

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING  
GOVERNOR

*Hold C-104  
for New plat*

*(S)*



POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 87504  
(505) 827-5800

October 24, 1991

Meridian Oil Inc.  
P.O. Box 4289  
Farmington, New Mexico 87499-4289

Attention: Peggy Bradfield

**RECEIVED**  
OCT 25 1991  
OIL CON. DIV.  
DIST. 3

*Administrative Order NSL-3070*

Dear Ms. Bradfield:

Reference is made to your application dated October 17, 1991 for a non-standard coal gas well location for your San Juan 24-7 Unit Well No. 543 to be located 480 feet from the South line and 680 feet from the West line (Unit M) of Section 3, Township 29 North, Range 7 West, NMPM, Basin Fruitland Coal (Gas) Pool, Rio Arriba County, New Mexico. The W/2 equivalent of said Section 3 shall be dedicated to the well forming a standard 317.83-acre gas spacing and proration unit for said pool.

By authority granted me under the provisions of Rule 8 of the Special Rules and Regulations for the Basin Fruitland Coal (Gas) Pool as promulgated by Division Order No. R-8768, as amended, the above described unorthodox coal gas well location is hereby approved.

Sincerely,

*William J. Lemay*  
WILLIAM J. LEMAY  
Director

WJL/MES/jc

cc: Oil Conservation Division - Aztec ✓  
USBLM - Farmington



STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
 OIL CONSERVATION DIVISION  
 AZTEC DISTRICT OFFICE

1000 RIO HAZOS ROAD  
 AZTEC, NEW MEXICO 87410  
 (505) 334-6178

GARREY CARRUTHERS  
 GOVERNOR

Date: 10-23-91

Oil Conservation Division  
 P.O. Box 2088  
 Santa Fe, NM 87504-2088

Re: Proposed MC \_\_\_\_\_  
 Proposed DHC \_\_\_\_\_  
 Proposed NSL X \_\_\_\_\_  
 Proposed SWD \_\_\_\_\_  
 Proposed WFX \_\_\_\_\_  
 Proposed PMX \_\_\_\_\_

Gentlemen:

I have examined the application dated 10-21-91  
 for the MERIDIAN OIL INC. SJ 29-7 Unit # 543  
 Operator Lease & Well No.

M-3-29N-7W and my recommendations are as follows:  
 Unit, S-T-R

Approve  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Yours truly,

Eric Burch



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Farmington Resource Area  
1235 Laplata Highway  
Farmington, New Mexico 87401



IN REPLY REFER TO:  
3100 (019)

OCT 17 1991

Mr. Ennie Bush  
New Mexico Oil Conservation Commission  
1000 Rio Brazos Road  
Aztec, NM 87410

**RECEIVED**  
OCT 21 1991  
OIL CON  
DIST

Dear Mr. Bush:

This letter is written to follow-up our efforts to find a suitable orthodox location for Meridian Oil, Inc., Basin Fruitland Coal Gas well, San Juan 29-7, #543 in T. 29 N., R. 7 W., Section 3 SW $\frac{1}{4}$ , lease number SF-078919. An acceptable orthodox location was not found because of numerous archeological sites, topographical constraints, and disturbance to critical big-game wildlife habitat.

It is the Bureau of Land Management's recommendation that this well be approved in an unorthodox location 480 FSL, 680 FWL, Section 3, T. 29 N., R. 7 W. To reduce or eliminate impacts to a variety of concerns existing in this area.

Sincerely,

John A. Phillips  
Acting Area Manger

cc:  
Meridian Oil, Inc. (Charles Warner)

# MERIDIAN OIL

October 17, 1991

Mr. William LeMay  
New Mexico Oil Conservation Division  
Post Office Box 2088  
Santa Fe, New Mexico 87503

Re: San Juan 29-7 Unit #543  
480'FSL, 680'FWL  
Section 3, T-29-N, R-7-W, Rio Arriba County, NM

**RECEIVED**  
OCT 21 1991  
OIL CON. DIV.,  
DIST. 3

Gentlemen:

This is an application for administrative approval for non-standard location of the referenced well in the Fruitland Coal formation. This location is at the request of the Bureau of Land Management. This well was originally staked at 2040'FSL, 1280'FWL, and an Application for Permit to Drill was approved February 11, 1991 by the Bureau of Land Management. Upon further consideration, they have asked that it be moved to the referenced location due to archaeology, terrain and big game wildlife habitat concerns.

