Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425.

30-045-24259

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

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER INFILL SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: 501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 855' FSL and 950' FEL, Section 31, T29N, R12W
At proposed prod. zone: Same

5. LEASE DESIGNATION AND SERIAL NO.: SF-078109

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: Gallegos Canyon Unit

8. FARM OR LEASE NAME:

9. WELL NO.: 221E

10. FIELD AND POOL, OR WILDCAT: Basin Dakota

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SE/4, SE/4, Section 31, T29N, R12W

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexico

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 5 miles Southeast of Farmington, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 855'

16. NO. OF ACRES IN LEASE: 43,146.62

17. NO. OF ACRES ASSIGNED TO THIS WELL: E 320

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 2050'

19. PROPOSED DEPTH: 6500'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5661' GL

22. APPROX. DATE WORK WILL START*: As soon as permitted

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" (New) | 24# K-55 | 300' | 315 sx Class "B" Neat - circ |
| 7-7/8" | 4-1/2" (New) | 10.5# K-55 | 6500' | Stage 1-360 sx Class "B" 50:50 POZ 6% gel, 2# med tuf plug/sx, and 0.8% FLA. Tail in w/ 100 sx Class "B" Neat-circ. Stage 2-640 sx Class "B" 65:35 POZ, 6% gel, 2# med tuf plug/sx, and 0.8% FLA. Tail in w/ 100 sx Class "B" Neat-circ. |

This application to drill an Infill Basin Dakota well is pursuant to Order No. R-1670-V approved by the NMOCC on May 22, 1979. This well will qualify under Section 103 of the Natural Gas Policy Act under Order No. R-1670-V. The gas from this well is dedicated to El Paso Natural Gas Co.

APPROVED as amended MAR 26 1980 Carroll Gallant for DISTRICT ENGINEER

RECEIVED MAR 27 1980 OIL CON. COM. DIST. 3

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 B E Jackwell TITLE District Engineer DATE March 6, 1980

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

ok Fnd

NMOCC

# OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-78

All distances must be from the outer boundaries of the Section

| Operator | Lease | Well No. |
|---|---|---|
| AMOCO PRODUCTION COMPANY | GALLEGOS CANYON UNIT | 221-E |

| Unit Letter | Section | Township | Range | County |
|---|---|---|---|---|
| P | 31 | 29N | 12W | San Juan |

Actual Footage Location of Well:
855 feet from the South line and 950 feet from the East line

| Ground Level Elev. | Producing Formation | Pool | Dedicated Acreage: |
|---|---|---|---|
| 5661 | Dakota | Basin Dakota | E 320 Acres |

