will be run.

EXHIBITS ATTACHED:

- |  |   |
|--|---|
| A. Location and Elevation Plat                           | F. Drill Pad Layout & Cut-Fill, Cross-Sec.  |
| B. Ten-point Compliance Program                          | G. Drill Rig & production facilities layout |
| C. Blowout Preventer Diagram                             | H. Acidizing-Fracturing Layout              |
| D. Multipoint Requirement for A.P.D.                     | I. Rehabilitation Plan                      |
| E. Access Road Map onto location and Radius Map of area. |   |

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 E. C. Reish, Jr. TITLE District Mgr. Operations DATE 1/21/80

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
 APPROVED BY (Orig. Sgd.) R. A. Henricks FOR E. W. GUYNN  
 DISTRICT ENGINEER DATE JUN 16 1980

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED  
 TO OPERATOR'S COPY

\*See Instructions On Reverse Side

NOTICE OF APPROVAL

FLARING OR VENTING OF  
 GAS IS SUBJECT TO NTL 4-A  
 DATED 1/1/80

*Utah State Oil & Gas*

*Glenn*

FROM: DISTRICT GEOLOGIST, M, SALT LAKE CITY, UTAH  
TO: DISTRICT ENGINEER, O&G, SALT LAKE CITY, UTAH  
SUBJECT: APD MINERAL EVALUATION REPORT

LEASE NO. SLL-064807

OPERATOR: Terra Resources, Inc. WELL NO. 13

LOCATION: SW 1/4 SE 1/4 NE 1/4 sec. 7, T. 17S, R. 26E, SLM  
Grand County, Utah

1. Stratigraphy: / Operator tops reasonable:  
Mancoos (Upper Shale member) - Surface  
Frontier - 2995'  
Dakota - 3305'  
Morrison - 3414'  
Salt Wash - 3735'

2. Fresh Water:  
Possible within sands of the Mancoos.

3. Leasable Minerals:  
Gas in the Dakota + Morrison

4. Additional Logs Needed:  
no.

5. Potential Geologic Hazards:  
none expected

6. References and Remarks:  
within Box X KGS  
USGS map I-736

APPENDIX III

Signature: Joseph J. Breard Date: 2-7-80

Oil and Gas Drilling

EA No. 234-80

United States Department of the Interior  
Geological Survey  
2000 Administration Building  
1745 West 1700 South  
Salt Lake City, Utah 84104

USUAL ENVIRONMENTAL ASSESSMENT

Date April 7, 1980

Operator Terra Resources Well No. Bar X #13  
Location 2700' SNL 1200' EWL Section 7 Township 17S Range 26E  
County Grand State Utah Field/Unit Bar X  
Lease No. SLC-064807 Permit No. \_\_\_\_\_

Prepared by: Glenn M. Doyle  
Environmental Scientist  
Grand Junction, Colorado

Joint Field Inspection Date: February 13, 1980

Field Inspection Participants, Titles, and Organizations:

<u>Hank Fritzler</u>	<u>Operator</u>
<u>Glenn Doyle</u>	<u>U. S. Geological Survey</u>
<u>Elmer Duncan</u>	<u>Bureau of Land Management</u>
<u>Bill Buniger</u>	<u>Dirt Contractor</u>
_____	_____
_____	_____
_____	_____

Related Environmental Documents:

Book Mountain Planning Unit Resource Analysis, Bureau of Land Management, Utah

*Admin Council  
Pad 200 x 300  
Ditch 100 x 100 - changed  
3/10 mi x 18' new access - changed  
2 ac  
No cover pit moved  
25' Buffer Zone 40 x 150  
Cond of Appr Pg 3  
Pg 7 1-8*

## DESCRIPTION OF PROPOSED ACTION

Proposed Action:

1. Location                      State:      Utah  
   County:    Grand  
  
2700' FNL, 1200' FWL, NW $\frac{1}{4}$  SW $\frac{1}{4}$   
  
Section 7, T17S, R26E, SLM
2. Surface Ownership                      Location:      Public  
   Access Road:    Public

Status of Reclamation Agreements: Not Applicable

3. Dates                      APD Filed:                                      1/23/80  
   APD Technically Complete:              2/08/80  
   APD Administratively Complete:        1/23/80
4. Project Time Frame                      Starting Date: March 1980  
   Duration of drilling activities: 10 days.

A period of 30 to 60 days is normally necessary to complete a well for production if hydrocarbons are discovered. If a dry hole is drilled, recontouring and reseeding would normally occur within one year; revegetation or restoration may take several years. If the well is a producer, an indefinite period of time would occur between completion and rehabilitation.

5. Related actions of other federal or state agencies and Indian tribes:  
  
None known
6. Nearby pending actions which may affect or be affected by the proposed action:  
  
None known
7. Status of variance requests:  
  
None known

The following elements of the proposed action would/could result in environmental impacts:

1. A drill pad 200' wide x 300' long and a reserve pit 100' x 100' would be constructed. Approximately .3 mile of new access road, averaging 18' in width, would be constructed from a maintained road. 2.0 acres of disturbed surface would be associated with the project.

Operator requested a rig layout change. This resulted in moving the reserve pit onto the wellpad, narrowing and lengthening it to 40' x 150', and shifting the pad (not the wellhead) 10' to the west. Since environmental impacts would be reduced by this action, the BLM and USGS agreed.

2. Drilling
3. Waste disposal
4. Traffic
5. Water requirements
6. Completion
7. Production
8. Transportation of hydrocarbons
9. Other

Details of the proposed action are described in the Application for Permit to Drill.

The access road was changed per the attached map to reduce the cuts required for a low water crossing in the drainage channel. This reroute also necessitated bringing the access onto the pad from the northwest. Culvert was rejected by BLM.

#### Environmental Considerations of the Proposed Action:

Regional Setting/Topography - Regional topography is flat desert and rolling hills grading to the talus-flanked Book Cliffs.

#### PARAMETER

A. Geology - Surface is Mancos Shale. Other formations are listed in the 10-Point Subsurface Plan.

Information Source: Field observation, Application to Drill

1. Other Local Mineral Resources to be Protected: No known potential.

Information Source: Mining Supervisor, USGS

2. Hazards:

a. Land Stability: Location and access built on Mancos Shale. Material is stable, provided the slopes are moderate and moisture content is low.

Information Source: Field observation

b. Subsidence: Subsidence can occur with the withdrawal of oil, gas, and/or water.

Information Source: "Environmental Geology," Edward A. Keller

c. Seismicity: Seismic risk: low. Statistically, greatest damage would be moderate, corresponding to intensity VII of Modified Mercalli Intensity Scale, 1931.

Information Source: "Seismic Risk Maps," David M. Perkins, USGS.

d. High Pressure Zones/Blowout Prevention: No high pressure zones expected. Blowout prevention systems detailed in APD.

Information Source: Application to Drill

## B. Soils

1. Soil Character: No detailed soil surveys done in area. Changes in soil fertility, horizons, slope stability, etc., cannot be predicted. Soils are considered nitrogen-poor, alkaline soils that support the salt-desert community.

Information Source: Field observation

2. Erosion/Sedimentation: Erosion/sedimentation would increase as would runoff potential. Extent of increases unpredictable without site-specific studies being done.

Information Source: Field observation

C. Air Quality - Wellsite lies in Class II attainment area. No Class I attainment areas are near, or adjacent to, proposed location.

Information Source: Bureau of Land Management-Utah

D. Noise Levels - Ambient noise levels temporarily elevated. Personnel safety could be jeopardized. Wildlife would avoid area.

Information Source: Field observation

## E. Water Resources

### 1. Hydrologic Character

a. Surface Waters: Several small, intermittent drainages would be leveled and filled. Wild Cow Wash borders location to the West. The Bureau of Land Management recommends a 25' buffer zone (no surface disturbance). Operator agreed. Water source is Big Salt Wash. Impacts on downstream users would be negligible.

Information Source: Field observation

b. Groundwaters: Contamination to groundwaters through commingling with drilling fluids is possible. Groundwater drainage shouldn't occur. Drilling and casing program adequacy determined by District Engineers.

Information Source: G. Doyle, Environmental Scientist, USGS

2. Water Quality

a. Surface Waters: N/A

Information Source: Field observation

b. Groundwaters: Operator proposes 300' of surface casing. Commingling of drilling fluids with potentially usable water could render groundwater unusable. Pits would be unlined.

Information Source: Application to Drill

F. Flora and Fauna

1. Endangered and Threatened Species Determination

Based on the formal comments received from the Bureau of Land Management on April 3, 1980, we determine that there would be no effect on endangered and threatened species and/or their critical habitat.

2. Flora: Construction would remove about 2.0 acres of vegetation increasing potential for non-point erosion and decreasing soil fertility.

Information Source: Bureau of Land Management, Oil & Gas Surface Operating Standards

3. Fauna: Vegetation removal reduces wildlife habitats and food sources. Deer are not known to winter in the area. No known migratory bird nesting areas, strutting or breeding grounds, or fish-spawning areas would be impacted by proposed action.

Information Source: Bureau of Land Management, Field observation

G. Land Uses

1. General: Oil and gas operations, recreation, and grazing are major land uses. Amount and quality of land available to livestock, wildlife, and recreationists would be reduced during well life.

Information Source: Field observation

2. Affected Floodplains and/or Wetlands: N/A

Information Source: Field observation

H. Aesthetics: Operation would not blend with natural surroundings. Most likely unappealing to recreationists. Impact duration: life of well.

Information Source: Field observation

I. Socioeconomics: The effect of one well on local and regional population and economy would be considered minor. If major discovery, then consider: Population increase, community services taxed, resources depleted, cumulative impacts multiply, pipelines and transportation routes expand.

Information Source: G. Doyle, Environmental Scientist, USGS

J. Cultural Resources Determination: Based on the formal comments received from the Bureau of Land Management on April 3, 1980, we determine that there would be no effect on cultural resources subject to no stipulations.

Information Source: Bureau of Land Management

K. Other: None

Information Source: G. Doyle, Environmental Scientist, USGS

L. Adequacy of Restoration Plans: Rehabilitation plan judged as adequate. Problems hampering restoration: a) Area subject to short growing season; b) limited precipitation during growing season; and c) generally, very little topsoil which has limited organic matter and is low in fertility.

Information Source: David Oberwager, USGS-AOSO

Alternatives to the Proposed Action:

1. Disapproving the proposed action or no action - If the proposed action is denied, no action would occur, the existing environment would remain in its present state, the lessee/operator would not realize any return on investments and the public would be denied a potential energy source.
2. Approving the project with the recommended stipulations - Under federal oil and gas leasing provisions, the Geological Survey has a responsibility to approve mineral development if the environmental consequences are not too severe or irreversible. Permanent damage to the surface and subsurface would be prevented as much as possible under USGS and Surface Management Agency supervision. Environmental impacts would be significantly mitigated.

Adverse Environmental Effects:

1. If approved as proposed:
  - a. About 2.0 acres of vegetation would be removed, increasing and accelerating erosion potential.
  - b. Pollution of groundwater systems <sup>could</sup> occur with the introduction of drilling fluids into the aquifer(s). The potential for interaquifer leakage and lost circulation is ever-present, depending on the casing program.
  - c. Minor air pollution would be induced on a temporary basis due to exhaust emissions from rig engines and support traffic.

- d. The potential for fires, leaks, spills of gas and oil or water exists.
- e. During construction and drilling phases of the operation, noise and dust levels would increase.
- f. Distractions from aesthetics during the lifetime of the project would exist.
- g. Erosion from the site would eventually be carried as sediment in the Colorado River. The potential for pollution to Wild Cow Wash would exist through leaks and spills.
- h. If hydrocarbons would be discovered and produced, further development of the area could be expected to occur, which would result in the extraction of an irreplaceable resource, and further negative environmental impacts. These impacts include the cumulative loss of wildlife habitat due to the areas necessary for roads, pipelines, drillsites, and transmission lines. These actions may disrupt wildlife social behavior and force habitat relocation over an extended period of time. In addition, the cumulative effects of non-point erosion become substantial in a developing field, primarily those located near perennial streams where siltation and sedimentation are critical to aquatic life cycles.
- i. Other: As originally proposed, the reserve pit would be located off the pad. Its dimensions would be 100' x 100'. This is an extra .25 acre of surface disturbance.
- j. Construction and drilling operations would adversely impact Wild Cow Wash to the west.
- k. Proposed access construction, including culvert, would induce significant fill into the wash and provide inadequate drainage.

## 2. Conditional approval

- a. All adverse impacts described in section one above would occur, except
  - 1) Narrowing and lengthening reserve pit plus moving it within confines of pad would eliminate an additional .25 acre of surface disturbance.
  - 2) Providing a 25' buffer zone, no surface disturbance, on the west edge of pad would reduce adverse impacts to the wash.
  - 3) Rerouting the road to the north, plus the construction of a low water crossing, would reduce erosion/siltation potential in the wash.