The following are items for your consideration:

1. Application for Permit to Drill as approved by the Bureau of Land Management, at 2040'FSL, 1280'FWL.
2. Sundry notice for proposed location at 480'FSL, 680'FWL.
3. Letter from Bureau of Land Management requesting proposed location.
4. Completed C-102 showing well location, proration unit and leases within the unit.
5. Plat showing that Meridian Oil Inc. is the operator of all surrounding lands.
6. 7.5 minute topographic map of well location, showing the orthodox windows for the west-half dedication; and enlargement of the map to define topographic features.
7. Archaeological report LAC 9080L.
8. To directionally drill this well to an orthodox bottom hole location would cost an additional \$85,000. These costs would make a directional well uneconomic under current conditions.

Please let me know if you require further information.

Sincerely,



Peggy Bradfield  
Regulatory Affairs

xc: Bureau of Land Management, Farmington District  
New Mexico Oil Conservation Division, Aztec District

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

**RECEIVED**  
OCT 21 1991  
OIL CON. DIV.  
DIST. 3

1a. TYPE OF WORK DRILL	5. LEASE NUMBER SF-078919
1b. TYPE OF WELL GAS	6. IF INDIAN, ALL. OR TRIBE NAME
2. OPERATOR EL PASO NATURAL GAS CO.	7. UNIT AGREEMENT NAME SAN JUAN 29-7 UNIT
3. ADDRESS & PHONE NO. OF OPERATOR P O BOX 4289 FARMINGTON, NM 87499	8. FARM OR LEASE NAME SAN JUAN 29-7 UNIT
4. LOCATION OF WELL 2040' FSL 1280' FWL	9. WELL NO. 543
14. DISTANCE IN MILES FROM NEAREST TOWN 5 MILES S/E OF NAVAJO DAM	10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL
	11. SEC. T. R. M OR BLK. SEC. 3 T29N R07W NMPM
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE. 1280'	12. COUNTY RIO ARRIBA
16. ACRES IN LEASE 17. ACRES ASSIGNED TO WELL 317.83	13. STATE NM
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. 1257' COMPL., OR APPLIED FOR ON THIS LEASE.	19. PROPOSED DEPTH 20. ROTARY OR CABLE TOOLS 3563' ROTARY
21. ELEVATIONS (DF, FT, GR, ETC.) 6724' GL	22. APPROX. DATE WORK WILL START

This section is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

23. PROPOSED CASING AND CEMENTING PROGRAM

\*SEE OPERATIONS PLAN

24. AUTHORIZED BY: [Signature]  
REG. DRILLING ENGR.

9/28/90  
DATE

2m Bos

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
**APPROVED AS AMENDED**

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-3, AREA MANAGER

OPERATOR

FEB 11 1991  
[Signature]  
AREA MANAGER

Submit to Assessor  
 District Office  
 State Lease - 4 copies  
 Fee Lease - 3 copies

State of New Mexico  
 Energy, Minerals and Natural Resources Department

Form C-102  
 Revised 1-1-89

OIL CONSERVATION DIVISION  
 P.O. Box 2088  
 Santa Fe, New Mexico 87504-2088

DISTRICT I  
 P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
 P.O. Drawer 00, Artesa, NM 88210