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

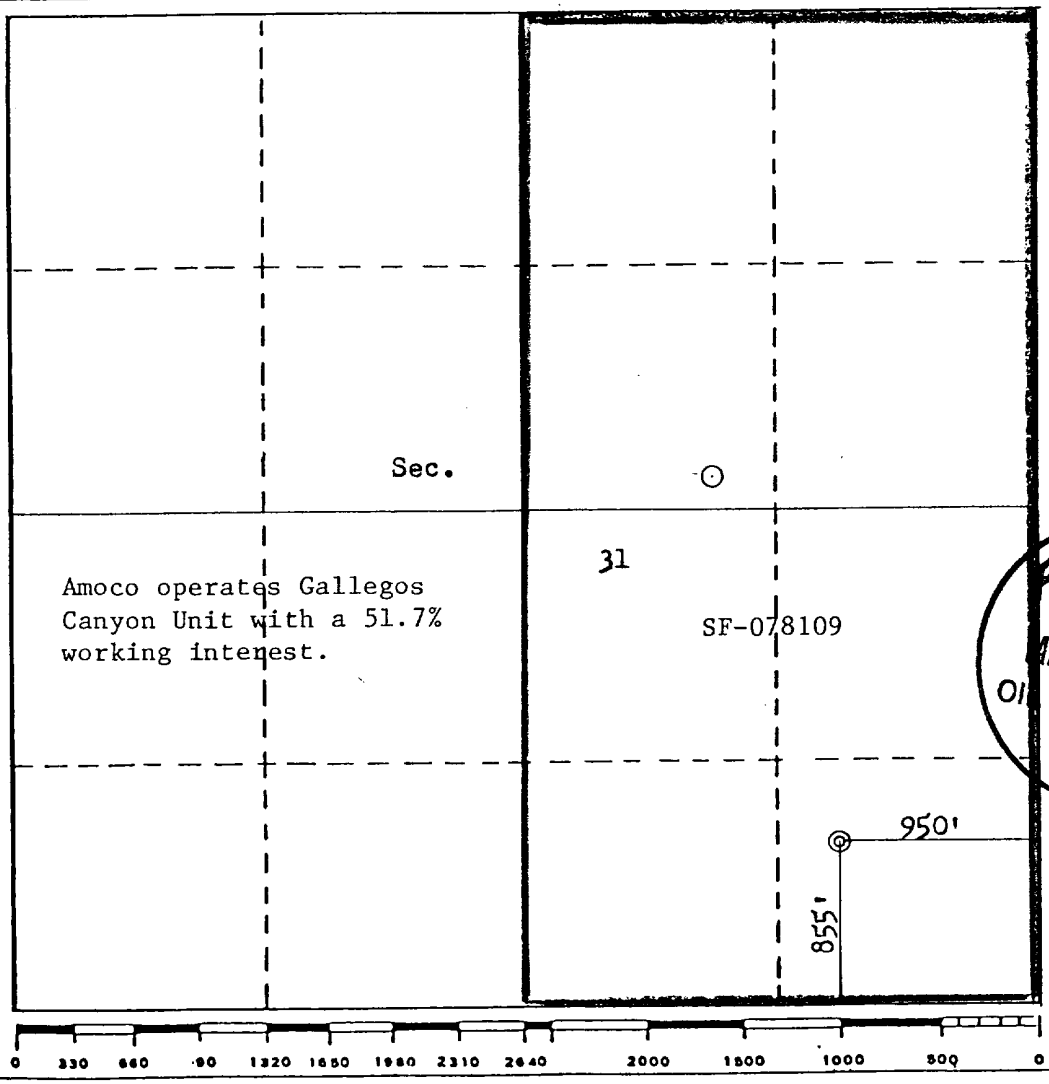
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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?

[XX] Yes [ ] No If answer is "yes," type of consolidation Unitization (Gallegos Canyon Unit)

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form 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.*

B. E. Fackrell

Name: B. E. FACKRELL

Position: DISTRICT ENGINEER

Company: AMOCO PRODUCTION COMPANY

Date: JANUARY 22, 1980

*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.*

RECEIVED
MAR 27 1980
OIL CON. COM.
DIST. 3

Date Surveyed: January 11, 1980

Registered Professional Engineer and/or Land Surveyor

Fred B. Kerr Jr.

Certificate No. 3950

NEW MEXICO
FRED B. KERR, JR.
No. 3950

SUPPLEMENTAL INFORMATION TO FORM 9-331C

GALLEGOS CANYON UNIT NO. 221E
855' FSL & 950' FEL, SECTION 31, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

The geologic name of the surface formation is the Tertiary Nacimiento.

Estimated tops of important geologic markers and potential water, oil, or gas bearing formations:

| FORMATION | DEPTH | ELEVATION |
|---|---|---|
| Ojo Alamo | 398' | 5276' |
| Kirtland | 458' | 5216' |
| Fruitland | 1248' | 4426' |
| Pictured Cliffs | 1533' | 4141' |
| Chacra (if present) | ' | ' |
| Mesaverde [ Cliff House | 3133' | 2541' |
| Mesaverde [ Point Lookout | 3993' | 1681' |
| Gallup | 5203' | 471' |
| Dakota | 6083' | -409' |
| TD | 6500' | -826' |

Estimated KB elevation: 5674'

Drilling fluid to TD will be a fresh water, low solids non-dispersed mud system. Open hole logging program will include logs from TD to below surface casing:

SP-GR-Induction
FDC-CNL-GR

Completion design will be based on these logs. No cores or drill stem tests will be taken.