### Recommended Approval Conditions:

Drilling should be allowed, provided the following mitigative measures are incorporated into the proposed APD and adhered to by the operator:

1. See attached Lease Stipulations. *None*
2. See attached BLM Stipulations.
3. Narrow and lengthen reserve pit to 40' x 150' and construct it within confines of wellpad.
4. Provide 25' buffer zone, no surface disturbance, along west edge of pad.
5. Reroute access to north. Construct low water crossing. No culverts.
6. Stockpile 12" of topsoil on north side of pad.
7. Keep all trash in portable cage or bin.
8. Shift pad, not wellhead, 10' to the west.

Controversial Issues and Conservation Division Response: None known



*Terra Resources Bar X #13  
Sec. 7, 175, 26E, Grand Co., Utah*

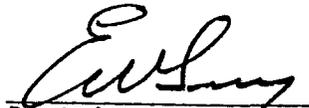


*Proposed low water crossing.  
location. BLM moved crossing  
further upstream to reduce  
cuts & fills.*

We have considered the proposed action in the preceding pages of this EA and find, based on the analysis of environmental considerations provided therein, no evidence to indicate that it will significantly (40 CFR 1508.27) impact the quality of the human environment.

Determination

I determine that the proposed action (as modified by the recommended approval conditions) does not constitute a major Federal action significantly affecting the quality of the human environment in the sense of NEPA, Section 102(2)(C).

  
\_\_\_\_\_  
DISTRICT ENGINEER  
District Engineer  
U. S. Geological Survey  
Conservation Division  
Oil & Gas Operations  
Salt Lake City District

\_\_\_\_\_  
APR 16 1980  
Date

APPENDICES

APPENDIX I	Bureau of Land Management Stipulations
APPENDIX II	Mining Report, USGS
APPENDIX III	Mineral Evaluation Report

EXHIBIT "B"

TEN-POINT COMPLIANCE PROGRAM OF NTL-6

APPROVAL OF OPERATIONS

Attached to Form 9-331C  
Company: Terra Resources, Inc.  
Well: Bar X Unit Well # 13  
Well Location: 2700' SNL & 1200' EWL  
Sec. 7 T 17S R 26E  
County: Grand State: Utah

1. Geologic Surface Formation

Mancos

2. Estimated Important Geologic Markers

<u>Formation</u>	<u>Depth</u>
Frontier	2995'
Dakota Silt	3325'
Dakota	3305'
Morrison	3414'
Salt Wash	3735'
TD	3900'

3. Estimated Depths of Anticipated Water, Oil, Gas or Minerals

<u>Formation</u>	<u>Depth</u>	<u>Remarks</u>
Dakota	3305'	Possible gas
Upper Morrison	3414'	Possible gas
Salt Wash	3735'	Possible gas

4. The Proposed Casing Program

- (a) Set 8 5/8" 32# K-55 new casing, in 12 1/4" hole at 300' and cement with 250 sx regular "G" cement w/2% CaCl<sub>2</sub>.
- (b) Set 4 1/2" 11.6#J-55 new casing, in 7 7/8" hole at TD. (4000') and cement if productive with 350 sx of RFC 10-0.

5. The Operator's Minimum Specifications For Pressure Control

Exhibit "C" is a schematic diagram of the blowout preventer equipment. The BOP's will be hydraulically tested to the full working pressure after nipping up and after any use under pressure. The BOP's will be operationally checked after each 24-hour period and each time pipe is pulled out of the hole.

6. The Type and Characteristics of the Proposed Circulating Muds

Hole will be air drilled from surface to TD (4000').

7. The Auxillary Equipment to be Used

- A) A full opening Hydril or equivalent ball valve will be available on the floor to make up on the drill pipe when the kelly is not in the string.

8. The Testing, Logging and Coring Programs to be Followed

- A) No conventional DST's are planned.
- B) Well logging as follows:

SNP, FDC-GR	TD to surface casing
DIL	TD to surface casing
- C) No cores are planned.
- D) Acidize with 500 gallons 15% MSR and/or Foam Frac with 75,000 gallons of 5% HCl and 70,000# 20-40 and 10/20 sand if the zones merit. See Exhibit "H".

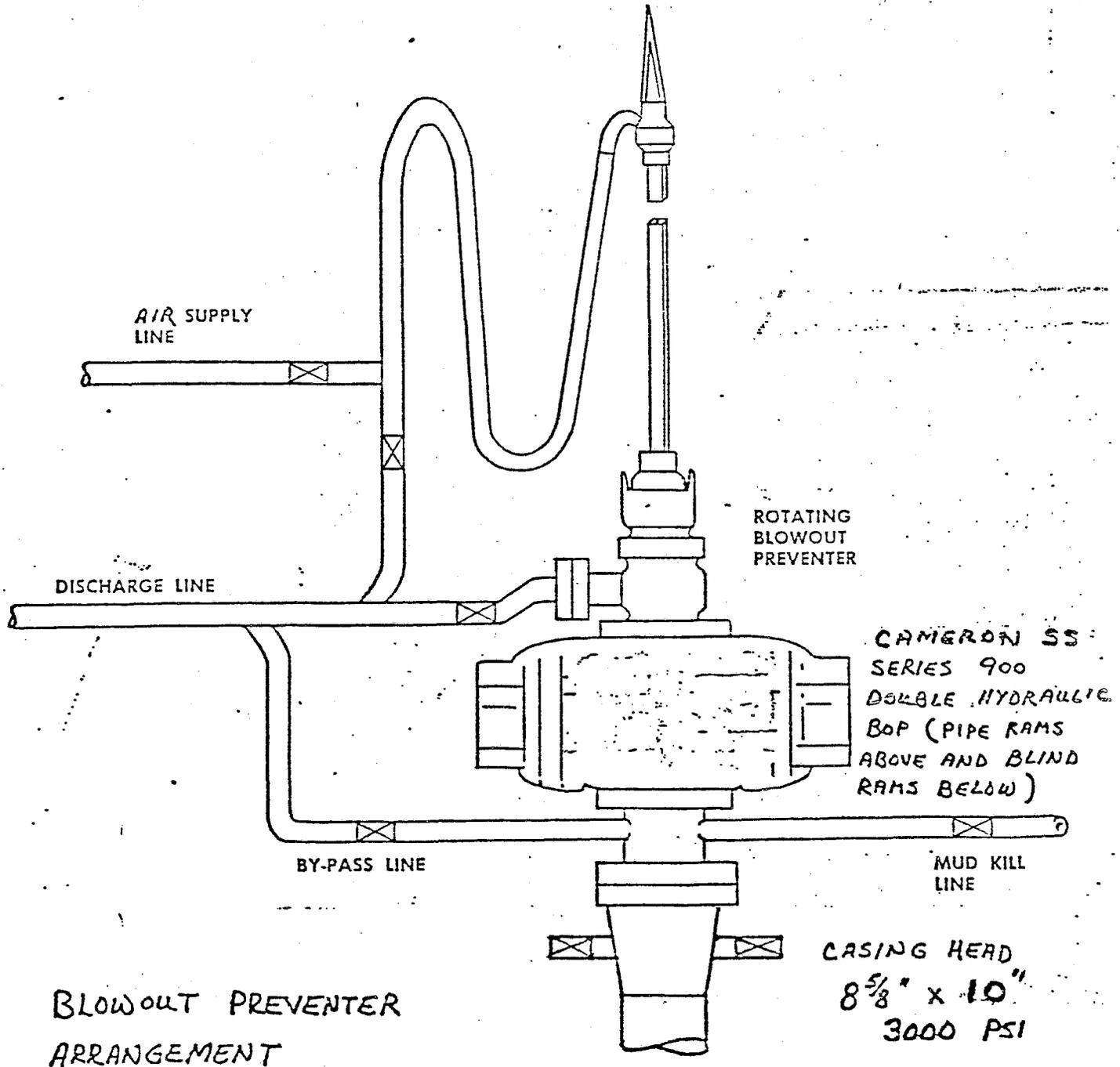
9. Any anticipated Abnormal Pressures or Temperatures Expected

None

10. The Anticipated Starting Date and Duration of the Operations

The anticipated starting date is set for March 7, 1980 or immediately as possible after examination and approval of all drilling requirements.

The operations should be completed within 10 days after spudding the well.



BLOWOUT PREVENTER  
ARRANGEMENT

BAR X UNIT WELL # 13

ALL MANIFOLD AND LINES  
WILL HAVE AT LEAST  
THE SAME PRESSURE  
RATING AS THE BOP STACK

EXHIBIT "D"

MULTI-POINT REQUIREMENTS TO ACCOMPANY A.P.D.

Attached to Form 9-331C  
Terra Resources, Inc.  
Bar X Unit Well # 13  
2700' SNL & 1200' EWL  
Sec. 7 T17S, R26E  
Grand County, Utah

1. Existing Roads

- A. The proposed well site and elevation plat is shown as EXHIBIT "A".
- B. The distance from Mack, Colorado is 18.9 miles. Proceed West on paved Highway 50, 9.2 miles from the Mack Post Office; thence Northeast on maintained Number Two road, 4.8 miles to fence on Utah/Colorado boundary; turn North up fence line and proceed 3.1 miles on maintained road to intersection with gas field road; proceed west 1.5 mile to staked access road; proceed North .3 mile to location as shown on EXHIBIT "E".
- C. All roads are color-coded into location. An access road .3 mile from the existing gas field road will be required, as shown on EXHIBIT "E".
- D. N/A
- E. This is a development well. All existing roads within a one-mile radius are shown on EXHIBIT "E".
- F. The existing roads need no improvement. Maintenance will be performed as required.

2. Planned Access Roads

Map showing all necessary access roads to be constructed or reconstructed is shown as EXHIBIT "E" for the following:

- (1) The maximum width of the running surface of the .3 mile access road as you leave the existing gas field road will be 18'.
- (2) The grade will be 8% (eight percent) or less.
- (3) No turn outs are planned.
- (4) Appropriate water bars will be constructed to assure drainage off location to conform with natural drainage pattern.

- (5) No culverts are needed. No major cuts or fills are anticipated along access road during drilling operation.
- (6) Surfacing materials will be native soil.
- (7) No gates, cattle guards or fence cuts are needed.
- (8) The new access road to be built has been staked during the time of staking the location, and is centerline flagged as shown on EXHIBIT "E".

### 3. Location of Existing Wells

For all existing wells within a one-mile radius of development well, see EXHIBIT "E".

- (1) There are no water wells within a one-mile radius of this location.
- (2) There are no abandoned wells within this one-mile radius.
- (3) There are no temporarily abandoned wells.
- (4) There are no disposal wells.
- (5) There is no well presently being drilled.
- (6) There are 3 producing wells within this one-mile radius.
- (7) There is one shut-in well.
- (8) There are no injection wells.
- (9) There are no monitoring or observation wells for other uses.

### 4. Location of Existing and/or Proposed Facilities

A. Within a one-mile radius of location the following existing facilities are owned or controlled by lessee/operator:

- (1) Tank Batteries: None
  - \* (2) Production Facilities: Yes, dehydration unit.
  - (3) Oil Gathering Lines: None
  - \* (4) Gas Gathering Lines: Yes, buried.
  - (5) Injection Lines: None
  - (6) Disposal Lines: None
- \* All surface facilities excluding the wellhead and tanks are owned and operated by the gas purchaser, N.W. Pipeline.

B. If production is obtained, new facilities will be as follows:

- (1) Production facilities will be located on solid ground of cut area of drill pad, as shown on EXHIBIT "F".
- (2) All well flow lines will be buried.
- (3) Production Facilities will consist of a dehydrator and meter building located on the north west corner of the pad.
- (4) All construction materials for pad will be obtained from site. No additional material from outside sources is anticipated.
- (5) Any necessary pits will be fenced and flagged to protect livestock and wildlife.

C. Rehabilitation, whether well is productive or dry, will be made on all unused areas in accordance with the restoration plans presented in ITEM #10 following.

5. Location and Type of Water Supply.

- A. The source of water will be the Colorado River, South of Interstate Highway 70, which is running water.
- B. Water will be transported by truck over existing roadways as needed.
- C. No water well is to be drilled on this lease.

6. Construction Materials

- A. No construction materials are needed for drilling and access roads into the drilling location unless production is obtained. The surface soil materials will be sufficient or will be purchased from Dirt Contractor as needed.
- B. No construction materials will be taken off this Federal land.
- C. All surface soil materials for construction of access roads are sufficient.
- D. All major access roads presently exist as shown on EXHIBIT "E".

7. Handling of Waste Materials and Disposal

- (1) Drill cuttings will be buried in the reserve pit and covered.
- (2) Plan is to drill with air, but water may be encountered which will then be handled in the reserve pit.