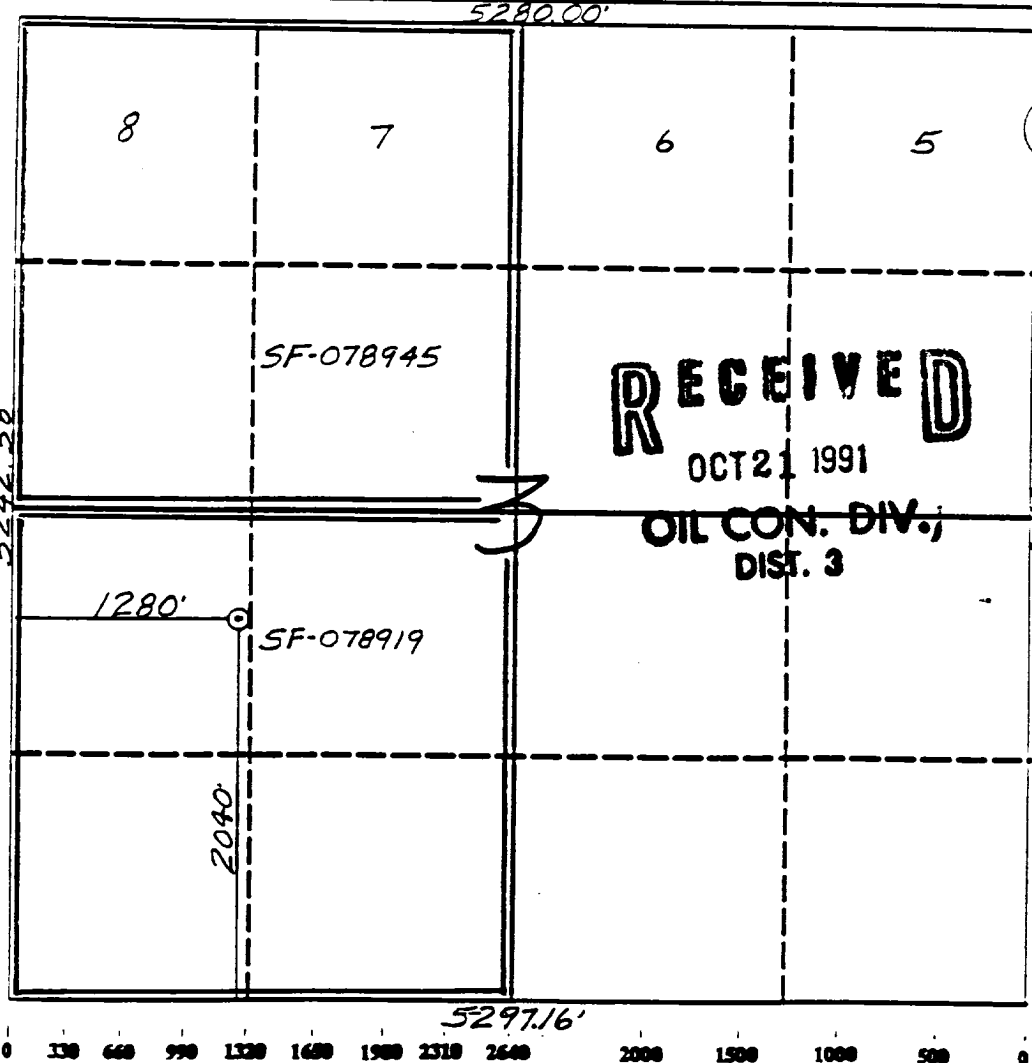
DISTRICT III  
 1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator El Paso Natural Gas		Lease (SF-078919)	Well No. 543
Unit Letter L	Section 3	Township 29 North	Range 7 West
Actual Footage Location of Well: 2040 feet from the South line and 1280 feet from the West line		County NMEM	Rio Arriba
Ground level Elev. 6724'	Producing Formation Fruitland Coal	Pool Basin	Dedicated Acreage 317.83 Acres

- Outline the acreage dedicated to the subject well by correct parcel or fraction notation on the plat below.
  - If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
  - If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
    - Yes  No
    - If answer is "yes" type of consolidation unitization
- 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, force-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



**OPERATOR CERTIFICATION**

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

*Peggy Bradfield*  
 Signature  
 Peggy Bradfield  
 Printed Name  
 Regulatory Affairs  
 Position  
 El Paso Natural Gas  
 Company  
 Date  
 9-27-90

**SURVEYOR CERTIFICATION**

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

Date Surveyed  
 8-2-90

*Neale Edwards*  
 Signature  
 Professional Surveyor  
 State of New Mexico  
 Registered Land Surveyor  
 6857  
 6857  
 Neale Edwards

Well Name: 543 SAN JUAN 29-7 UNIT                    2040'FSL 1280'FWL  
 Sec. 3 T29N R07W                                    RIO ARRIBA NEW MEXICO  
 BASIN FRUITLAND COAL                            Elevation 6724'GL

Formation tops: Surface- SAN JOSE  
                   Ojo Alamo- 2682  
                   Kirtland- 2782  
                   Fruitland- 3267  
                   Fruitland Coal Top- 3457                    Intermediate TD- 3437  
                   Fruitland Coal Base- 3560                    Total Depth- 3563  
                   Pictured Cliffs- 3569

Logging Program: Mud logs from intermediate to total depth.

