

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

LONE STAR INDUSTRIES, INC. C/O JOHN E. SCHALK

3. ADDRESS OF OPERATOR

P.O. BOX 2078, FARMINGTON, NEW MEXICO 87401

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

At surface

1007' FROM THE NORTH LINE, 1220' FROM THE WEST LINE

At proposed prod. zone

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

50 MILES EAST OF BLOOMFIELD, NEW MEXICO

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST

PROPERTY OR LEASE LINE, FT.

(Also to nearest drlg. unit line, if any)

1007'

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.

1/2 MILE

16. NO. OF ACRES IN LEASE

640

19. PROPOSED DEPTH

4266'

17. NO. OF ACRES ASSIGNED
TO THIS WELL

160'

20. ROTARY OR CABLE TOOLS

ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

7111.0 GR

22. APPROX. DATE WORK WILL START*

DECEMBER 5, 1973

23.

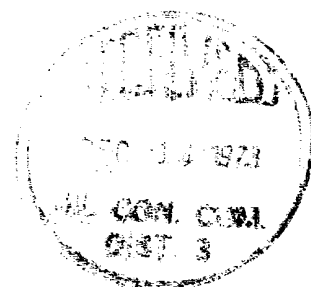
PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	250'	250 SACKS
4-1/2"	7-7/8"	10.5#	4266'	300 SACKS

WILL DRILL WITH ROTARY TOOLS TO TEST THE PICTURED CLIFFS FORMATION.
WILL RUN AN INDUCTION LOG & FORMATION DENSITY CALIPER GAMMA RAY LOG
AT TOTAL DEPTH. IF PRODUCTIVE, WILL CEMENT 4-1/2" CASING AND
PERFORATE AS NEEDED.

ESTIMATED TOPS

OJO ALAMO - 3201'
KIRTLAND - 3421'
PICTURED CLIFFS 3775'
TOTAL DEPTH - 4276'



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 prevention program, if any.

24.

SIGNED

TITLE

AGENT

DATE 12-4-73

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL (If any)

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACERAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section

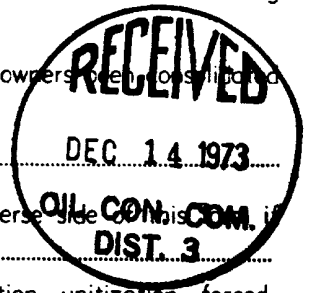
Operator LONE STAR INDUSTRIES INC.		Lease SCHALK- 49		Well No. 4	
Unit Letter D	Section 23	Township 30 NORTH	Range 4 WEST	County RIO ARriba	
Actual Footage Location of Well: 1007 feet from the NORTH line and 1220 feet from the WEST line					
Ground Level Elev. 7111.0	Producing Formation		Pool Blanco Pc	Dedicated Acreage: 160 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty),
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

() Yes () No If answer is "yes," type of consolidation

If answer is "no," list the owners and tract descriptions which have actually consolidated. (Use reverse side of this plat if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

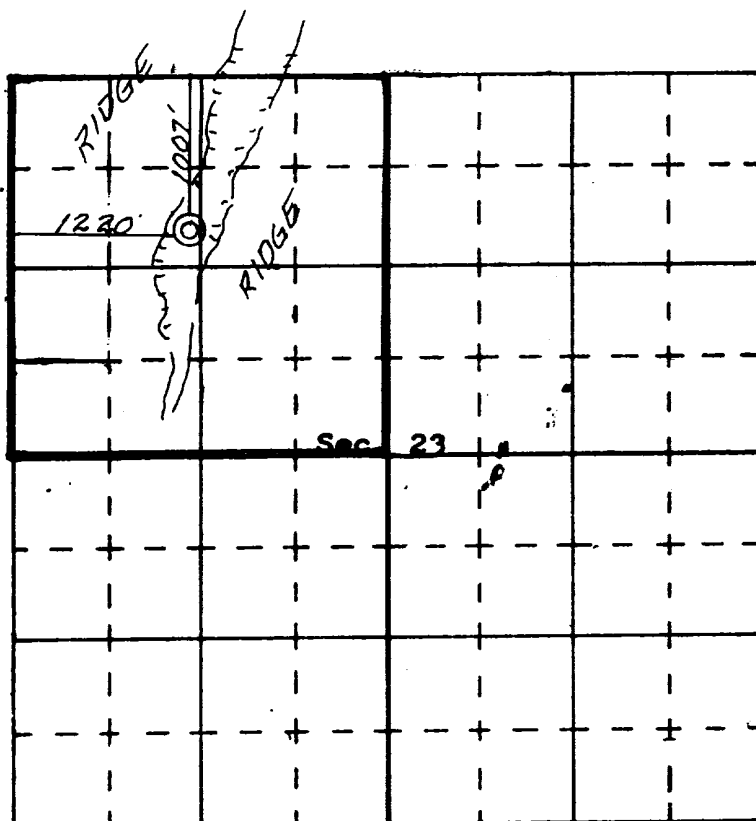
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