Operations will commence when permitted and last approximately 3 weeks.

Amoco's standard blowout prevention will be employed (see attached drawing).

In the past, drilling in this area has shown that no abnormal pressures, temperatures, nor hydrogen sulfide gas will be encountered.

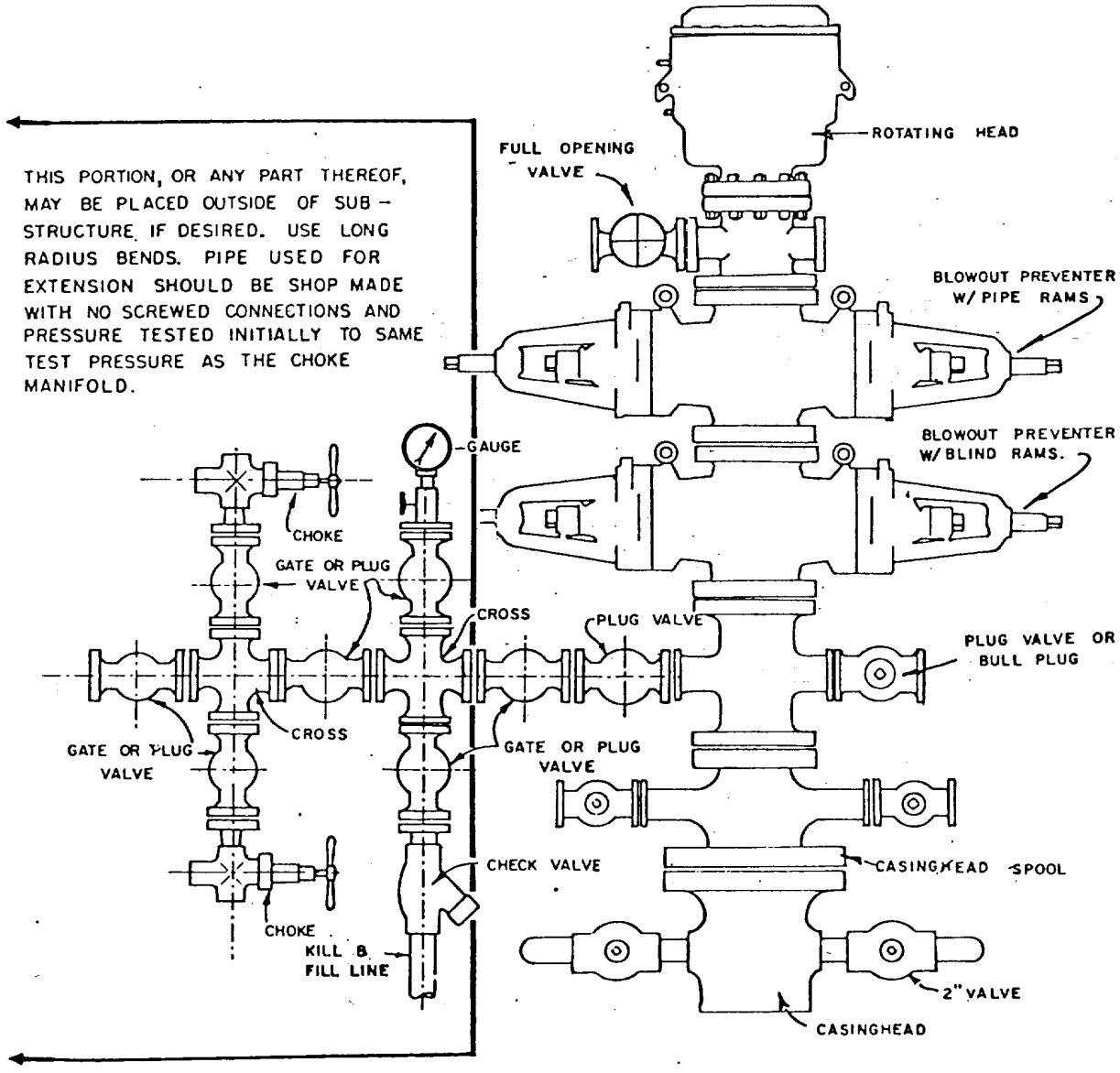
1. Blowout Preventers and Master Valve to be fluid operated, and all fittings must be in good condition.