Mud Program:	Interval	Type	Weight	Visc.	Fl. Loss
	0 - 200	Spud	8.4 - 8.9	40-50	no contrc
	200 - 3437	Non-dispersed	8.4 - 9.1	30-60	no contrc
	3437 - 3563	Formation Water	8.4		no contrc

Casing Program:	Hole Size	Depth Interval	Csg. Size	Weight	Grade
	12 1/4"	0 - 200	9 5/8"	32.3#	H-40
	8 3/4"	0 - 3437	7"	20.0#	K-55
	6 1/4"	3387 - 3563	5 1/2"	15.5#	K-55
Tubing Program:		0 - 3563	2 7/8"	6.5#	J-55

Float Equipment: 9 5/8" surface casing - saw tooth guide shoe. Centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing - guide shoe and self-fill insert float valve. Three centralizers run every other joint above shoe. Run insert float one joint above the guide shoe. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 2782'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

5 1/2" production casing - float shoe on bottom and a pre-drilled liner run to the 7" casing with a minimum 50' overlap. Liner hanger is a double slip grip type.

Wellhead Equipment: 9 5/8" x 7" x 2 7/8" x 11" 3000 psi xmas tree assembly.

#### Cementing:

9 5/8" surface casing - cement with 160 sacks of class "B" cement with 1/4# flocele/sack and 3% calcium chloride (189 cu ft. of slurry, 200% excess to circulate to surface). WOC 12 hours. Test casing to 600 psi for 30 minutes.

7" intermediate casing - lead with 506 sacks of 65/35 class "B" poz with 6% gel, 2% calcium chloride and 1/2 cu ft. Perlite/sack (10.3 gallons of water/sack) tail with 100 sacks of class "B" with 2% calcium chloride. 1095 cu ft. of slurry, 110% excess to circulate to surface. If hole conditions permit, a 600 ft spacer will be run ahead of the cement slurry to avoid mud contamination of the cement. WOC 12 hours. If cement does not circulate to surface, a temperature log will be run after 8 hours to determine TOC.

5 1/2" liner - do not cement.

## BOP and Tests:

Surface to intermediate TD - 11" 2000 psi(minimum) double gate BOP stack (Reference Figure #1). Prior to drilling out surface casing, test rams to 1000 psi for 30 minutes.

Intermediate TD to TD - 7 1/16" 2000 psi(minimum) double gate BOP stack (Reference Figure #2). Prior to drilling out intermediate casing, test blind rams and casing to 2500 psi for 30 minutes; all pipe rams and casing to 2500 psi for 30 minutes each.

From surface to TD - choke manifold (Reference Figure #3).