- (3) Any fluids produced, oil or water, during drilling test or while making production test will be collected in a test tank. If a test tank is not available during drilling, fluids will be handled in reserve pit. Any spills of oil, gas, salt waters or other noxious fluids will be cleaned up and removed.
- (4) Any sewage will be covered or removed. Chemical facilities will be provided for human waste.
- (5) Garbage and non-flammable waste and salts and other chemicals produced during drilling or testing will be handled in trash pit. Flammable waste will be disposed of in burn pit. Drill fluids, water, drilling mud and tailings will be kept in reserve pit, as shown on EXHIBIT "F".
- (6) After the rig moves out, all materials will be cleaned up and no adverse materials will be left on location. Any dangerous open pit will be fenced during drilling and kept closed until such time as the pit is leveled. Reserve pit will be fenced on three sides and the fourth side fenced upon removal of the rig. The trash and/or burn pit will be totally enclosed with small mesh wire.

#### 8. Ancillary Facilities

No air strip, camp or other facilities will be built during drilling of this well.

#### 9. Well Site Layout

- (1) EXHIBIT "F" is the Drill Pad Layout as staked, with elevations, by Powers Elevation Company, Inc. of Grand Junction, Colorado. Cuts and fills have been drafted to visualize the planned cut across the location spot and to the deepest part of the pad. Topsoil will be stockpiled per BLM specifications determined at time of pre-drill inspection.
- (2) EXHIBIT "G" is a plan diagram of the proposed rig and equipment, reserve pit, burn and trash pit, pipe racks and mud tanks. No permanent living facilities are planned. There will not be a trailer on site.
- (3) EXHIBIT "G" includes a diagram showing the proposed rig orientation, parking areas and access road.
- (4) The reserve pits will not be lined. Steel mud tanks may be used during drilling operations.

#### 10. Plans for Restoration

- (1) Backfilling, leveling and contouring are planned as soon as all pits have dried. Waste disposal and spoils materials will be buried or hauled away immediately after drilling is completed.

If production is obtained, the unused area will be restored as soon as possible.

- (2) The soil banked material will be spread over the area. Revegetation will be accomplished by planting mixed grasses as per formula provided by the BLM. Revegetation is recommended for road area, as well as around the drill pad.
- (3) Three sides of the reserve pit will be fenced during drilling operations. Prior to rig release, the reserve pit will be fenced on the fourth side to prevent livestock or wildlife from becoming entrapped; and the fencing will be maintained until leveling and cleanup are accomplished.
- (4) If any oil is on the pits and is not immediately removed after operations cease, the pit containing the oil or other adverse substances will be flagged overhead or covered with wire mesh.
- (5) The rehabilitation operations will begin immediately after the drilling rig is removed. Removal of oil or other adverse substances will begin immediately or area will be flagged and fenced. Other cleanup will be done as needed. Planting and revegetation is considered best in April, 1980 unless requested otherwise.

#### 11. Other Information

- (1) The soil is sandy, supporting desert brush and grass. There are small areas of rock outcrops, and the area has some scattered junipers. The geomorphology is intermediate to the desert to the South and bookcliffs to the North.
- (2) The primary surface use is for grazing. The surface is owned by the U. S. Government.
- (3) The closest live water is the Colorado River, South of I-70.

The closest occupied dwelling is a small ranch house 13.2 mile from the location, 1 mile East of number two road on Highway 50.

There are no known archaeological, historical, or cultural heritages that will be disturbed by this drilling.

- (4) There are no reported restrictions or reservations noted on the oil and gas lease.
- (5) Drilling is planned for on or about March 7, 1980. It is anticipated that the casing point will be reached within 10 days after commencement of drilling.

12. Lessee's or Operator's Representative

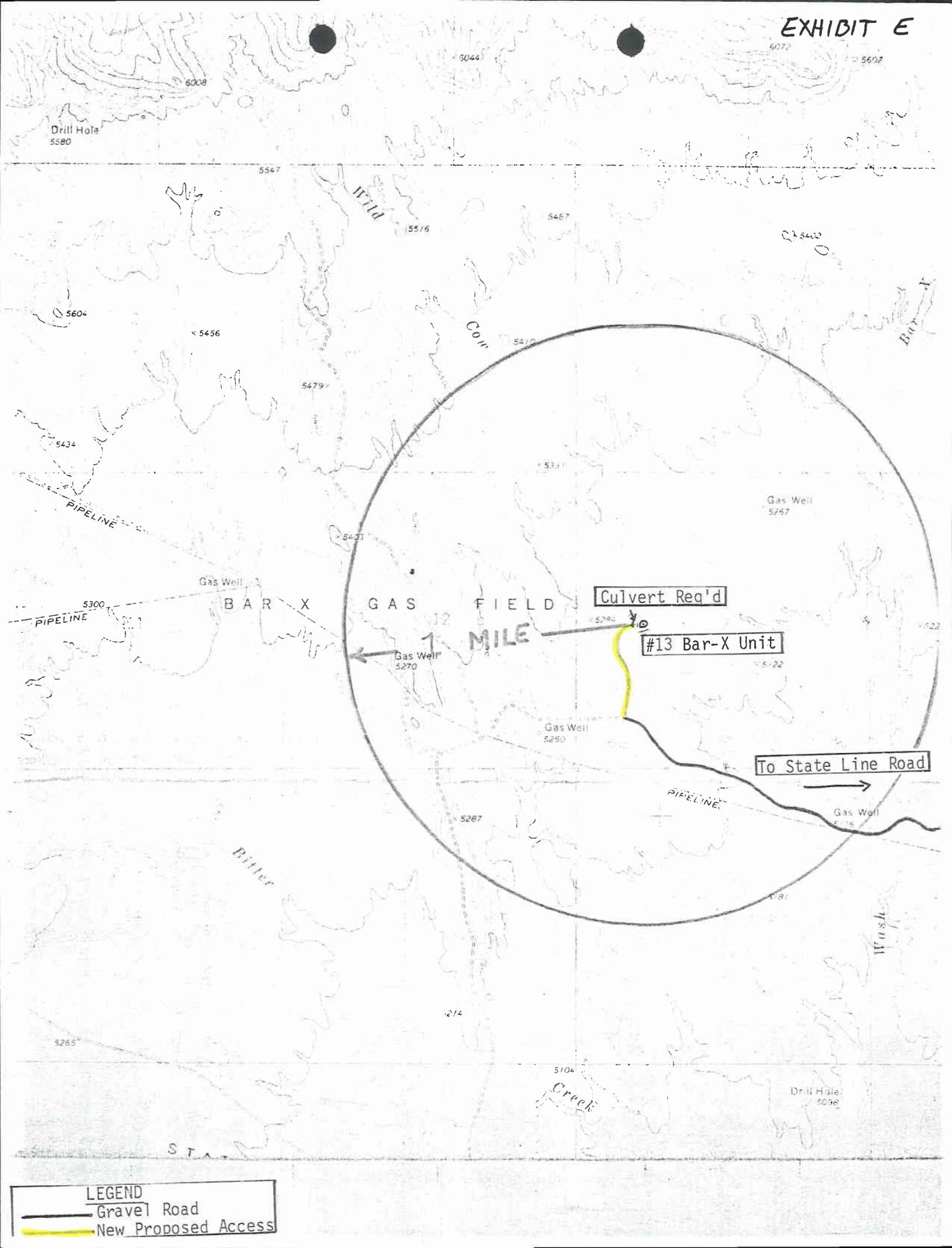
Cecil Foote  
Terra Resources  
Box 2500  
Casper, Wyoming 82602  
Phone: (307) 237-8461

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Terra Resources and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

1-16-80  
Date

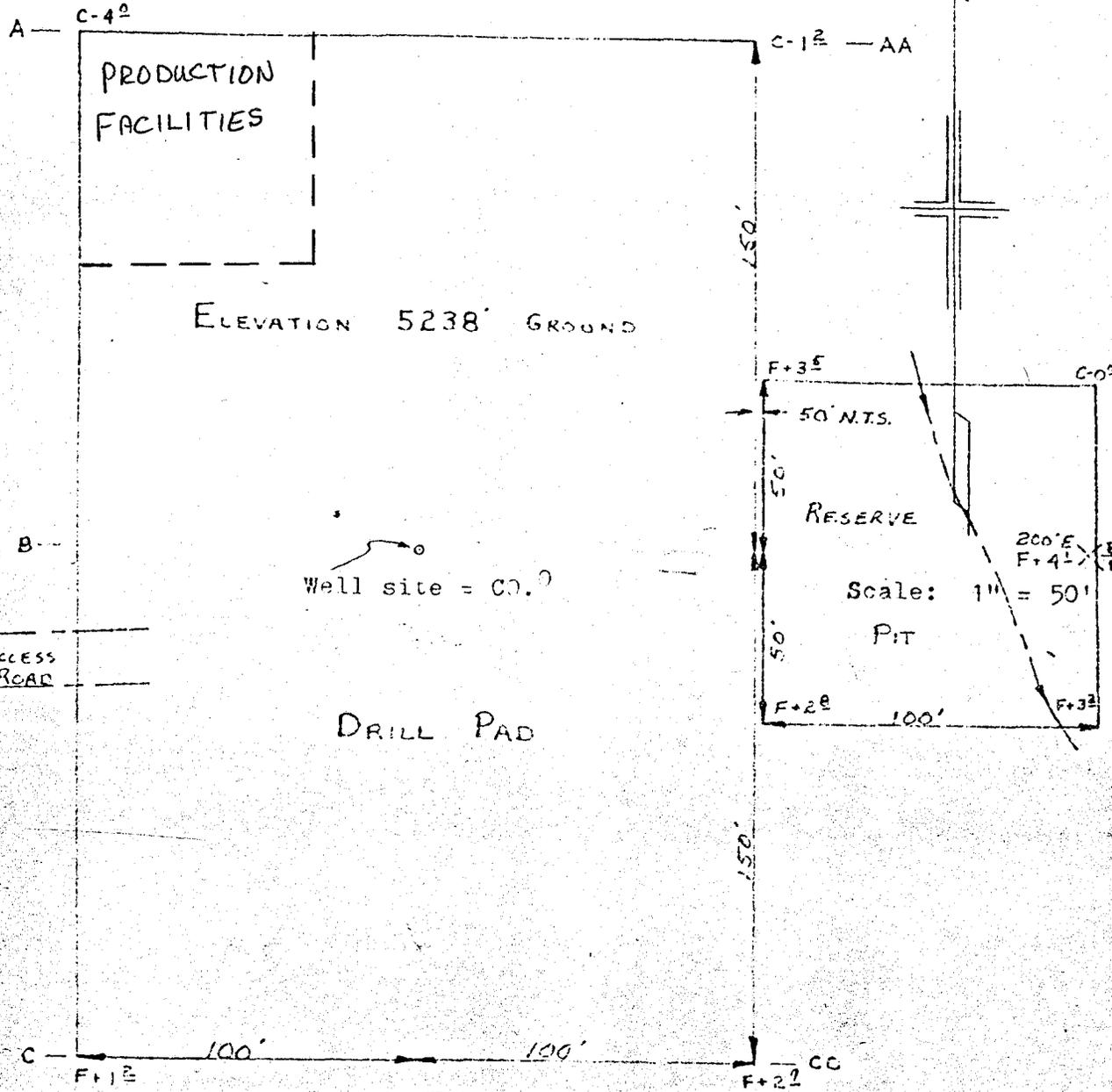
Cecil G Foote



LEGEND

-  Gravel Road
-  New Proposed Access

TERRA RESOURCES Co.  
#13 BAR X UNIT  
2700' FN & 1200' FW SEC. 7 T17S. R26E.  
GRAND COUNTY UTAH  
200' N  
C-3?



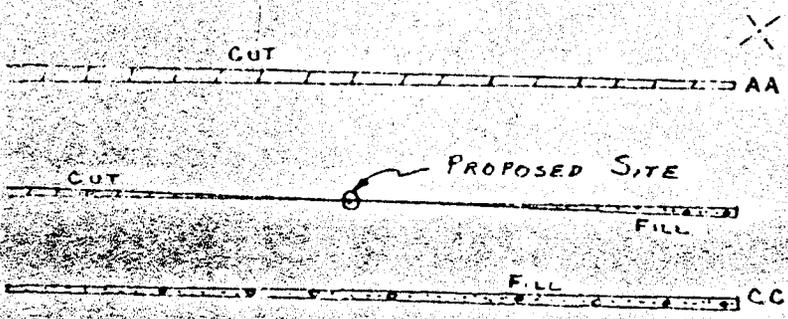
200' W  
C-1B

Well site = CO.