2. Equipment through which bit must pass shall be as large as the inside diameter of the casing that is being drilled through.

3. Nipple above Blowout Preventer shall be same size or larger than BOP being drilled through.

4. All fittings to be flanged.

5. Omsco or comparable safety valve must be available on rig floor at all times with proper connection or sub. The I.D. of safety valve should be as great as I.D. of tool joints of drill pipe, or at least as great as I.D. of drill collars.




## BLOWOUT PREVENTER HOOKUP

API Series # 900

EXHIBIT D-4

OCTOBER 16, 1969

Operation of BOP by closing both pipe and blind rams will be tested each trip or, on long bit runs, pipe rams will be closed once each 24 hours.

# MULTI-POINT SURFACE USE PLAN

GALLEGOS CANYON UNIT NO. 221E
855' FSL & 950' FEL, SECTION 31, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

1. The attached topographic map shows the proposed route to the location.

2. It will be necessary to build an access road approximately 900 feet in length and 20 feet wide. Road to be bar ditched on two sides.

3. Existing oil and gas wells within a one-mile radius of our proposed well have been spotted on the lease road map.

4. There is a 380-barrel tank and facilities located at Gallegos Canyon Unit Well No. 213 (J-8-28-12); and at Gallegos Canyon Unit No. 221 (G-31-29-12), there is a 300-barrel tank and facilities.

5. Water will be hauled from the San Juan River.

6. No construction materials will be hauled in for this location.

7. A 125' by 125' pit will be built on location to hold all drilling waste. Upon completion of the well, pit will be fenced and waste and liquids left to dry, then pit will be filled and leveled.

8. There are neither airstrips nor camps in the vicinity.

9. The well site layout, reserve, burn and trash pits are shown on the attached Drill Site Specification Sheet. A 4-foot cut will be made on south side.

10. Restoration of the surface will be accomplished by cleaning up and leveling upon completion of the well. Drilling mud will be hauled away and the reserve pit back filled. Reseeding of the site will be carried out as instructed by the Bureau of Land Management.

11. The general topography is a broken slope with sandstone outcrops. The soil is sandy; vegetation consists of juniper trees, yucca, mountain mahogany, and sagebrush.

    Representatives of the U. S. Geological Survey's Farmington Office and the Bureau of Land Management inspected the site with Amoco personnel. Cultural resources inspection was conducted by an archaeologist from San Juan College.