John E. Schalk
Name
JOHN E. SCHALK
Position

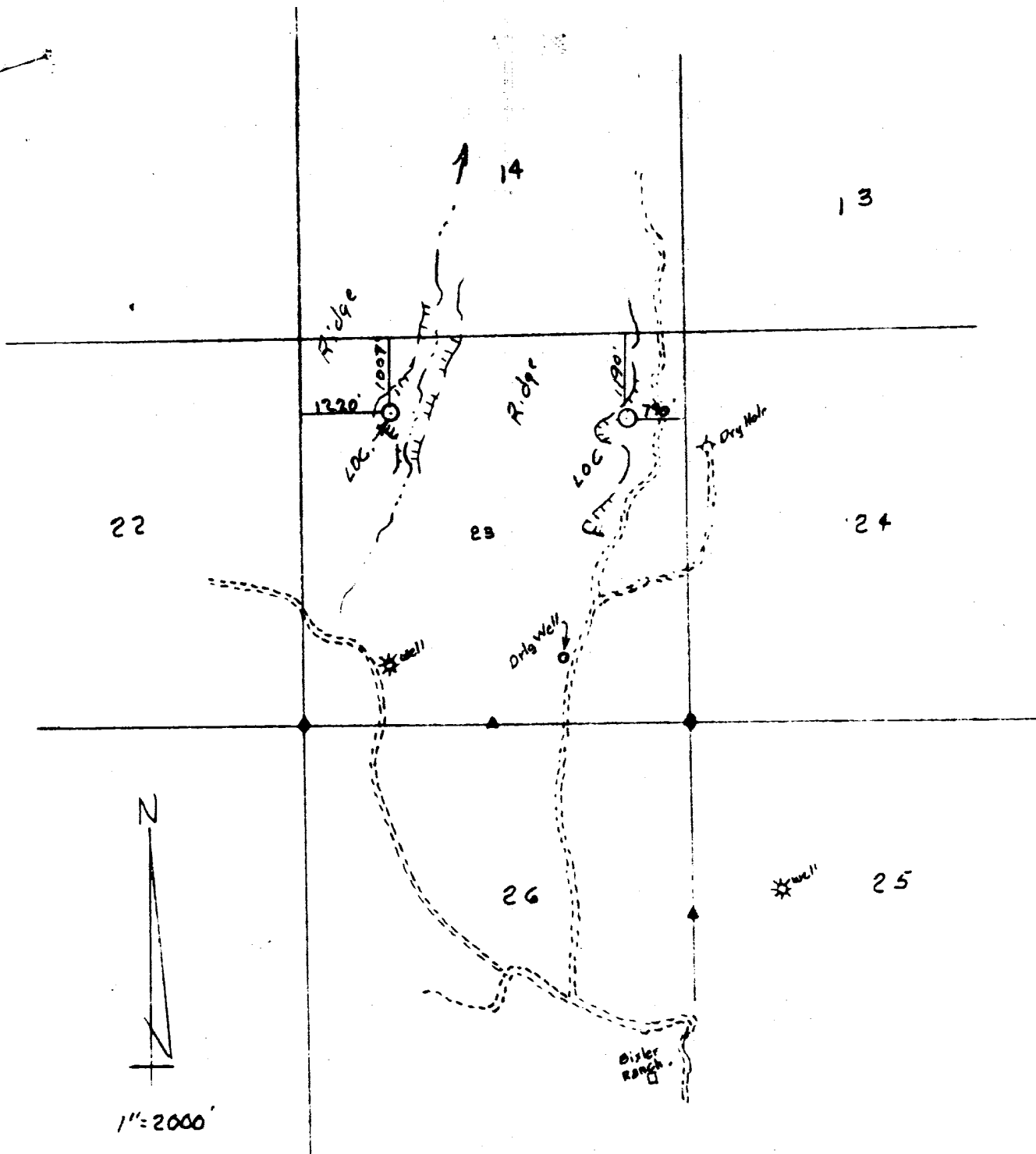
AGENT
Company
LONE STAR INDUSTRIES, INC
Date
12-4-73