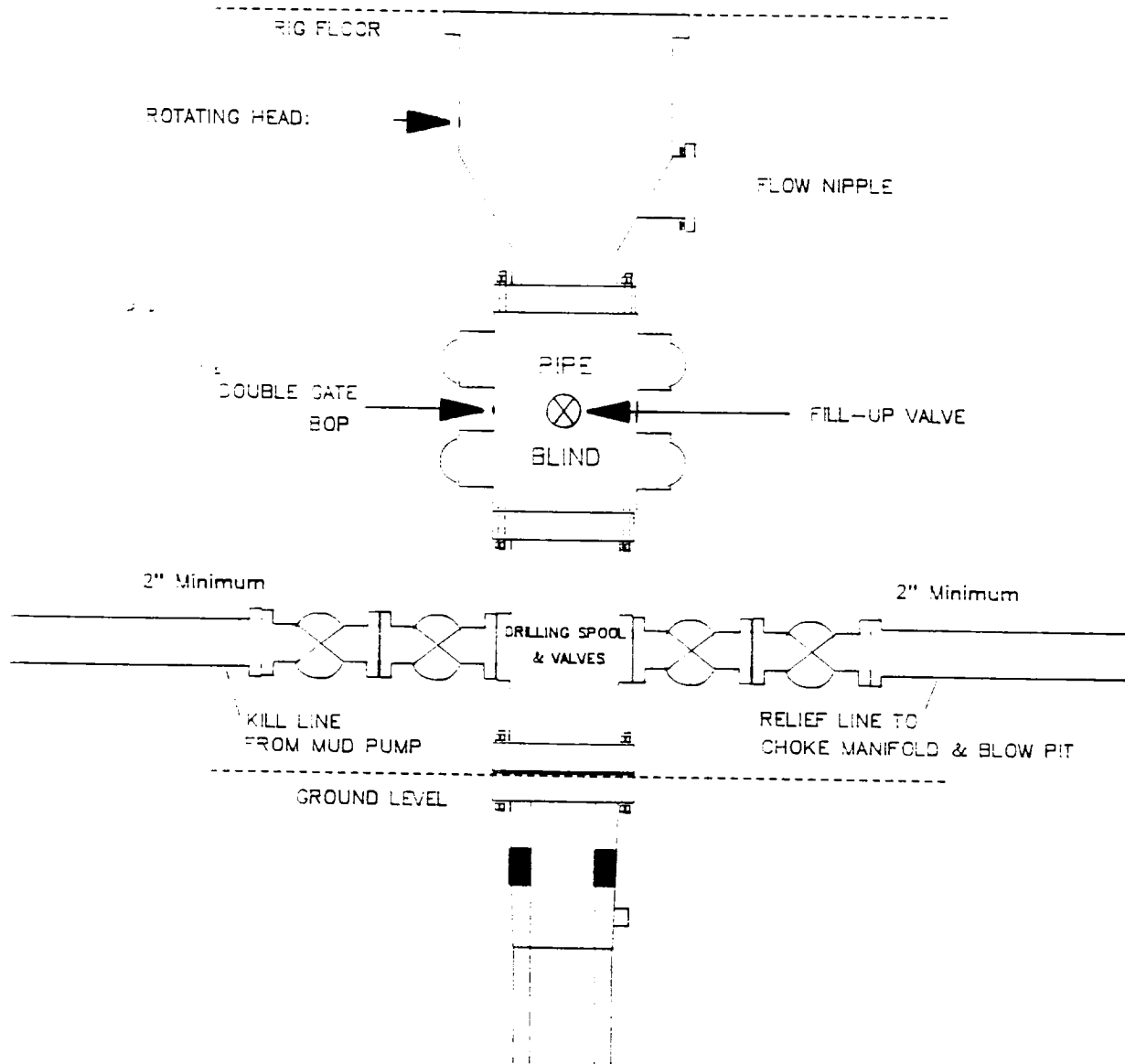
Pipe rams will be actuated at least once each day and blind rams actuated once each trip to test proper functioning. An upper kelly cock valve with handle and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

## Additional Information:

- \* The Fruitland coal formation will be completed.
- \* Anticipated Fruitland pore pressure is 1189 psi.
- \* This gas is dedicated.
- \* The W/2 of Section 3 is dedicated to this well.
- \* New casing will be utilized.
- \* Cementing Contractor will provide the BLM with a chronological log including the pump rate and pressure, and the slurry density and volume for all cement jobs.
- \* Pipe movement (either rotation or reciprocation) will be done if hole conditions permit.