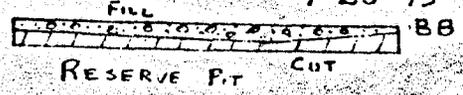
Scale: 1" = 50'

DRILL PAD

TOPSOIL



by: Richard A. Schuch  
Powers Elevation Company, Inc.  
4-25-79

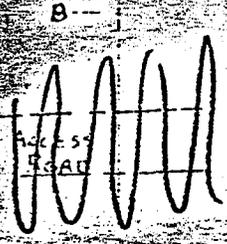


TERRA RESOURCES Co.  
#13 BAR X UNIT  
2700 FN 1200 FW SEC. 7 T17S. R26E.  
GRAND COUNTY UTAH

200' N  
C-3?

A C-4? C-1? AA

200' W  
C-1A



ACCESS ROAD

COMPRESSOR

RIG

GEN

AUX BLDG

~~AIR COMPRESSOR PAD~~

Pipe racks

125' PIPE LINE

RESERVE PIT

F+3?

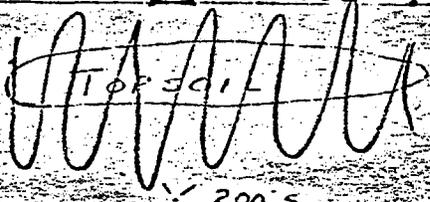
50' NTS.

RESERVE

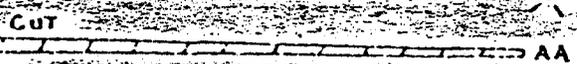
Scale: 1" = 50'

P:

C F+1? 100' 100' 40' F+2? CC



TOP SOIL



CUT

200' S  
F+2?

PROPOSED SITE



CUT

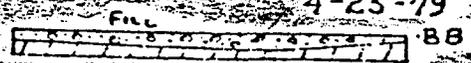
FILL



FILL

CC

by: *Richard A. Roberts*  
Powers Elevation Company, Inc.  
4-25-79



RESERVE P.T. CUT

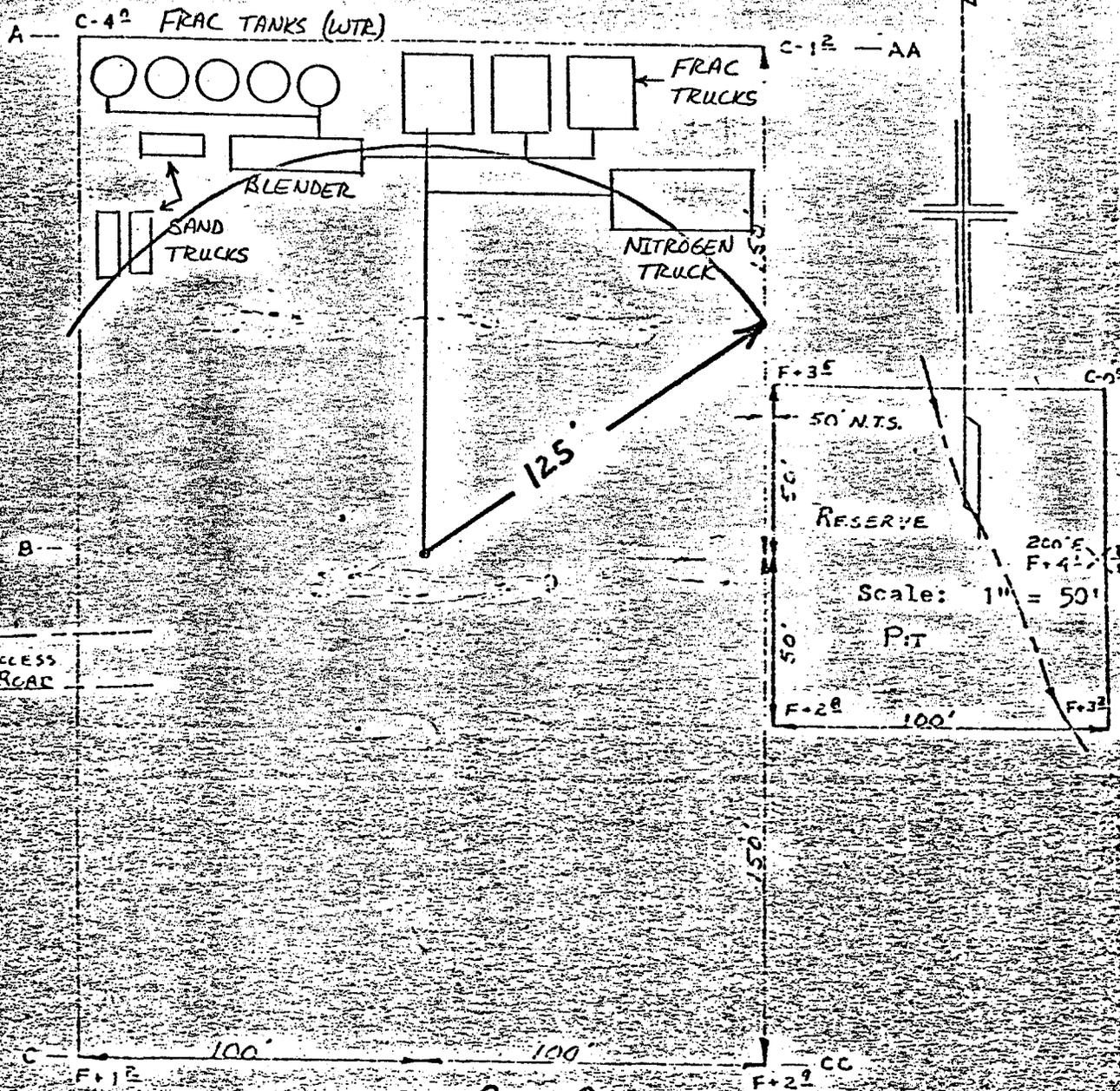
TERRA RESOURCES Co.

#13 BAR X UNIT

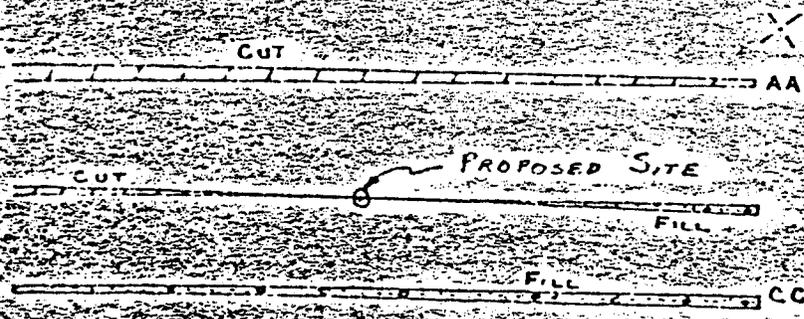
2700' FN & 1200' FW SEC. 7 T17S. R26E.

GRAND COUNTY UTAH

200' N  
C-32



*Handwritten signature: A. P. SOIL*



by: *Richard A. Schuster*  
 Powers Elevation Company, Inc.  
 4-25-79  
 RESERVE P.T. CUT

EXHIBIT "I"

(54-02-76)  
WYO60-3109-3

REHABILITATION PLAN

Lease No.: \_\_\_\_\_ Well Name and No.: 13 Bar X Unit ;  
Location: 2700' SNL & 1200' EWL, Sec. 7, T. 17 S N., R. 26 E W.

Terra Resources ~~XXXXXXXXXX~~ intends to drill a well on surface owned by BLM. The lessee/operator agrees to complete the following rehabilitation work if the well is a producer:

Yes  No Maintain access road and provide adequate drainage to road.

Yes  No Reshape and reseed any area not needed for maintenance of the pump and support facilities.

Other requirements: none

The following work will be completed when the well is abandoned:

Yes  No Pit will be fenced until dry, then filled to conform to surrounding topography.

Yes  No Water bars will be constructed as deemed necessary.

Yes  No Site will require reshaping to conform to surrounding topography.

Yes  No Entire disturbed area will be reseeded. If yes, the following seed mixture will be used:  
BLM mixture

Yes  No Access road will be closed, rehabilitated and reseeded using the same seed mixture as above.

Yes  No Access road will remain for surface owner's use.

Yes  No Water bars will be constructed on the access road as deemed necessary.

Other requirements: none

Surface Owner:

Name: BLM  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
State: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Date: \_\_\_\_\_

Operator/Lessee

Name: Terra Resources  
Address: P.O. Box 2500  
City: Casper  
State: Wyoming  
Telephone: 307-237-8461  
Date: January 16, 1980

I CERTIFY rehabilitation has been discussed with me, the surface owner:

N/A  
(Surface owner's signature)

This plan covers rehabilitation requirements only and does not affect any other agreements between the lessee/operator and surface owner.

TERRA RESOURCES, INC.

ROCKY MOUNTAIN PRODUCTION DISTRICT OFFICE  
P.O. BOX 2500  
CASPER, WYOMING 82601  
(307) 237-8461

January 16, 1980

Re: Application for Permit to Drill  
Terra Resources, Inc.  
Bar X Unit Well  
and Unit Well  
Grand County, Utah

RECEIVED

JAN 23 1980

Division of Oil, Gas & Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

DIVISION OF  
OIL, GAS & MINING

Gentlemen:

Enclosed please find two (2) copies of Form #9-331C,  
"Application for Permit to Drill" for each of the above referenced  
wells.

Your approval of these applications at an early date will be  
greatly appreciated.

Yours very truly,

TERRA RESOURCES, INC.

  
E. C. Reish, Jr.  
District Manager-Operations

ECR:CGF/gj  
Enclosures

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 TERRA RESOURCES, INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 2500, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface ~~2700 SNE~~ <sup>EWL</sup> and ~~1200 SWL~~ <sup>EWL</sup> NW SW  
 At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 35 NW of Grand Junction, CO

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1200'

16. NO. OF ACRES IN LEASE 2080'

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. 2700' NNE of Well #C1

19. PROPOSED DEPTH 4000' <sup>Salt Wash</sup>

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 Approximate ground level is 5238'

22. APPROX. DATE WORK WILL START\*  
 March 7, 1980

5. LEASE DESIGNATION AND SERIAL NO.  
 SLC-064807

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
 Bar X Unit

8. FARM OR LEASE NAME

9. WELL NO.  
 13

10. FIELD AND POOL, OR WILDCAT  
 Bar X

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Sec. 7, T17S, R26E

12. COUNTY OR PARISH  
 Grand

13. STATE  
 Utah

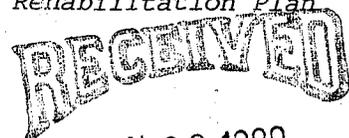
PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	32	300	250 sx Reg 'G' w/2% CaCl <sub>2</sub>
7 7/8	4 1/2	11.6	4000	350 sx RFC 10-0

1. Drill 12 1/4" hole to 300' and set surface casing.
2. A double ram BOP will be installed, tested and operational checks made daily and each trip for bit.
3. The hole will be air drilled to approx. 4000' to test the Salt wash member of the Morrison formation.
4. The hole will be logged, and if commercial production is obtained, 4 1/2" casing will be run.

EXHIBITS ATTACHED:

- |  |   |
|--|---|
| A. Location and Elevation Plat                           | F. Drill Pad Layout & Cut-Fill, Cross-Sec.  |
| B. Ten-point Compliance Program                          | G. Drill Rig & production facilities layout |
| C. Blowout Preventer Diagram                             | H. Acidizing-Fracturing Layout              |
| D. Multipoint Requirement for A.P.D.                     | I. Rehabilitation Plan                      |
| E. Access Road Map onto location and Radius Map of area. |   |



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 E. C. Rexsh, Jr. TITLE District Mgr. Operations DIVISION OF OIL, GAS & MINING DATE 1/21/80

(This space for Federal or State office use)