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

28 November, 1973
Date
Professional Engineer
and Land Surveyor
JAMES P. LEESE
New Mexico
Certificate No. **1453**



N



VICINITY MAP
FOR
LONE STAR INDUSTRIES

showing
Well Locations in N/2 Sec. 2,
T30N. R4W, N14E, Rio
Arriba County, New Mexico

SPECIAL USE PERMIT

Act of June 4, 1897
This permit is revocable and nontransferable
(Ref. FSM 2710)

a. Record no. (1-3) 70	b. Region (3-4) 03	c. Forest (5-6) 02
d. District (7-8) 03	e. Use number (9-12) 2724	f. Kind of use (13-15) 420
g. State (16-17) 35	h. County (18-20) 039	k. Card no. (21) 1

Permission is hereby granted to Lone Star Industries

of c/o John Schalk,
hereinafter called the permittee, to use subject to the conditions set out below, the following described lands or improvements: A two acre tract in the NW 1/4 NW 1/4 Section 23 and a road right-of-way through the NW 1/4 NW 1/4 Section 23; The S1/2 SW 1/4, NE 1/4 SW 1/4 and lot 5 Section 14; lots 7, 8, 11 and 12 Section 11: and lots 1, 2, 3 and 4 Section 13 T30N R4W NMPM as shown on the attached map.

This permit covers 2 acres and/or 2.0 miles and is issued for the purpose of:

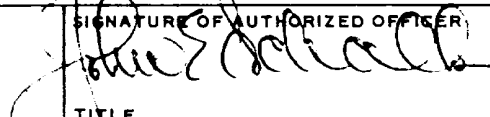
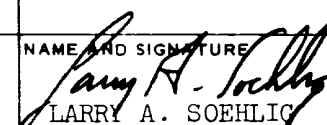
1. Constructing, drilling and maintaining the Lone Star Schalk 49-4 gas well.
2. Constructing, using and maintaining an access road thereto under terms of lease NM 4449.

1. Construction or occupancy and use under this permit shall begin within 1 months, and construction, if any, shall be completed within 12 months, from the date of the permit. This use shall be actually exercised at least 365 days each year, unless otherwise authorized in writing.

2. In consideration for this use, the permittee shall pay to the Forest Service, U.S. Department of Agriculture, the sum of Free 36 CFR 251.2 Dollars (\$) for the period from 19, to 19, and thereafter annually on _____ Dollars (\$ _____):

Provided, however, Charges for this use may be made or readjusted whenever necessary to place the charges on a basis commensurate with the value of use authorized by this permit.

3. This permit is accepted subject to the conditions set forth herein, and to conditions 18 to 37 attached hereto and made a part of this permit.

PERMITTEE	NAME OF PERMITTEE Lone Star Industries	SIGNATURE OF AUTHORIZED OFFICER 	DATE 12-4-73
ISSUING OFFICER	NAME AND SIGNATURE  LARRY A. SOEHLIG	TITLE District Forest Ranger	DATE 12/3/73

4. Development plans; layout plans; construction, reconstruction, or alteration of improvements; or revision of layout or construction plans for this area must be approved in advance and in writing by the forest supervisor. Trees or shrubbery on the permitted area may be removed or destroyed only after the forest officer in charge has approved, and has marked or otherwise designated that which may be removed or destroyed. Timber cut or destroyed will be paid for by the permittee as follows: Merchantable timber at appraised value; young-growth timber below merchantable size at current damage appraisal value; *provided* that the Forest Service reserves the right to dispose of the merchantable timber to others than the permittee at no stumpage cost to the permittee. Trees, shrubs, and other plants may be planted in such manner and in such places about the premises as may be approved by the forest officer in charge.