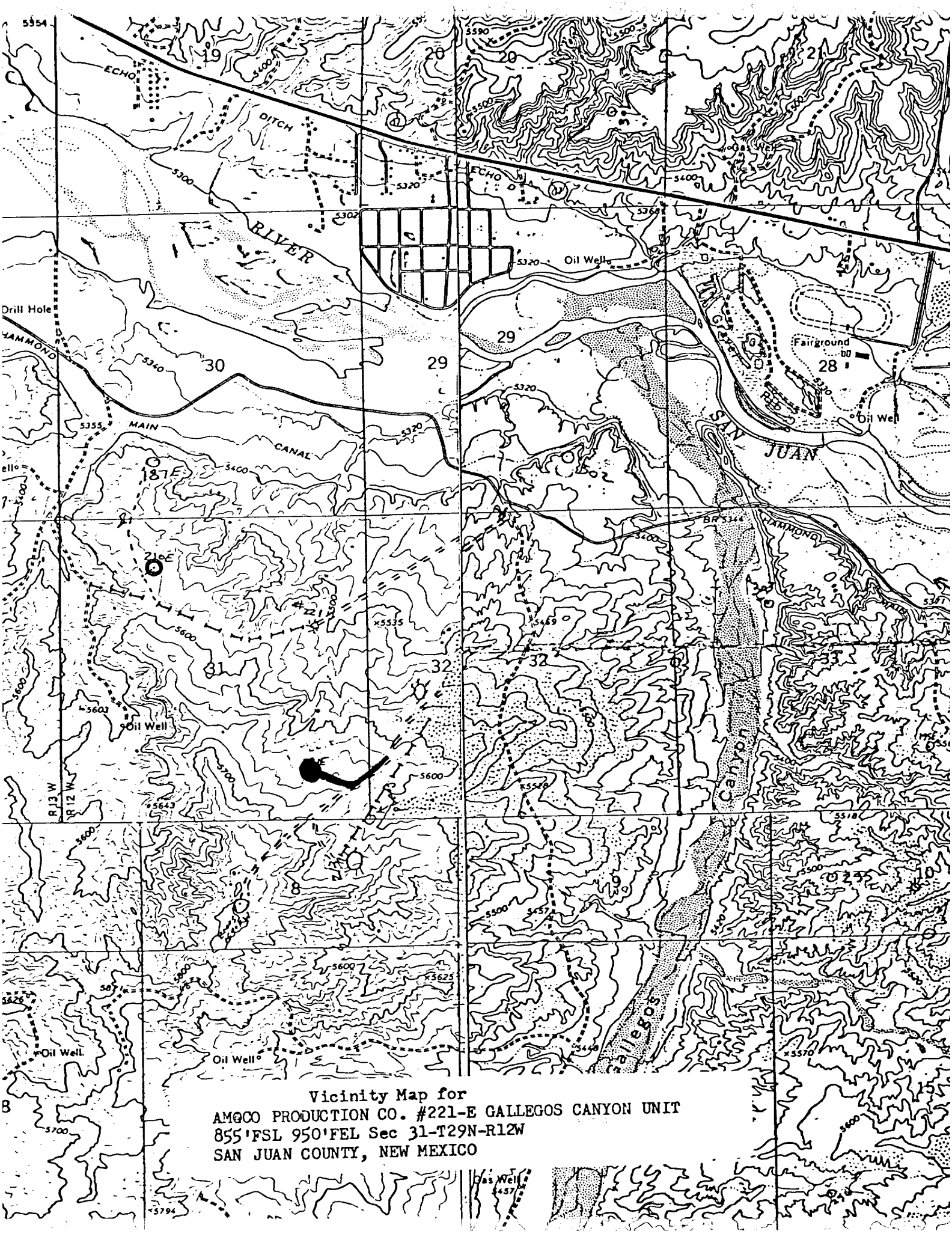
12. Operator's Representative: R. W. Schroeder
    Phone: Office: 505-325-8841; Home: 505-325-6164
    Address: 501 Airport Drive, Farmington, NM 87401

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 AMOCO PRODUCTION COMPANY and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