PERMIT NO. 43-019-30598 APPROVAL DATE January 23, 1980

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

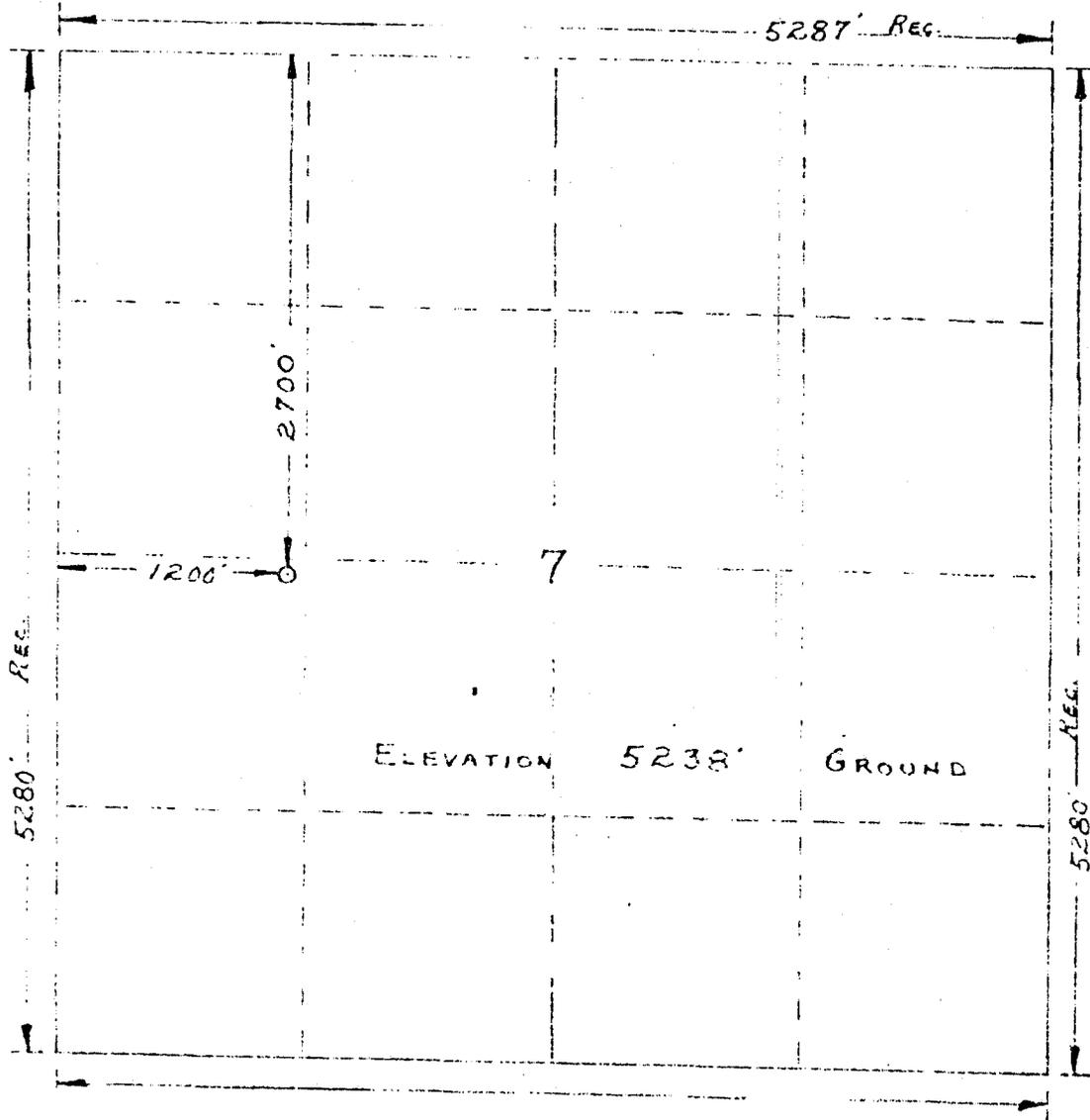
CONDITIONS OF APPROVAL, IF ANY:

plotted

he  
PI



R 26 E.



T.  
17  
S.

Scale: 1" = 1000'

Powers Elevation Company, Inc. of Denver, Colorado  
 has in accordance with a request from CECIL FOOTE  
 for TERRA RESOURCES COMPANY  
 determined the location of #13 BAR X UNIT  
 to be 2700' FN & 1200' FW Section 7 Township 17 S.  
 Range 26 E. OF THE SALT LAKE Meridian  
 GRAND County, UTAH.

I hereby certify that this plat is an  
 accurate representation of a correct  
 survey showing the location of  
 #13 BAR X UNIT

Date: 4-25-79

*[Signature]*  
 Licensed Land Surveyor No. 2711  
 State of UTAH

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Company Terra Resources, Inc. Well No. 13  
Location Sec. 7, T.17S, R.26E Lease No. SLC-064807

A COPY OF THESE CONDITIONS SHOULD BE FURNISHED YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (30 CFR 221), and the approved plan of operations. The operator is considered fully responsible for the actions of his subcontractors. The following items are emphasized:

1. There shall be no deviation from the proposed drilling and/or workover program as approved. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 30 CFR 221.22. Any changes in operations must have prior approval of this office. Pressure tests are required before drilling out from under all casing strings set and cemented in place. Blowout preventer controls must be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to insure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs. All BOP pressure tests must be recorded on the daily drilling report.
2. All shows of fresh water and minerals will be reported and protected. A sample will be taken of any water flows and furnished this office for analysis. All oil and gas shows will be adequately tested for commercial possibilities, reported and protected.
3. No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of this office. If operations are to be suspended, prior approval of this office must be obtained and notification given before resumption of operations.

In the event abandonment of the hole is desired, an oral request may be granted by this office, but must be timely followed within 15 days with a "Notice of Intention to Abandon" (form 9-331). Unless the plugging is to take place immediately upon receipt of oral approval, the District Supervisor must be notified at least 48 hours in advance of the plugging of the well in order that a representative may witness plugging operation. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (form 9-331) must be submitted within 15 days after the actual plugging of the well bore, reporting where the plugs were placed, and the current status of the surface restoration. If surface restoration has not been completed at that time, a follow-up report on form 9-331 should be filed when all surface restoration work has been completed and the location is considered ready for final inspection.

OPERATOR.

4. The spud date will be reported orally to the District Supervisor's office within 48 hours after spudding. If the spudding occurs on a weekend or holiday, wait until the following regular workday to make this report.

Periodic drilling progress reports must be filed directly with the District Supervisor's office on a frequency and form or method as may be acceptable to the District Supervisor.

In accordance with NTL-1, this well must be reported on Form 9-329 "Monthly Report of Operations," starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report should be filed, in duplicate, directly with the U.S. Geological Survey Accounting, P.O. Box 2859, Casper, Wyoming 82602.

Any change in the program must be approved by the District Supervisor. "Sundry Notices and Reports on Wells" (form 9-331) must be filed for all changes of plans and other operations in accordance with 30 CFR 221.58. Emergency approval may be obtained orally, but such approval does not waive the written report requirement. Any additional construction, reconstruction, or alteration of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground will require the filing of a suitable plan pursuant to NTL-6, and prior approval by the District Supervisor.

5. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (form 9-330) will be submitted not later than 15 days after completion of the well or after completion of operations being performed, in accordance with 30 CFR 221.59. Two copies of all logs run, core descriptions, core analyses, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with form 9-330. Samples (cuttings, fluid, and/or gas) will be submitted only when requested by this office.
6. Significant surface values (are) (~~are not~~) involved at this location. Accordingly, you (must) (~~need not~~) notify the Surface Management Agency at least ~~(24)~~ (48) hours prior to commencing field operations to allow the Surface Management Agency office to have personnel present for consultation during the construction of roads and locations.

The Surface Management Agency contact is: Elmer Suncom  
Office Phone: (801) 259-6111, Home Phone: \_\_\_\_\_  
City: Moab, State: Utah

The Minerals Management Service office address and contacts are:

Address: 2000 Administration Building, 1745 West 1700 South, SLC, Utah 84104-3884

Office Phone: (801) 524-4590

District Supervisor E. W. Guynn

Home Phone: (801) 582-7042

District Drilling Engineer W. P. Martens

Home Phone: (801) 466-2780

District Production Engineer R.A. Henricks

Home Phone: (801) 484-2294

Staff Engineer A.M. Raffoul

Home Phone: (801) 484-2638

7. SURFACE OPERATING STANDARDS

Unless otherwise specified herein, construction and maintenance of surface facilities approved under this plan shall be in accordance with the guidelines set forth in the BLM/FS/GS Oil and Gas Brochure entitled, "Surface Operation Standards for Oil and Gas Exploration and Development." This includes but is not limited to such items as road construction and maintenance, handling of top soil and rehabilitation.

8. If a replacement rig is contemplated for completion operations, a "Sundry Notice" to that effect must be filed, for prior approval of the District Supervisor, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.
9. Pursuant to NTL-2B requirements regarding disposal facilities for new wells, this is authorization for unlined pit disposal of the water produced from this well for a period of 90 days from the date of initial production for sales purposes. During this period, an application for approval of the permanent disposal method, along with the required water analysis and other information must be submitted for the District Supervisor's approval. Failure to timely file an application within the time allowed will be considered an incident of noncompliance, and will be grounds for issuing a shut-in order until the application is submitted.
10. This permit is valid for a period of one year from the date of approval. If construction does not commence within 90 days from approval, the operator must contact the Surface Management Agency 15 days prior to beginning construction. Construction under adverse conditions may require additional stipulations. If the permit terminates, any surface disturbance created under the application must be rehabilitated in accordance with the approved plan. After termination, it is required that a new application be filed for approval for any future operations.
11. If a tank battery is constructed on this lease, it must be surrounded by a fire wall of sufficient capacity to adequately contain the storage capacity of the battery.

12. This Application for Permit to Drill is approved subject to the requirement that, should the well be successfully completed for production, this office must be notified when it is placed in a producing status. Such notification will be by telegram or other written communication, and must be received in this office by not later than the first business day next following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:

- a. Operator name, address and telephone number.
- b. Well name and number.
- c. Well location (1/4, 1/4, Section, Township, Range and Prime Meridian).
- d. Date well was placed in a producing status.
- e. The nature of the well's production, i.e. crude oil, or crude oil and casinghead gas, or natural gas and entrained liquid hydrocarbons.
- f. The OCS, Federal or Indian lease prefix and number on which the well is located. Otherwise, the non-Federal or non-Indian land category, i.e. State or private.
- g. If appropriate, the unit agreement name, number and participating area name.
- h. If appropriate, the communitization agreement number.

13. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SUPPLEMENTAL STIPULATIONS OF APPROVAL ATTACHED

\*\* FILE NOTATIONS \*\*

DATE: January 24, 1980

Operator: Jena Resources, Inc

Well No: Bar X Unit #13

Location: Sec. 7 T. 17S R. 26E County: Grand

File Prepared:

Entered on N.I.D.:

Card Indexed:

Completion Sheet:

API Number 43-019-30598

CHECKED BY:

Geological Engineer: \_\_\_\_\_

Petroleum Engineer: \_\_\_\_\_

Director: \_\_\_\_\_

APPROVAL LETTER:

Bond Required:

Survey Plat Required:

Order No. \_\_\_\_\_

O.K. Rule C-3

Rule C-3(c), Topographic Exception/company owns or controls acreage within a 660' radius of proposed site

Lease Designation Ad

Plotted on Map

Approval Letter Written

January 24, 1980

Terma-Resources, Inc.  
P.O. Box 2500  
Casper, Wyoming 82602

Re: Well No. Bar X Unit #12, T. 17S, R. 26E, Sec. 8., Grand County, Utah  
Well No. Bar X Unit #13, T. 17S, R. 26E, Sec. 7, Grand County, Utah

Insofar as this office is concerned, approval to drill the above referred to gas wells is hereby granted in accordance with Section 40-6711, Utah Code Annotated 1953; and predicated on Rule A-3, General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon these wells; you are hereby requested to immediately notify the following:

MICHAEL T. MINDER  
Geological Engineer  
Office: 533-5771  
Home: 876-3001

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API numbers assigned to these wells are #12 - 43-019-30597;  
#13 - 43-019-30598.

Sincerely,

DIVISION OF OIL, GAS AND MINING

Michael T. Minder  
Geological Engineer

/b.m

cc: USGS



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Moab District  
P O Box 970  
Moab, Utah 84532

Evaluation of Compliance With Executive Order 11593 and  
Section 106 of the Historic Preservation Act of 1966

Project Name Bar X Unit Wells #10, 11, 12, 13, 17

Developer Terra Resources Inc

Antiquities Permit # 79-ut-028

Name of Permitted Institution Powers Elevation

Description of Activity 5 well pads (40 acres surveyed

Location of Activity for sect T17S, R25E, Sec. 1, 11, 12; T17S, R26E, Sec. 7, 8, 18  
GRA

Description of Examination Procedures:

- Search of Site Survey Files and Available Literature
- Physical Examination

### Evaluation of Findings

- Adequate for compliance with Executive Order 11593.
- Adequate to substantiate a determination of no effect.
- Adequate to provide the basis for a determination of no adverse effect. BLM will have to present its case to the Historic Preservation Office and to the National Advisory Council on Historic Preservation.
- Will require consultation with the contractor to resolve certain questions. See attached analysis.
- Is inadequate for compliance purposes because:

*Janet Pierson*  
03/25/80





# United States Department of the Interior

IN REPLY REFER TO

3100  
(U-603)

BUREAU OF LAND MANAGEMENT

Moab District  
Grand Resource Area  
P. O. Box M  
Moab, Utah 84532

April 1, 1980

## Memorandum

To: Oil and Gas Office, USGS Conservation Division,  
P. O. Box 3768, Grand Junction, CO. 81502

From: Area Manager, Grand

Subject: Terra Resources Inc.  
Bar X 13, Lease # SL-064807  
Section 7, T. 17 S., R. 26 E., SLB&M  
Grand County, Utah

On February 13, 1980, a representative from this office met with Glenn Doyle, USGS, and Hank Fritzler agent of Terra Resources, Inc. for an inspection of the above referenced location. Subject to the attached conditions, I am approving the surface management portion of the Application for Permit to Drill.