5. The permittee shall maintain the improvements and premises to standards of repair, orderliness, neatness, sanitation, and safety acceptable to the forest officer in charge.

6. This permit is subject to all valid claims.

7. The permittee, in exercising the privileges granted by this permit, shall comply with the regulations of the Department of Agriculture and all Federal, State, county, and municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit.

8. The permittee shall take all reasonable precautions to prevent and suppress forest fires. No material shall be disposed of by burning in open fires during the closed season established by law or regulation without a written permit from the forest officer in charge or his authorized agent.

9. The permittee shall exercise diligence in protecting from damage the land and property of the United States covered by and used in connection with this permit, and shall pay the United States for any damage resulting from negligence or from the violation of the terms of this permit or of any law or regulation applicable to the national forests by the permittee, or by any agents or employees of the permittee acting within the scope of their agency or employment.

10. The permittee shall fully repair all damage, other than ordinary wear and tear, to national forest roads and trails caused by the permittee in the exercise of the privilege granted by this permit.

11. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this agreement or to any benefit that may arise herefrom unless it is made with a corporation for its general benefit.

12. Upon abandonment, termination, revocation, or cancellation of this permit, the permittee shall remove within a reasonable time all structures and improvements except those owned by the United States, and shall restore the site, unless otherwise agreed upon in writing or in this permit. If the permittee fails to remove all such structures or improvements within a reasonable period, they shall become the property of the United States, but that will not relieve the permittee of liability for the cost of their removal and restoration of the site.

13. This permit is not transferable. If the permittee through voluntary sale or transfer, or through enforcement of contract, foreclosure, tax sale, or other valid legal proceeding shall cease to be the owner of the physical improvements other than those owned by the United States situated on the land described in this permit and is unable to furnish adequate proof of ability to redeem or otherwise reestablish title to said improvements, this permit shall be subject to cancellation. But if the person to whom title to said improvements shall have been transferred in either manner provided is qualified as a permittee and is willing that his future occupancy of the premises shall be subject to such new conditions and stipulations as existing or prospective circumstances may warrant, his continued occupancy of the premises may be authorized by permit to him if, in the opinion of the issuing officer or his successor, issuance of a permit is desirable and in the public interest.

14. In case of change of address, the permittee shall immediately notify the forest supervisor.

15. The temporary use and occupancy of the premises and improvements herein described may be sublet by the permittee to third parties only with the prior written approval of the forest supervisor but the permittee shall continue to be responsible for compliance with all conditions of this permit by persons to whom such premises may be sublet.

16. This permit may be terminated upon breach of any of the conditions herein or at the discretion of the regional forester or the Chief, Forest Service.

17. In the event of any conflict between any of the preceding printed clauses or any provisions thereof and any of the following clauses or any provisions thereof, the following clauses will control.

18. As a further guarantee of the faithful performance of the provisions of the permittee's special use permit for oil and gas exploration on the Carson National Forest, the permittee has delivered and agrees to maintain a surety bond in the amount of ten thousand dollars (\$10,000.00). Should the sureties or bonds delivered under this permit become unsatisfactory to the Forest Service, the permittee shall, within thirty (30) days of demand, furnish a new bond with surety, solvent and satisfactory to the Forest Service.

The permittee agrees that all moneys deposited under these permits may, upon failure on his part to fulfill all and singular the requirements herein set forth or made a part hereof, be retained by the United States to be applied as far as may be to the satisfaction of his obligations assumed hereunder, without prejudice whatever to any other rights and remedies of the United States.

19. Chemical materials may not be used to control undesirable woody and herbaceous vegetation, insects, rodents, etc., without the prior written approval of the Forest Service. A report of planned use of pesticides will be submitted annually by the permittee on the due date established by the District Ranger. The report will cover a 12 month period of planned use beginning 3 months after the reporting date. Information essential for review will be provided in the form specified. Exceptions to this schedule may be allowed only when unexpected outbreaks of pests require control measures which were not anticipated at the time the annual report was submitted.
20. This permit shall have no force or effect until the permittee has signified his acceptance of its provisions and conditions by signing the original and all carbon copies and returning the copies to the District Ranger.
21. A muffler or spark arrester satisfactory to the Forest Service shall be maintained on the exhausts of all trucks and tractors or other internal combustion engines used in connection with this permit.