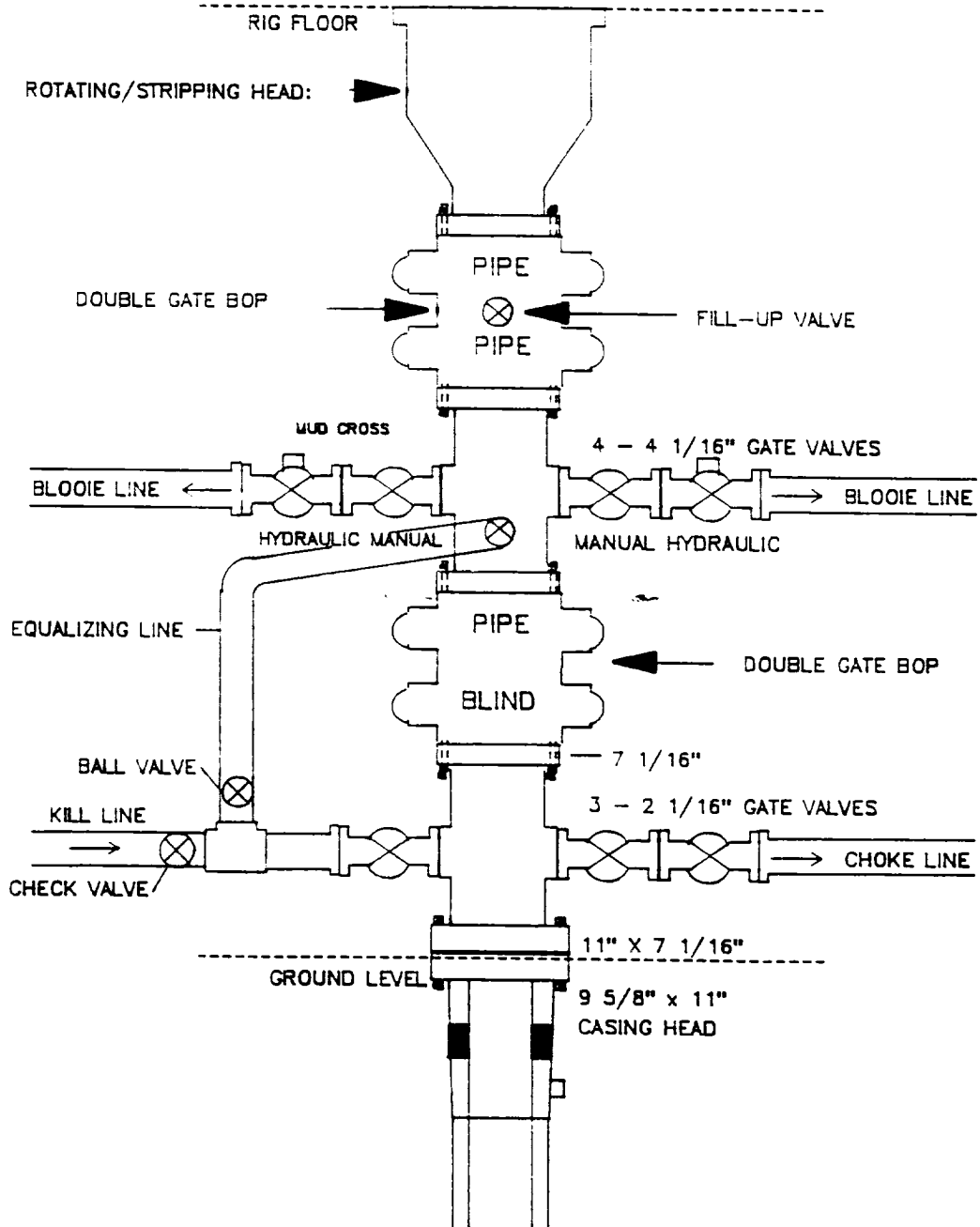
**MERIDIAN OIL INC.**  
 Drilling Rig  
 BOP Configuration



Minimum BOP installation for a typical Fruitland Coal well from surface to intermediate casing point. 11" Bore (10" Nominal), 2000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A Schaffer Type 50 equivalent rotating head to be installed on the top of BOP. All equipment is 2000psi working pressure/or greater.