The archaeological requirement has been fulfilled on this location and a copy is attached for your files. No threatened or endangered flora or fauna are indicated in the area.

Please forward the enclosed information to Terra Resources, Inc.

*C. Delano Bachus*

Enclosures: (3)  
1-Reclamation Procedures  
2-Cultural Clearance  
3-Seed Mixture



APPENDIX I

APR 3 REC'D

## STANDARD STIPULATIONS FOR OIL & GAS EXPLORATION

Contact this office at least 24 hours prior to beginning construction of access road and pad.

Stockpile the surface 12 inches of topsoil in a wind-row on the north end of the location.

The upper banks (uphill side) of all cuts will be rounded during construction of the access road and pad.

Notify the BLM District Archaeologist if cultural material from sub-surface deposits is exposed during the operation.

The trash pit will be at least six feet deep and fenced with fine mesh wire during drilling operations.

The "blooey" line will be centered and directed into the pit.

If production is obtained, the access road will be upgraded to BLM specifications for long-term roads as outlined in the surface use standards section of the "Oil and Gas" pamphlet (joint BLM and USGS publication).

If production is obtained, all production facilities will be painted "desert tan" or a similar color approved by the Grand Resource Area Manager.

Rehabilitation of the site and access road will be accomplished in accordance with the enclosed restoration procedures.

Production facilities and pipeline route are approved on this location under lease rights.

The new access road goes north for approximately 3/10 mile from existing road in section 13, and top soil will be windrowed along the uphill side. This road will have a 4 inch crown. No culverts will be used. Low water crossing will be made to cross one deep draw immediately west of the north end of the location.

The access road will enter the location at the northwest corner.

The rig layout will be changed. Air compressor pad will be moved to the north side from the south, and the piperacks to the south.

A 25 foot buffer zone will be maintained between the location and a drainage along the west side.

RECLAMATION PROCEDURES IN GRAND RESOURCE AREA

1. Disk or rip pads and access roads.
  - a. Overlap passes in order to insure complete treatment.
2. Contour pads and access roads.
  - a. Lay berms into centers.
  - b. Use cut material for fill areas.
  - c. Lay stockpiled surface soil over top of pads and spread evenly.
  - d. On highly erosive soils, it may be more beneficial to grade slopes to reduce steepness.
  - e. Do not smooth pads out, leave a roughened surface. On steeper slopes and slopes with clayey soils scarify or serrate the ground in order to increase water infiltration and reduce erosion.
3. Water bar roads where required by this office.

* 2%	Grade	-	200 ft. intervals
2-4%	Grade	-	100 ft. intervals
4-5%	Grade	-	75 ft. intervals
5%	Grade	-	50 ft. intervals

\* Actual spacing may vary according to soil stability. Lighter textured soils will require more frequent water bars. When natural drainage ways are present, water bars are to be constructed to make maximum use of them. Plan operations so that natural drainage ways do not become blocked.
4. Seed roads and pads in the fall (Oct. through mid-Dec.).

<u>SPECIES</u>		<u>LB/ACRE</u>
<u>Grass</u>		
<u>Oryzopsis hymenoides</u>	Indian rice grass	1
<u>Hilaria jamesii</u>	Curley grass	1
<u>Forbs</u>		
<u>Penstemon palmeri</u>	Palmer Penstemon	1
<u>Shrubs:</u>		
<u>Artiplex confertifolia</u>	Shadscale	1
<u>Ceretooides lanata</u>	Winterfat	1
		5

1. Inform this office before beginning work.

Glenn

Terre Resources  
7-115-26E

Memorandum

To: District Oil and Gas Engineer, Mr. Edward Guynn

From: Mining, Supervisor, Mr. Jackson W. Moffitt

Subject: Application for Permit to Drill (form 9-331c) Federal oil and gas lease No. 3L064807 Well No. 13

1. The location appears potentially valuable for:

- strip mining\*
- underground mining\*\*
- has no known potential.

2. The proposed area is

- under a Federal lease for \_\_\_\_\_ under the jurisdiction of this office.
- not under a Federal lease under the jurisdiction of this office.
- Please request the operator to furnish resistivity, density, Gamma-Ray, or other appropriate electric logs covering all formations containing potentially valuable minerals subject to the Mineral Leasing Act of 1920.

\*If location has strip mining potential:

Surface casing should be set to at least 50 feet below the lowest strip minable zone at \_\_\_\_\_ and cemented to surface. Upon abandonment, a 300-foot cement plug should be set immediately below the base of the minable zone.

\*\*If location has underground mining potential:

The minable zones should be isolated with cement from a point 100 feet below the formation to 100 feet above the formation. Water-bearing horizons should be cemented in like manner. Except for salines or water-bearing horizons with potential for mixing aquifers, a depth of 4,000 feet has been deemed the lowest limit for cementing.

Signed Allen J. Vance

19 FEB 1960



SCOTT M. MATHESON  
Governor

OIL, GAS, AND MINING BOARD

GORDON E. HARMSTON  
*Executive Director,*  
NATURAL RESOURCES

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL, GAS, AND MINING

1588 West North Temple  
Salt Lake City, Utah 84116  
(801) 533-5771

CLEON B. FEIGHT  
*Director*

CHARLES R. HENDERSON  
*Chairman*

JOHN L. BELL  
C. RAY JUVELIN  
THADIS W. BOX  
MAXILIAN A. FARBMAN  
EDWARD T. BECK  
E. STEELE McINTYRE

February 20, 1981

Terra Resources, Inc.  
P.O. Box 2500  
Casper, Wyoming 82602

RE: Spudding Notice  
See Attached Sheet

Gentlemen:

In reference to the mentioned wells, considerable time has gone by since approval was obtained from this office.

This office has not received any notification of spudding. If you do not intend to drill these wells, please notify this Division. If spudding or any other activity has taken place, please send necessary forms. If we do not hear from your company within fifteen (15) days, we will assume you do not intend to drill these wells, and action will be taken to terminate the application. If you plan on drilling these locations at a later date, please notify as such.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS AND MINING

*Barbara Hill*

BARBARA HILL  
WELL RECORDS

/bjh

- (1). Well No. Bar X Unit #18  
Sec. 12, T. 17S, R. 25E.,  
Grand County, Utah
- (2). Well No. BAR X Unit #17  
Sec. 11, T. 17S, R. 25E.,  
Grand County, Utah
- (3). Well No. Bar X Unit #13  
Sec. 7, T. 17S, R. 26E.,  
Grand County, Utah
- (4). Well No. Bar X Unit #12  
Sec. 8, T. 17S, R. 26E.,  
Grand County, Utah
- (5). Well No. Bar X Unit #11  
Sec. 18, T. 17S, R. 26E.,  
Grand County, Utah
- (6). Well No. Bar X Unit #10  
Sec. 1, T. 17S, R. 25E.,  
Grand County, Utah
- (7). Well No. Rock Canyon Rim #1  
Sec. 1, T. 19S, R. 6E.,  
Emery County, Utah

7

TERRA RESOURCES, INC.

ROCKY MOUNTAIN PRODUCTION DISTRICT OFFICE  
P.O. BOX 2500  
CASPER, WYOMING 82601  
(307) 237-8461

March 3, 1981

Spudding Notice  
See Attached Sheet

Division of Oil, Gas, & Mining  
1588 West North Temple  
Salt Lake City, Utah 84116

Gentlemen:

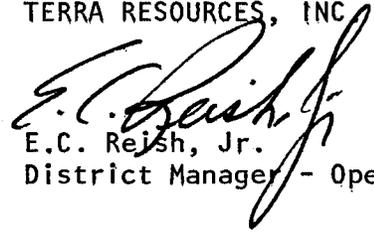
Please be advised that Terra Resources, Inc., still plans to drill the six (6) Bar X Wells. If a rig can be located Unit #10, #11, #12, and #13 will probably be drilled this spring.

Rock Canyon Rim #1 has been postponed indefinitely,

If we can be of any further assistance in this matter, please advise.

Yours very truly,

TERRA RESOURCES, INC



E.C. Reish, Jr.  
District Manager - Operations

ECR/CGF:ek  
Attach.

RECEIVED

MAR 09 1981

DIVISION OF  
OIL, GAS & MINING



# United States Department of the Interior

GEOLOGICAL SURVEY  
BOX 25046 M.S. 609  
DENVER FEDERAL CENTER  
DENVER, COLORADO 80225

IN REPLY REFER TO:

Memorandum

January 7, 1982

To: Central Region, Oil and Gas Lessee/Operators

Subject: SAFETY ALERT

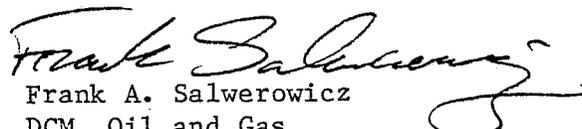
On October 9, 1981, three drilling rig personnel were injured in an air-drilling related accident on federal lands under the supervision of our Grand Junction, Colorado, District Oil and Gas Office. We feel that this accident involved factors that, if correctly handled, could have prevented the accident.

The accident occurred as the retaining ring on the rotating head was being unbolted. This was being done so that the drill collars could be pulled through the rotating head during a trip to change the bit. As the retaining ring was being unbolted, high pressure was unexpectedly encountered. The rubber gasket, and a mixture of air, mud and rocks were expelled with great force; thereby injuring two crewmen standing over the rotary table, and one other crewman on the rig floor.

It was later discovered that the 8-inch blooie line was plugged at a bend leading to the pit. This bend was a tee with one end blind. Apparently, the blooie line plugged at approximately the time the air was shut-off after being used in cleaning the hole while tripping. It must be assumed that the high pressure was the result of air being trapped at the time the blooie line plugged off.

It is recommended that the following precautions be taken during air-drilling operations to prevent reoccurrence of this type of accident:

1. As a normal step in tripping prior to removing the retaining ring on the rotating head, the choke and kill lines should be opened to assure that all pressure has been eliminated from the system.
2. Eliminate the use of 90 degree bends in the blooie line hookup (minimum angle should possibly be 120 degrees).
3. Install a pressure gauge into the blooie line near the rotating head for monitoring.
4. Periodically check the valves and connections in the blooie line for build-up of cuttings.

  
Frank A. Salwerowicz  
DCM, Oil and Gas  
Central Region

Terra Resources, Inc.  
Well #13  
Section 7-T17S-R26E  
Grand County  
Lease SLC-064807

Supplemental Stipulations:

1. Stockpile the surface 12 inches of topsoil in a wind-row on the north end of the location.
2. The upper banks (uphill side) of all cuts will be rounded during construction of the access road and pad.
3. Notify the BLM District Archaeologist if cultural material from subsurface deposits is exposed during the operation.
4. All trash will be kept in a portable cage or bin.
5. The "blooey" line will be centered and directed into the pit.
6. Shift pad, not wellhead, 10' to the west.
7. The reserve pit will be 40' x 50' and constructed within confines of well pad.
8. If production is obtained, all production facilities will be painted "desert tan" or a similar color approved by the Grand Resource Area Manager.
9. Rehabilitation of the site and access road will be accomplished in accordance with the enclosed restoration procedures.
10. The new access road goes north for approximately 3/10 mile from existing road in section 13, and top soil will be windrowed along the uphill side. This road will have a 4 inch crown. No culverts will be used. Low water crossing will be made to cross one deep draw immediately west of the north end of the location.
11. The access road will enter the location at the northwest corner.
12. The rig layout will be changed. Air compressor pad will be moved to the north side from the south, and the piperacks to the south.
13. A 25 foot buffer zone will be maintained between the location and a drainage along the west side.

## RECLAMATION PROCEDURES IN GRAND RESOURCE AREA

1. Disk or rip pads and access roads.
  - a. Overlap passes in order to insure complete treatment.
2. Contour pads and access roads.
  - a. Lay berms into centers.
  - b. Use cut material for fill areas.
  - c. Lay stockpiled surface soil over top of pads and spread evenly.
  - d. On highly erosive soils, it may be more beneficial to grade slopes to reduce steepness.
  - e. Do not smooth pads out, leave a roughened surface. On steeper slopes and slopes with clayey soils scarify or serrate the ground in order to increase water infiltration and reduce erosion.
3. Water bar roads where required by this office.

* 2%	Grade	-	200 ft. intervals
2-4%	Grade	-	100 ft. intervals
4-5%	Grade	-	75 ft. intervals
5%	Grade	-	50 ft. intervals

\* Actual spacing may vary according to soil stability. Lighter textured soils will require more frequent water bars. When natural drainage ways are present, water bars are to be constructed to make maximum use of them. Plan operations so that natural drainage ways do not become blocked.
4. Seed roads and pads in the fall (Oct. through mid-Dec.).