The permittee will make arrangements to have all equipment inspected for compliance with fire requirements prior to entry onto the National Forest. In addition to an adequate muffler or spark arrester all vehicles or equipment will have a shovel. All heavy equipment and vehicles except sedans and pickups will also be equipped with a fire extinguisher.

Each drilling rig will be equipped with adequate fire extinguishers and a tool cache containing a minimum of 3 shovels and 2 axes.

22. The permittee shall save the United States harmless from and indemnified against claims for injury to persons or damages to property, due to development, operation or use under this permit.

23. All liquids and solids discharged from the well will be vented into storage tanks or fenced drip pits. The permittee will provide that the location and all equipment will be kept in satisfactory condition to prevent damage to livestock and wildlife.
24. The permittee shall take all practicable precautions to minimize damage to the soil, and to prevent the creation of conditions conducive to continuing or accelerated soil erosion. The precautions may include but shall not necessarily be limited to, bank sloping, benching, wattling, sod planting, seeding, fertilizing, and mulching as determined by the District Ranger to be practicable and necessary. All earth cuts or fill slopes on any disturbed areas which are favorable to revegetation or other areas on which the soil and/or ground cover is destroyed in the course of construction, will be revegetated with suitable vegetation or otherwise treated by the permittee as required by the District Ranger. Such seeding or planting shall be done at a time of the year, in a manner, and with the kinds and amounts of species which in the opinion of the District Ranger offers the best chance of success.
25. A chemical toilet or similar adequate sanitary facilities will be provided on the location while men are regularly employed there. Untreated sewage will not be permitted to enter any stream course.
26. If, during construction, items of a substantial archaeological or paleontological value are discovered, or a known deposit of such items is disturbed, the permittee will cease work in the area so affected. He will then notify the District Ranger and will not resume work until written approval is given.
27. This permit authorizes only such use and occupancy of National Forest land as is essential for purposes directly connected with the construction, maintenance, and use of the road and well site. It does not authorize uses such as borrow pits, stockpiles, quarries or any other similar use except with the written approval of the District Ranger.
28. All or portions of the work herein described for revegetation, brush disposal, fence construction and/or reseeding for which the permittee is responsible, may upon written request of the permittee and approval by the Forest Supervisor be performed by the Forest Service on a operative or assistance basis under Section 5, Act of April 24, 1959, 64 Stat. 83, U.S.C. 572. When the work is to be so performed, the permittee shall make advance deposits as requested by the Forest Service. The total deposits will be sufficient to cover the cost of the work including necessary overhead charges. Deposits for the control of erosion may be used to maintain installations made for erosion control for a period not to exceed three years or until site stabilization is accomplished, whichever is less. Advance estimates of the cost of this work may be obtained from the District Ranger.

29. The road will be constructed in accordance with the specifications set forth in Exhibit I. Cuts in earth will not be steeper than 2:1, cuts in rock will not be steeper than 1/4:1. Fill material will not be steeper than 2:1. All roads will be ditched and crowned with adequate wing ditches and culverts for proper ditch relief.
30. This road will be maintained a minimum of twice each year. To insure proper care of the improvements, the District Ranger may require more frequent maintenance.
31. To protect vegetation and prevent scorching of top soil, drilling gas will be burned in a pit and against a dirt bank.
32. Gates, cattleguards, culverts and other structures installed as part of this road shall become the property of the United States and may not be removed without the consent of the District Ranger. The Forest Service, or its cooperator, (with Forest Service consent) may improve this road in any manner so long as it does not materially interfere with its use by the permittee. Specifications for construction of these improvements are given in Exhibit 2.
33. None of the conditions of the permit as set forth herein can be varied or modified, except with the written consent of the District Ranger.
34. If the use granted under this permit is not exercised within one calendar year from date of issue the permit will be terminated.
35. The prescribed seed mixture for revegetation of disturbed areas is shown in Exhibit #3.
36. All construction slash will be buried, chipped or removed.
37. When roads become dry and dusty they will be watered to reduce rutting, improve visibility and reduce air pollution.