**Figure #1**

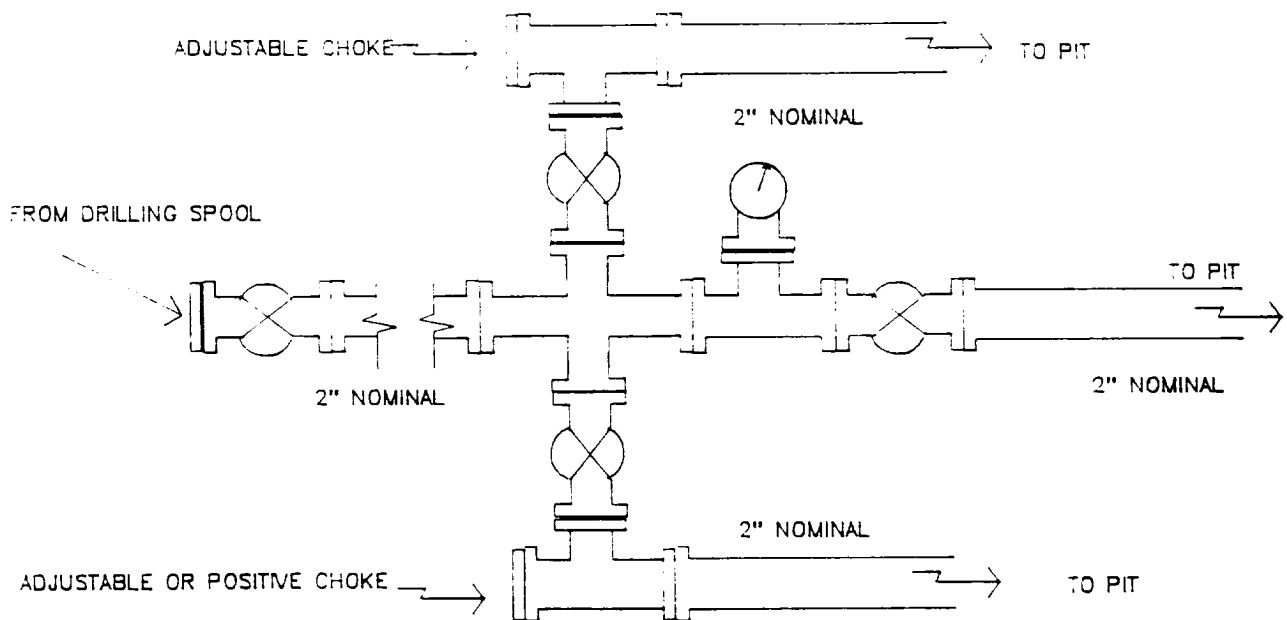
**MERIDIAN OIL INC.**  
 Completion Rig  
 BOP Configuration



Minimum BOP installation for a typical open-hole Fruitland Coal well from intermediate TD to TD. 7 1/16" Bore (6" Nominal), 2000psi working pressure/ or greater double stack double gate BOP equipped with three pipe and one blind ram.

**Figure #2**

**MERIDIAN OIL INC.**  
Typical Fruitland Coal Well  
Choke Manifold Configuration



Minimum choke manifold installation for a typical Fruitland Coal well from surface to Total Depth. 2", 2000psi working pressure equipment with two chokes.

**Figure #3**

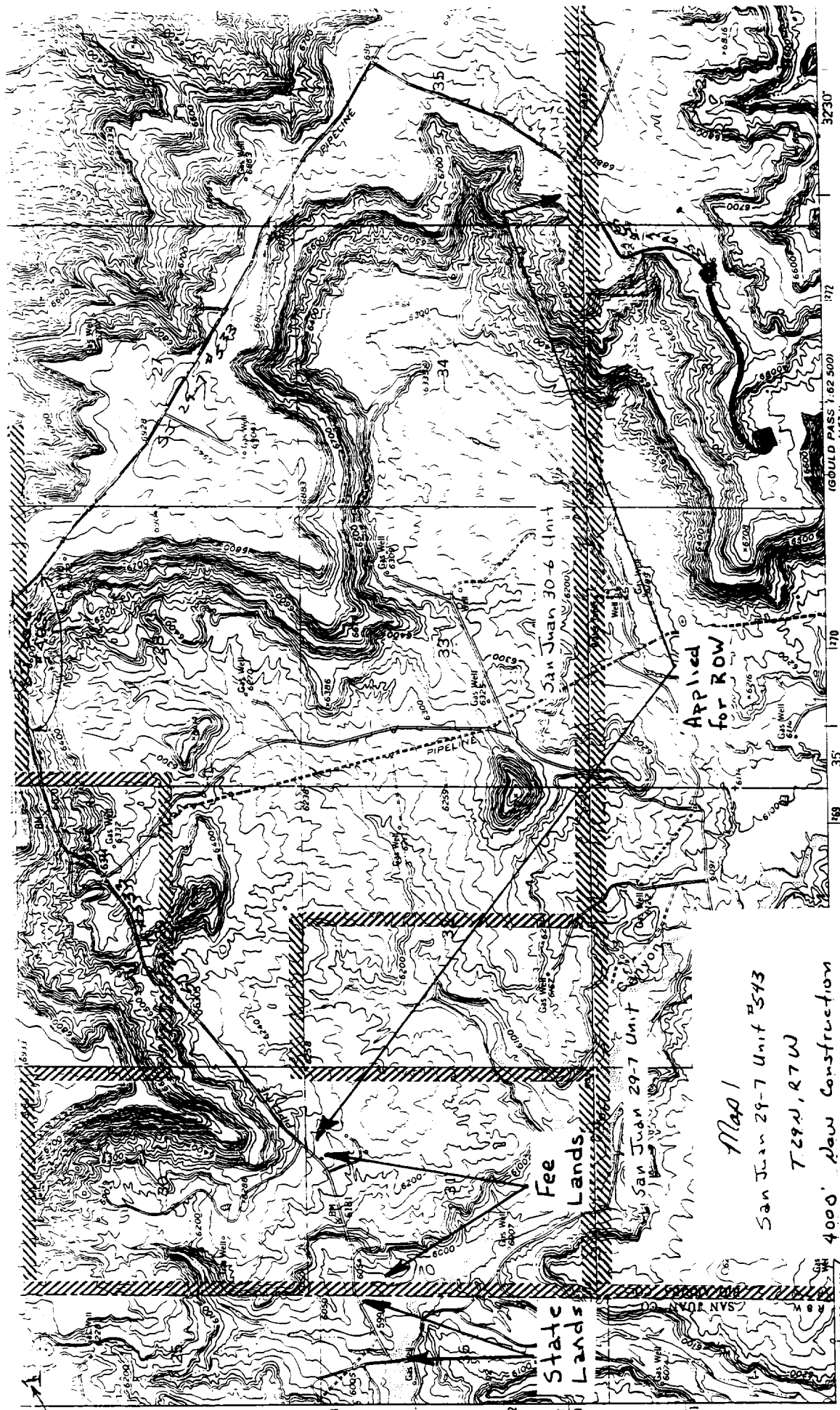
Multi-Point Surface Use Plan  
El Paso Natural Gas Co.  
San Juan 29-7 Unit #543