<u>SPECIES</u>		<u>LB/ACRE</u>
<u>Grass</u>		
<u>Oryzopsis hymenoides</u>	Indian rice grass	1
<u>Hilaria jamesii</u>	Curley grass	1
<u>Forbs</u>		
<u>Penstemon palmeri</u>	Palmer Penstemon	1
<u>Shrubs:</u>		
<u>Artiplex confertifolia</u>	Shadscale	1
<u>Ceretoides lanata</u>	Winterfat	1
		5

1. Inform this office before beginning work.



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT

## SUGGESTED COLORS TO PAINT OIL & GAS PRODUCTION FACILITIES

### Cisco Desert and Flats below the Bookcliffs:

Dynasty Green	(Sears)
Tumbleweed	(Pratt & Lambert)
Desert Tan	-----
Sage Gray	(Pratt & Lambert)

### Bookcliffs Region:

Sage Gray	(Pratt & Lambert)
Sea Life	(Pratt & Lambert)
Dynasty Green	(Sears)

Similar hues other than the ones mentioned above must be approved by the Grand Resource Area Manager.



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Moab District  
Grand Resource Area  
P. O. Box M  
Moab, Utah 84532

MAY 19 1982

IN REPLY REFER TO

3109  
SLC-064807  
(U-068)

Memorandum

To: Minerals Management Service  
P. O. Box 1037  
Vernal, Utah 84078

From: Area Manager, Grand

Subject: Terra Resources  
Bar X Field  
Unit well #11, Lease #SLC-064807  
Unit well #12, Lease #SLC-064807  
Unit well #13, Lease #SLC-064807  
T. 24 S., R. 25 E., SLB&M  
Grand County, Utah



The pre-drill field exam(s) covering the above three (3) locations were done in 1980. There are no changes in pad location and/or access roads, and the same surface protection stipulations still apply.

Please consider this memo to be our approval for these wells.

ACTING

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  SALT LAKE CITY UTAH   
 b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 TERRA RESOURCES, INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 2500, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
 At surface 2700 SNL and 1200 EWL  
 At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 35 NW of Grand Junction, CO

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drilg. unit line, if any) 1200'  
 16. NO. OF ACRES IN LEASE 2080'  
 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. 2700' NNE of Well #C1  
 19. PROPOSED DEPTH 4000'  
 20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 Approximate ground level is 5238'

22. APPROX. DATE WORK WILL START\*  
 July 1, 1982

5. LEASE DESIGNATION AND SERIAL NO.  
 SLC-064807

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
 Bar X

8. FARM OR LEASE NAME

9. WELL NO.  
 13

10. FIELD AND POOL, OR WILDCAT  
 Bar X

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Sec. 7, T17S, R2

12. COUNTY OR PARISH  
 Grand

13. STATE  
 Utah

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	32	300	250 sx Reg 'G' w/2% CaCl <sub>2</sub>
7 7/8	4 1/2	11.6	4000	350 sx RFC 10-0

1. Drill 12 1/4" hole to 300' and set surface casing.
2. A double ram BOP will be installed, tested and operational checks made daily and each trip for bit.
3. The hole will be air drilled to approx. 4000' to test the Salt wash member of the Morrison formation.
4. The hole will be logged, and if commercial production is obtained, 4 1/2" casing will be run.

EXHIBITS ATTACHED:

- |  |  |
|--|--|
| A. Location and Elevation Plat                           | F. Drill Pad Layout & Cut-Fill, Cross-S- |
| B. Ten-point Compliance Program                          | G. Drill Rig & production facilities lay |
| C. Blowout Preventer Diagram                             | H. Acidizing-Fracturing Layout           |
| D. Multipoint Requirement for A.P.D.                     | I. Rehabilitation Plan                   |
| E. Access Road Map onto location and Radius Map of area. |  |

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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 E. C. Reiser, Jr. TITLE District Manager-Operations DATE 5/4/82  
 (This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
 APPROVED BY W.P. Martin for E. W. Guynn  
 CONDITIONS OF APPROVAL, IF ANY: \_\_\_\_\_ TITLE District Oil & Gas Supervisor DATE MAY 27 1982

CONDITIONS OF APPROVAL ATTACHED TO OPERATOR'S COPY.

NOTICE OF APPROVAL

\*See Instructions On Reverse Side

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A DATED 1/1/80

*State Oil & Gas*

Identification No. 290-82  
Ref-234-80

United States Department of the Interior  
Minerals Management Service  
2000 Administration Building  
1745 West 1700 South  
Salt Lake City, Utah 84104-3884

NEPA CATEGORICAL EXCLUSION REVIEW

MINERALS MANAGEMENT  
SERVICE  
OIL & GAS OPERATIONS  
RECEIVED  
MAY 24 1982  
SALT LAKE CITY, UTAH

PROJECT IDENTIFICATION

Operator Terra Resources  
Project Type Gas well-Development  
Project Location 2700 S N L 1200 E W L Sec. 7 T 17 S R 26 E  
Well No. #13 Lease No. SLC-064807  
Date Project Submitted 5-7-82

FIELD INSPECTION

Date WAIVED

Field Inspection  
Participants \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I have reviewed the proposal in accordance with the categorical exclusion review guidelines. This proposal would not involve any significant effects and, therefore, does not represent an exception to the categorical exclusions.

5-21-82  
Date Prepared

[Signature]  
Environmental Scientist

I concur

MAY 24 1982  
Date

[Signature] FOR E. W. GUYNN  
District Supervisor  
DISTRICT OIL & GAS SUPERVISOR

CATEGORICAL EXCLUSION REVIEW INFORMATION SOURCE

Criteria DM 2.3.A	Federal/State Agency			Local and private correspondence (date)	Previous NEPA	Other studies and reports	Staff expertise	Onsite inspection (date)	Other
	Corre- spondence (date)	Phone check (date)	Meeting (date)						
Public health safety					CA 234-80 8				
Unique charac- teristics					8				
Environmentally controversial					8				
Identify and known risks					8				
Establishes precedents					8				
Cumulatively significant					8				
National Register historic places					8				
Endangered/ threatened species					8				
Violate Federal, state, local, tribal law					8				

CATEGORICAL EXCLUSION REVIEW COMMON REFERENCE LEGEND

1. Surface Management Agency Input
2. Reviews Reports, or information received from Geological Survey  
(Conservation Division, Geological Division, Water Resource Division,  
Topographic Division)
3. Lease Stipulations/Terms
4. Application Permit to Drill
5. Operator Correspondence
6. Field Observation
7. Private Rehabilitation Agreement
8. *Previous NEPA 234-80*

MINERALS MANAGEMENT SERVICE RECEIVED  
INSTRUCTIONS ON REVERSE SIDE

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
OIL AND GAS OPERATIONS

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  SALT LAYER  PLUG BACK

b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
 TERRA RESOURCES, INC.

3. ADDRESS OF OPERATOR  
 P. O. Box 2500, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At surface: 2700 ~~BNL~~ and 1200 ~~FWL~~  
 At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
 35 NW of Grand Junction, CO

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest grid. unit line, if any)  
 1200'

16. NO. OF ACRES IN LEASE  
 2080'

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.  
 2700' NNE of Well #C1

19. PROPOSED DEPTH  
 4000'

20. ROTARY OR CABLE TOOLS  
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
 Approximate ground level is 5238'

22. APPROX. DATE WORK WILL START\*  
 July 1, 1982

5. LEASE DESIGNATION AND SERIAL NO.  
 SLC-064807

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
 Bar X

8. FARM OR LEASE NAME

9. WELL NO.  
 13

10. FIELD AND POOL, OR WILDCAT  
 Bar X

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
 Sec. 7, T17S, R2

12. COUNTY OR PARISH  
 Grand

13. STATE  
 Utah

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8 5/8	32	300	250 sx Bag 'G' w/2% CaCl <sub>2</sub>
7 7/8	4 1/2	11.6	4000	350 sx RFC 10-0

1. Drill 12 1/4" hole to 300' and set surface casing.
2. A double ram BOP will be installed, tested and operational checks made daily and each trip for bit.
3. The hole will be air drilled to approx. 4000' to test the Salt wash member of the Morrison formation.
4. The hole will be logged, and if commercial production is obtained, 4 1/2" casing will be run.

EXHIBITS ATTACHED:

- A. Location and Elevation Plat
- B. Ten-point Compliance Program
- C. Blowout Preventer Diagram
- D. Multipoint Requirement for Oil, Gas, and Mining Rehabilitation Plan
- E. Access Road Map onto location and Radius Map of area.
- F. Drill Pad Layout & Cut-Fill, Cross-Sect Rig & production facilities layout, Fracturing Layout

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS AND MINING  
 DATE: 8/25/82  
 BY: [Signature]

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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: [Signature] TITLE: District Manager-Operations DATE: 5/4/82  
 (This space for Federal or State office use)

PERMIT NO. APPROVED BY: [Signature] TITLE: District Oil & Gas Supervisor DATE: MAY 27 1982  
 CONDITIONS OF APPROVAL, IF ANY:

NOTICE OF APPROVAL

CONDITIONS OF APPROVAL ATTACHED

\*See Instructions On Reverse Side

FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A DATED 1/1/80

operator

\*\* FILE NOTATIONS \*\*

DATE: June 22, 1982

OPERATOR: Terra Resources, Inc.

WELL NO: Bar X Unit #13

Location: Sec. 7 T. 17S R. 26E County: Grand

File Prepared:

Entered on N.I.D.:

Card Indexed:

Completion Sheet:

API Number 43-019-30598

CHECKED BY:

Petroleum Engineer: \_\_\_\_\_  
\_\_\_\_\_

Director: \_\_\_\_\_  
\_\_\_\_\_

Administrative Aide: Unit Well  
\_\_\_\_\_  
\_\_\_\_\_

APPROVAL LETTER:

Bond Required:

Survey Plat Required:

Order No. \_\_\_\_\_

O.K. Rule C-3

Rule C-3(c), Topographic Exception - company owns or controls acreage within a 660' radius of proposed site

Lease Designation Fed

Plotted on Map

Approval Letter Written

Hot Line

P.I.

June 28, 1982

Terra Resources, Inc.  
P.O. Box 2500  
Casper, Wyoming 82602

RE: Well No. Bar X Unit #13  
Sec. 7, T17S, R26E  
Grand County

Insofar as this office is concerned, approval to drill the above referred to gas well is hereby granted in accordance with Section 40-6-11, Utah Code Annotated 1953 and predicated on Rule A-3, General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

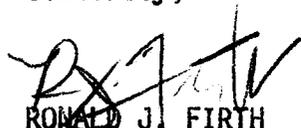
CLEON B. FEIGHT  
Office: 533-5771  
Home: 466-4455

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-019-30598.

Sincerely,



RONALD J. FIRTH  
CHIEF PETROLEUM ENGINEER

RJF:SC  
cc: Minerals Management Service  
Enclosure

NOTICE OF SPUD

Company: Terra Resources

Caller: Cecil Foote

Phone: 307-237-8461

Well Number: Unit #13

Location: Sec. 7 - 175 - 26E

County: Grand State: Utah

Lease Number: SL-064807

Lease Expiration Date: \_\_\_\_\_

Unit Name (If Applicable): Bar X

Date & Time Spudded: 4:30 PM 6-30-82

Dry Hole Spudder/Rotary \_\_\_\_\_

Details of Spud (Hole, Casing, Cement, etc.) \_\_\_\_\_

Run Pipe  
\_\_\_\_\_  
\_\_\_\_\_

Rotary Rig Name & Number: Waco #1

Approximate Date Rotary Moves In: 6-30-82

FOLLOW WITH SUNDRY NOTICE

Call Received By: DeLais

Date: 7-6-82

State

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

NAME OF COMPANY: TERRA RESOURCES

WELL NAME: BAR X UNIT #13

SECTION NWSW 7 TOWNSHIP 17S RANGE 26E COUNTY GRAND

DRILLING CONTRACTOR VECO

RIG # 1

SPUDDED: DATE 06-30-82

TIME 4:30 PM

HOW ROTARY

DRILLING WILL COMMENCE \_\_\_\_\_

REPORTED BY CECIL FOOTE

TELEPHONE # 307-237-8461

DATE 07-06-82 SIGNED SLC

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**

SUBMIT IN DUPLICATE\*

(See other instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R355.5

12

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG \***

1a. TYPE OF WELL: OIL WELL  GAS WELL  DRY  Other \_\_\_\_\_

b. TYPE OF COMPLETION: NEW WELL  WORK OVER  DEEP-EN  PLUG BACK  DIFF. RESVR.  Other \_\_\_\_\_

2. NAME OF OPERATOR  
Terra Resources, Inc.

3. ADDRESS OF OPERATOR  
P.O. Box 2500, Casper, WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)\*  
At surface  
At top prod. interval reported below 1200' EWL, 270' SNL  
At total depth NW SW Sec. 7, T17S-R26E