U.S. FOREST SERVICE REGION 3

MINIMUM STANDARDS FOR DOUBLE LANE ALL WEATHER ROAD

DESIGN CRITERIA

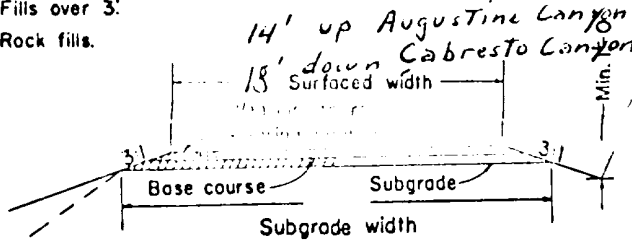
Grade — Maximum of 6% unless approved in writing by the Forest Service.

Alignment — Minimum radius 200 ft. unless approved in writing by the Forest Service.

TYPICAL GRADING SECTION

FILL SLOPES

- 3:1 (or flatter) Fills under 3'
- 1 1/2:1 Fills over 3'
- 1 1/2:1 Rock fills.



SLOPE ROUNDING

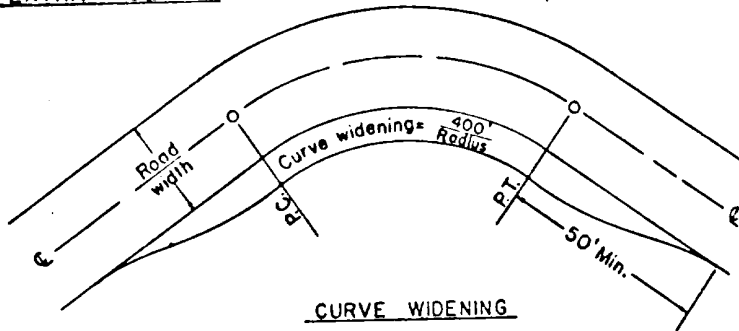
Depth varies with slope.

CUT SLOPES

- 1 1/2:1—Common, under 30% Side Slopes.
- 1:1—Common, 30% to 55% Side Slopes.
- 3/4:1—Common, over 55% Side Slopes.
- 1/2:1—Hardpan—Soft rock.
- 1:1—Solid rock

All cut and fill slopes 1 1/2:1 and flatter to be revegetated.

EXTRA WIDENING



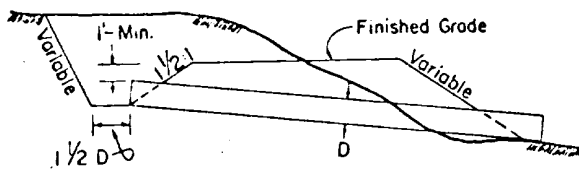
WIDENING ON FILL

Height of fill at Shoulder	Widen each Shoulder
0'—3' (3:1 Fill Slopes)	None
0'—6' (1 1/2:1 Fill Slopes)	1'—0"
Over 6' (1 1/2:1 Fill Slopes)	2'—0"
Guardrail Sections (1 1/2:1 Fill Slopes)	3'—0"

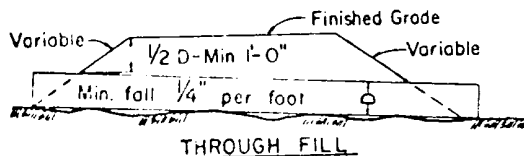
SURFACING (See above Sketch)

- (a) Base course—Depth _____ inches, Maximum size _____ inches.
- (b) Wearing course—Depth _____ inches, Maximum size _____ inches.
- (c) Bituminous surface—See Supplemental Specifications.

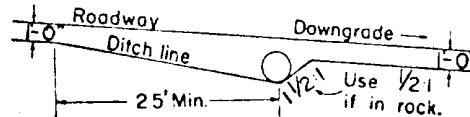
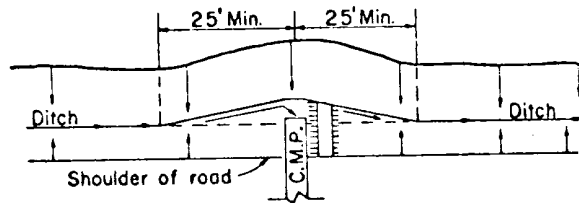
CULVERTS



SIDEHILL INSTALLATION



THROUGH FILL



SIDEHILL INSTALLATION

All culverts must discharge at natural ground level unless slope under pipe is protected by rock fill. Gradient of culverts on Sidehill Installation not less than approaching ditch gradient. For spacing of Ditch Relief Culverts see FSM 5613.54.