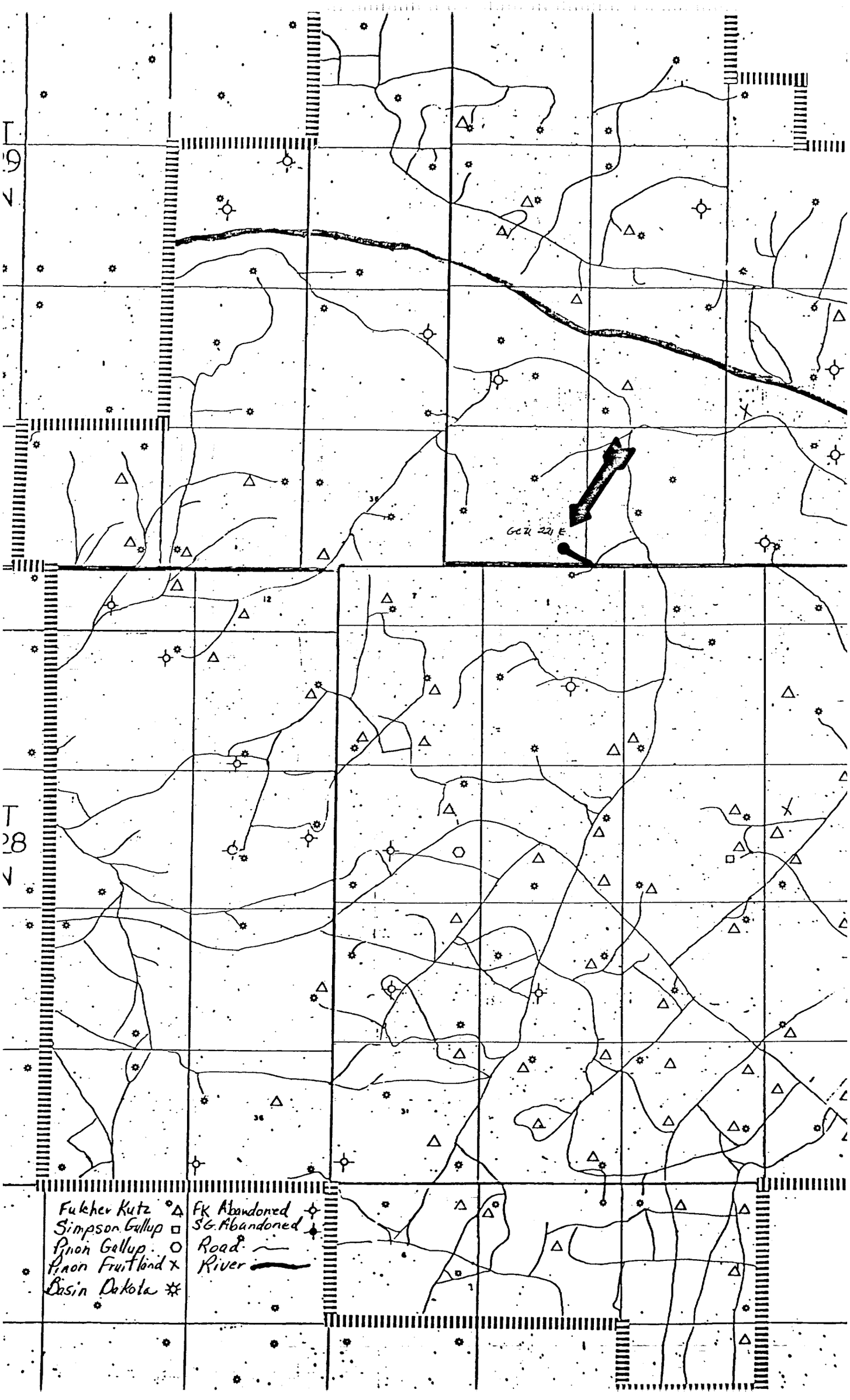
Date March 4, 1980

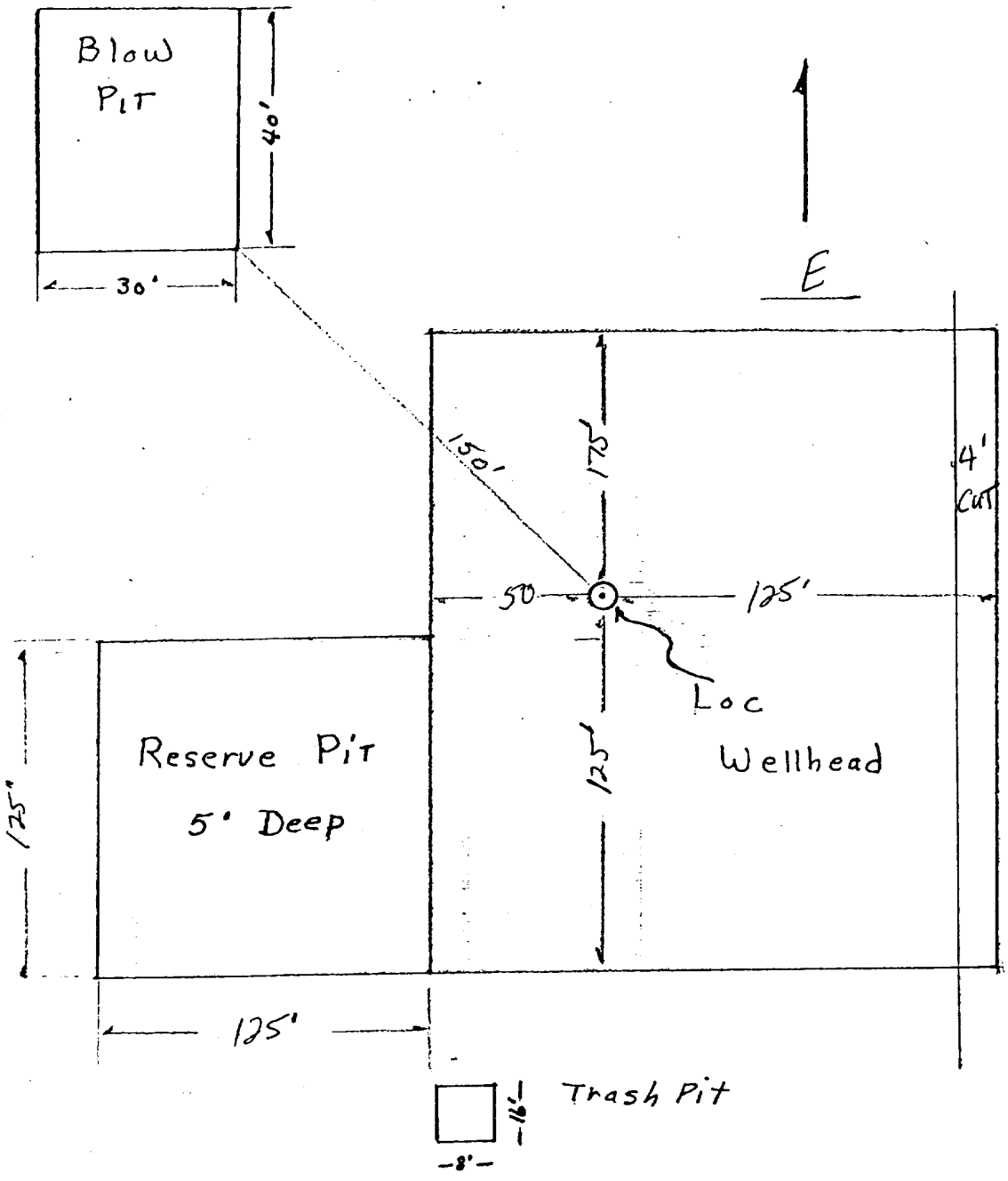
R. W. Schroeder

R. W. Schroeder, District Superintendent




Vicinity Map for
AMOCO PRODUCTION CO. #221-E GALLEGOS CANYON UNIT
855'FSL 950'FEL Sec 31-T29N-R12W
SAN JUAN COUNTY, NEW MEXICO


T
9
N
T
28
N
GCU 22 E
Fulcher Kutz
Simpson Gallup
Pinon Gallup
Pinon Fruitland
Basin Dakota
FK Abandoned
SG Abandoned
Road
River




Approximately 1.2 Acres

| Amoco Production Company | SCALE: None |
|---|---|
| Drilling Location Specs<br>Gallegos Canyon Unit No. 221 E | DRG. NO. |

FORM 432 2-71