5. LEASE DESIGNATION AND SERIAL NO.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME  
Bar X

8. FARM OR LEASE NAME

9. WELL NO.  
13

10. FIELD AND POOL, OR WILDCAT  
Bar X

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA  
Sec. 7, T17S-R26E

14. PERMIT NO. 43-019-30598      DATE ISSUED 6/28/82

12. COUNTY OR PARISH Grand      13. STATE Utah

15. DATE SPUDDED 6/30/82      16. DATE T.D. REACHED 7/5/82      17. DATE COMPL. (Ready to prod.) 7/23/82

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\* 5246' KB      19. ELEV. CASINGHEAD 5237'

20. TOTAL DEPTH, MD & TVD 3581'      21. PLUG, BACK T.D., MD & TVD 3505'

22. IF MULTIPLE COMPL., HOW MANY\*      23. INTERVALS DRILLED BY      ROTARY TOOLS      CABLE TOOLS  
All

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\*  
Morrison 2934'-2960'

25. WAS DIRECTIONAL SURVEY MADE  
No

26. TYPE ELECTRIC AND OTHER LOGS RUN  
DIL/SFL/GR FDC/GR w/CAL SNP/GR w/CAL

27. WAS WELL CORED  
No

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24	319'	12 1/4"	240 sx Class G w/2% CaCl	None
4 1/2"	11	3577'	7 7/8"	400 sx Class H w/2% CaCl <sub>2</sub>	None

29. LINER RECORD      30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					2 3/8"	2799'	2799'

31. PERFORATION RECORD (Interval, size and number)  
2934'-2960' 2 SPF 3 1/8" gun

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
2934'-2960'	850 gal WFC acid w/200# Benzoic Flakes 2400 psi
2934-60'- 2976-3010'	79,128 gal foam w/59,812# sand at 4500 psi

33.\* PRODUCTION

DATE FIRST PRODUCTION      PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)      WELL STATUS (Producing or shut-in)

Flow      Prod

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
7/23/82	24	1 1/2 orf.	→		2500		

FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
300	380	→				

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)      TEST WITNESSED BY

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED E. C. [Signature]      TITLE District Manager-Operations      DATE 8/20/82

\*(See Instructions and Spaces for Additional Data on Reverse Side)

# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments. **Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29: "Sacks Cement":** Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

**37. SUMMARY OF POROUS ZONES:**

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	GEOLOGIC MARKERS
				Frontier	
				Dakota Silt	
				Dakota	2535'
				Morrison	2800'
				Salt Wash	2935'
				TD	2975'
					3310'
					3581'

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING  
1588 West North Temple  
Salt Lake City, Utah 84116

\*REPORT OF WATER ENCOUNTERED DURING DRILLING\*

Well Name & Number Bar X 13

Operator Terra Resources, Inc. Address P.O. Box 2500, Casper, WY 82602

Contractor Veco Drilling, Rig #1 Address P.O. Box 1705, Grand Jct., CO 81502

Location NW 1/4 SW 1/4 Sec. 7 T. 17S R. 26E County Grand

Water Sands

	<u>Depth</u>		<u>Volume</u> Flow Rate or Head	<u>Quality</u> Fresh or Salty
	<u>From</u>	<u>To</u>		
1.	None Encountered.			
2.	(Dry all the way)			
3.				
4.				
5.				

(Continue of reverse side if necessary)

Formation Tops

Remarks

- NOTE: (a) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.
- (b) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

THE FOLLOWING METERS WILL HAVE CALIBRATION / SETTLEMENT TESTS RUN ON THE DATES INDICATED. STARTING TIME WILL BE 0800 OR AS SPECIFIED BELOW AND AT THE OFFICE OF THE NORTHWEST PIPELINE GRAND JUNCTION DISTRICT YOU WILL BE NOTIFIED SHOULD ANY CHANGES OCCUR IN THIS SCHEDULE. IF YOU HAVE ANY QUESTIONS ABOUT THE SCHEDULE, CONTACT OR WRITE THE DISTRICT OFFICE.

METER CODE	WELL NAME	LOC	RUN	DAY	MO/YR	STARTING TIME
93772016	BAR X #16	06	02	<u>18</u>	12/85	<u>0800</u>
92002012	BAR X #4 17S. 24E. 18	06	12	<u>1</u>	11/85	<u>T.D.</u>
92003019	BAR X #6 CS 17S. 25E. 11	06	12	<u>13</u>	11/85	<u>1100</u>
92005011	CRITTENDON #1 CASING 17S. 25 12	06	12	<u>13</u>	11/85	<u>1000</u>
92006018	CRITTENDON #1 TUBING " "	06	12	<u>13</u>	11/85	<u>0900</u>
92013014	BAR X #5 17S. 24E. 17	06	12	<u>6</u>	11/85	<u>1000</u>
92292010	BAR X #12 17S. 24E. 17	06	12	<u>6</u>	11/85	<u>1100</u>
92293017	BAR X #13 17S. 24E. 7	06	12	<u>13</u>	11/85	<u>0800</u>
93549015	BAR X #9	06	12	<u>6</u>	11/85	<u>0900</u>
92104012	BAR X #8 17S. 25E. 11	06	12	<u>3</u>	12/85	<u>0900</u>

STATE OF UTAH  
 DIVISION OF OIL, GAS AND MINING  
 OIL AND GAS INSPECTION RECCRD

OPERATOR Terra Resources LEASE \_\_\_\_\_  
 WELL NO. Box X Unit Well # 13 API 43-019-30598  
 NW/ SW SEC. 7 T. 17S R. 26E CONTRACTOR \_\_\_\_\_  
 COUNTY Grand FIELD Box X

DRILLING/COMPLETION/WORKOVER:

<input type="checkbox"/> APD	<input type="checkbox"/> WELL SIGN	<input type="checkbox"/> HOUSEKEEPING	<input type="checkbox"/> BCPE
<input type="checkbox"/> SAFETY	<input type="checkbox"/> POLL. CONTROL	<input type="checkbox"/> SURFACE USE	<input type="checkbox"/> PITS
<input type="checkbox"/> OPERATIONS	<input type="checkbox"/> OTHER		

SHUT-IN  / TA  :  
 WELL SIGN  HOUSEKEEPING  EQUIPMENT\*  SAFETY  
 OTHER

ABANDONED:  
 MARKER  HOUSEKEEPING  REHAB.  OTHER

PRODUCTION:  
 WELL SIGN  HOUSEKEEPING  EQUIPMENT\*  FACILITIES\*  
 METERING\*  POLL. CONTROL  PITS  DISPOSAL  
 SECURITY  SAFETY  OTHER

GAS DISPOSITION:  
 VENTED/FLARED  SOLD  LEASE USE

LEGEND: Y - YES OR SATISFACTORY  
 N - NO OR UNSATISFACTORY  
 NA - NOT APPLICABLE

\*FACILITIES INSPECTED: hoc, meter, wh, pit

REMARKS: 300 psi on Cag Gauge  
OK

ACTION: \_\_\_\_\_

INSPECTOR: FM DATE 7-12-88

011648A D

UTAH STATE DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL AND GAS

INSPECTION RECORD-- PRODUCING

T. 17 R. 26 SEC. 7
N/4 SW
COUNTY Grand
FIELD Bar X
INSPECTOR Moore
INC ISSUED

WELL NAME Bar X Unit #13 30598
LEASE NO. SLC-064807
UNIT NAME & NO.
OPERATOR Terra Resources
DATE 3-20-84

A. GENERAL

- 1. Well Signs
2. Well Equipment Satisfactory
3. Environmental Protection Satisfactory
4. Temporary or Emergency Pits Satisfactory
5. Lease Free of Evidence of Spills/Discharge/Seepage
6. Dikes Around Tanks, if Required
7. Flow Lines Buried, if Required
8. All Surface Use Approved and Not Excessive
9. Does Current 9-329 Confirm Reasonableness of:
a. Production vs. Sales
b. Tank Capacity vs. Inventory
c. Reported Well Status vs. Actual

Table with columns YES, NO, I, A, E, N, N. Contains checkmarks and handwritten marks for items 1-9.

LEASE REQUIREMENTS

- (4.) Emergency Pits Approved
(6.) Are Dikes Around Tanks Required?
(7.) Is Burial of Flow Lines Required?

SALES APPROVAL INFORMATION:

- OIL:
(10.) Sale by LACT Unit
(11.) Seals on All Tank Access Lines Required?
(14.) On Lease Storage
(15.) Off Lease
(16.) Commingling: Not Approved On Lease

GAS:

- (13.) Special Restrictions Applicable
(22.) On Lease Sales
(23.) Liquid Collection From Drips Required?

OTHER REQUIREMENTS

- (24.) NTL-28 Not Applicable
Hydrogen Sulfide Operations:
Analysis:
Gas Screen PPM
STV PPM
(19.) Is a Contingency Plan Required?

B. LIQUID HYDROCARBON PRODUCTION

- 10. Method of Measurement:
(A) LACT Meter; (B) Tank Gauge; (C) Other
11. Method of Measurement Satisfactory
12. Liquid Handling Equipment Satisfactory
13. All Lines Leaving Tankage Sealed/Locked
14. Production Stored on Lease, if Required
15. Production Measured on Lease, if Required
16. Commingling as Approved

Table with columns A, B, C. Contains handwritten marks for items 10-16.

C. NATURAL GAS PRODUCTION

- 17. Type of Gas Production:
(A) Gas Well; (B) Casinghead
18. Gas Disposition:
(A) Sold; (B) Flared/Vented; (C) Used on Lease; (D) Other
19. Method of Measurement:
(A) Orifice Meter; (B) Turbine Meter; (C) Estimated; (D) Other
20. Method of Measurement Satisfactory
21. Gas Handling/Treating Equipment Satisfactory
22. Production Measured on Lease, if Required
23. Liquids Collected From Drips, if Required

Table with columns A, B, C, D. Contains handwritten marks for items 17-23.

D. WATER DISPOSAL

- 24. Disposal Method:
(A) Unlined Pit; (B) Lined Pit; (C) Subsurface; (D) Other
25. If Disposal by Pits, are Pits Satisfactory
26. Additional Disposal Facilities Satisfactory

Table with columns A, B, C, D. Contains handwritten marks for items 24-26.

E. HYDROGEN SULFIDE OPERATIONS

- 27. Are Tank Batteries Properly Equipped
28. Are Warning Signs Properly Installed
29. If Required, is the Contingency Plan Available
30. Are Personnel Properly Protected

Table with columns W, I. Contains handwritten marks for items 27-30.

(S) Shut-in (W) Formal Warning (I) Informal Warning

REMARKS PGW Barton meter
Inverse scale .1000
clayey silty sand soil
380 psi bleed 3 casing pressure

**LONE MOUNTAIN PRODUCTION COMPANY**

P.O. BOX 3394  
408 PETROLEUM BUILDING  
BILLINGS, MONTANA 59103-3394  
(406) 245-5077

**RECEIVED**  
MAR 10 1989

March 8, 1989

DIVISION OF  
OIL, GAS & MINING

DIVISION OF OIL, GAS & MINING  
STATE OF UTAH  
355 W. North Temple  
3 Triad Center, Suite 350  
Salt Lake City, UT 84180

Re: Bar-X Unit  
GRAND COUNTY, UTAH and  
MESA COUNTY, COLORADO

Gentlemen:

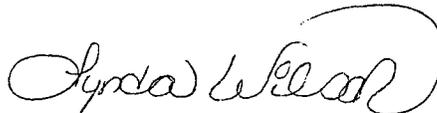
Following is a list of wells and well locations which make up the Utah portion of the Bar-X Unit. Change of operator for this unit was effective January 1, 1989.

019-15027	Crittenden No. 1	SE SE Section 12: T17S-R25E, Grand Co., UT
019-15022	Bar-X Unit No. 3	NE SW Section 12: T17S-R25E, Grand Co., UT
019-15023	Bar-X Unit No. 4	NE NE Section 18: T17S-R26E, Grand Co., UT
019-15024	Bar-X Unit No. 5	SE NE Section 17: T17S-R26E, Grand Co., UT
019-15025	Bar-X Unit No. 6	SE NE Section 11: T17S-R25E, Grand Co., UT
019-15024	Bar-X Unit No. 7	NW NE Section 7: T17S-R26E, Grand Co., UT
019-30494	Bar-X Unit NO. 8	NE NW Section 11: T17S-R25E, Grand Co., UT
019-30597	Bar-X Unit No. 12	NW SE Section 8: T17S-R26E, Grand Co., UT
019-30598	Bar-X Unit No. 13	NW SW Section 7: T17S-R26E, Grand Co., UT

Should you require any further information, please feel free to call.

Very truly yours,

Lone Mountain Production Company



Lynda Wilson

/lw