Provide proof of permission from the private land owner

for the installation of a culvert on private land.

~~Current Location~~

~~Current Location~~

Castro Guard

PRIVATE
Canyon

PRIVAT

2820 Permits
Lone Star
49-4

Lone Star

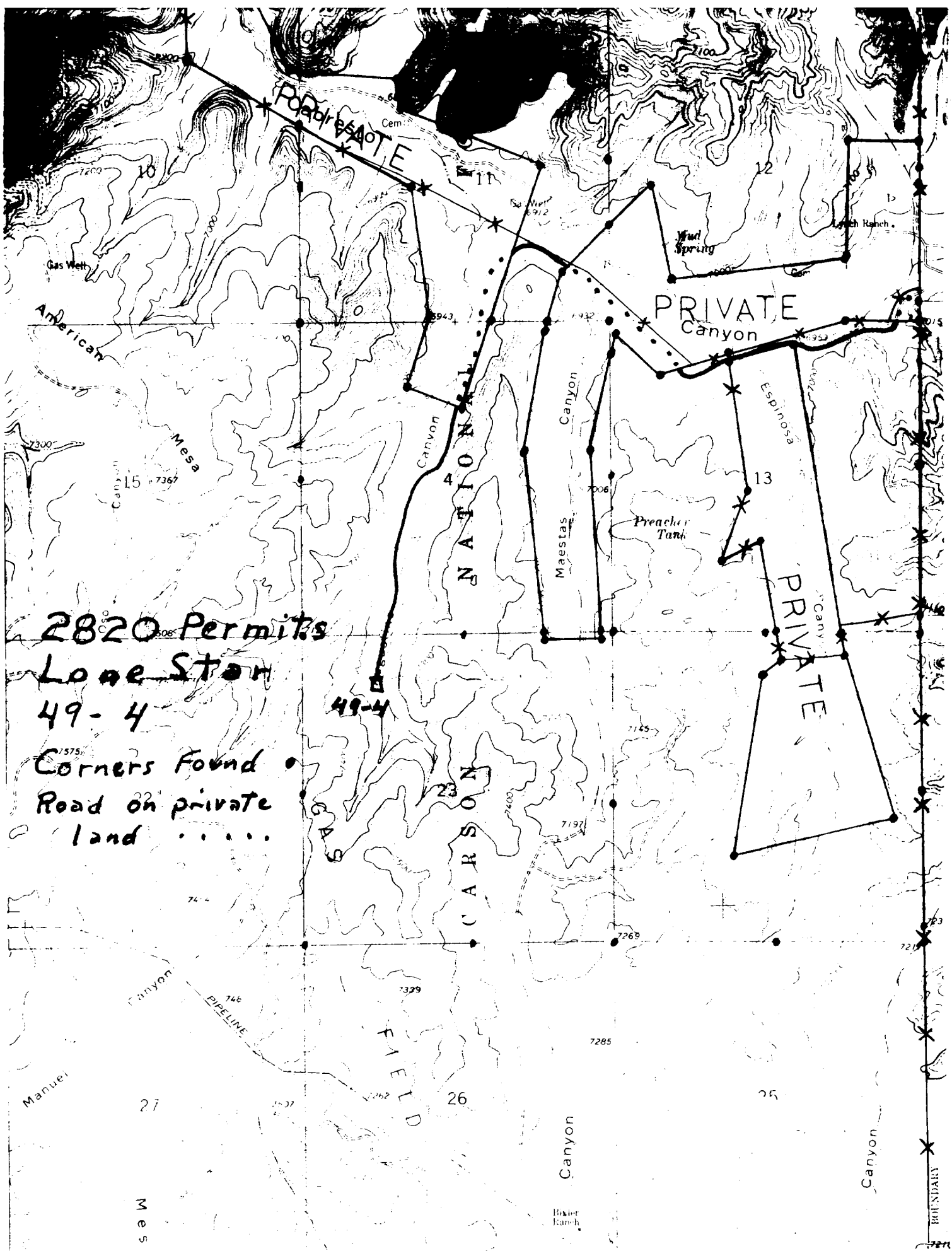
49-4

A 14' Cattle guard will be furnished and installed by permittee at boundary fence on cement beams.

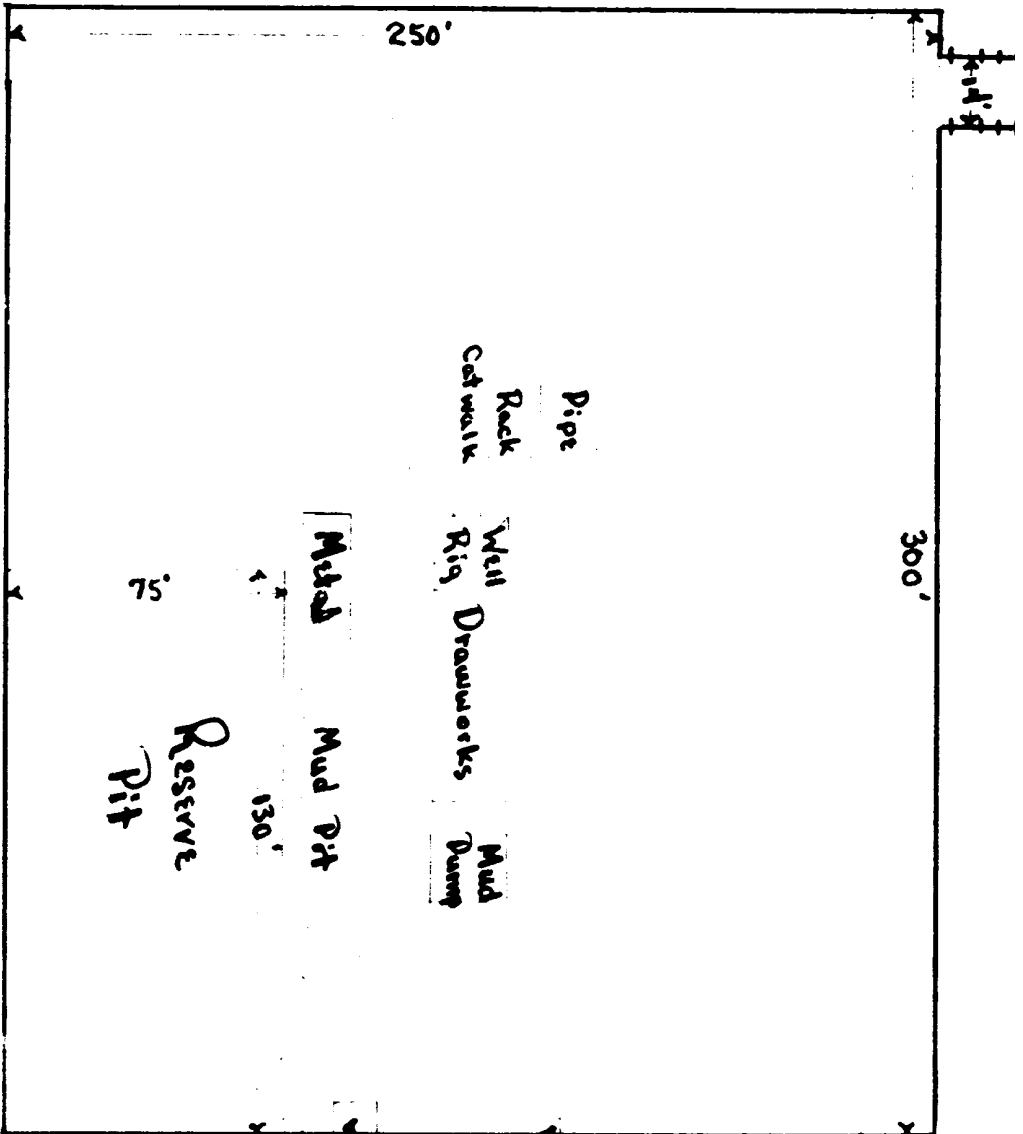
EXHIBIT #3

SEED MIXTURE

Crested Wheat	4 lbs. per acre
Pubescent Wheat	6 lbs. per acre
Saru drop	1 lb. per acre
Ranger Alfalfa	1 lb. per acre



North



Proposed Road;
app. 30mils long
14 feet wide

John E. Schalk

Lone Star Industries 49-4
Sec. 23, T30N, R4W