1. Existing Roads - Refer to Map No. 1. Existing roads used to access the proposed location will be properly maintained for the duration of the project. Bureau of Land Management right-of-way has been applied for as shown on Map No. 1.
2. Planned Access Road - Refer to Map No. 1. The required new access road is shown on Map No. 1. The gradient, shoulder, crowning and other design elements will meet or exceed those specified by the responsible government agency. The new access road surface will not exceed twenty feet (20') in width. No additional turnarounds or turnouts will be required. Upon completion of the project, the access road will be adequately drained to control soil erosion. Approximately 4,000' of access road will be constructed. Pipelines are indicated on Map No. 1A.
3. Location of Existing Wells - Refer to Map No. 1A.
4. Location of Existing and/or Proposed Facilities if Well is Productive -
  - a. On the Well Pad - Refer to Plat No. 1, anticipated production facilities plat.
  - b. Off the Well Pad - Anticipated facilities off the well pad will be applied for as required.
5. Location and Type of Water Supply - Water will be hauled by truck for the proposed project and will be obtained from Manzanares Mesa Water Well #1 located in SW/4 Section 09, T-29-N, R-08-W, New Mexico.
6. Source of Construction Materials - If construction materials are required for the proposed project, such materials will be obtained from a commercial quarry.
7. Methods of Handling Waste Materials - All garbage and trash materials will be removed from the site for proper disposal. A portable toilet will be provided for human waste and serviced in a proper manner. If liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time as the reserve pit can be properly covered over to prevent run-off from carrying waste materials into the watershed. All earthen pits will be so constructed as to prevent leakage from occurring; no earthen pit will be located on natural drainage. Hazardous waste will be disposed of in accordance with Federal Regulations.
8. Ancillary Facilities - None anticipated.
9. Wellsite Layout - Refer to the location diagram (Plat No. 2) and to the wellsite cut and fill diagram (Plat No. 2A). The Blow Pit will be constructed with a 2'/160' grade to allow positive drainage to the Reserve Pit and prevent standing liquids in the Blow Pit.

10. Plans for Restoration of the Surface - After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeding operations will be performed during the time period set forth by the responsible government agency. The permanent location facilities will be painted as designated by the responsible government agency.
11. Surface Ownership - Bureau of Land Management.
12. Other Information - Environmental stipulations as outlined by the responsible government agency will be adhered to. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
13. Operator's Representative and Certification - Meridian Oil Regional Drilling Manager, Post Office Box 4289, Farmington, NM 87499, telephone (505) 326-9700. I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which 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 El Paso Natural Gas Co. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

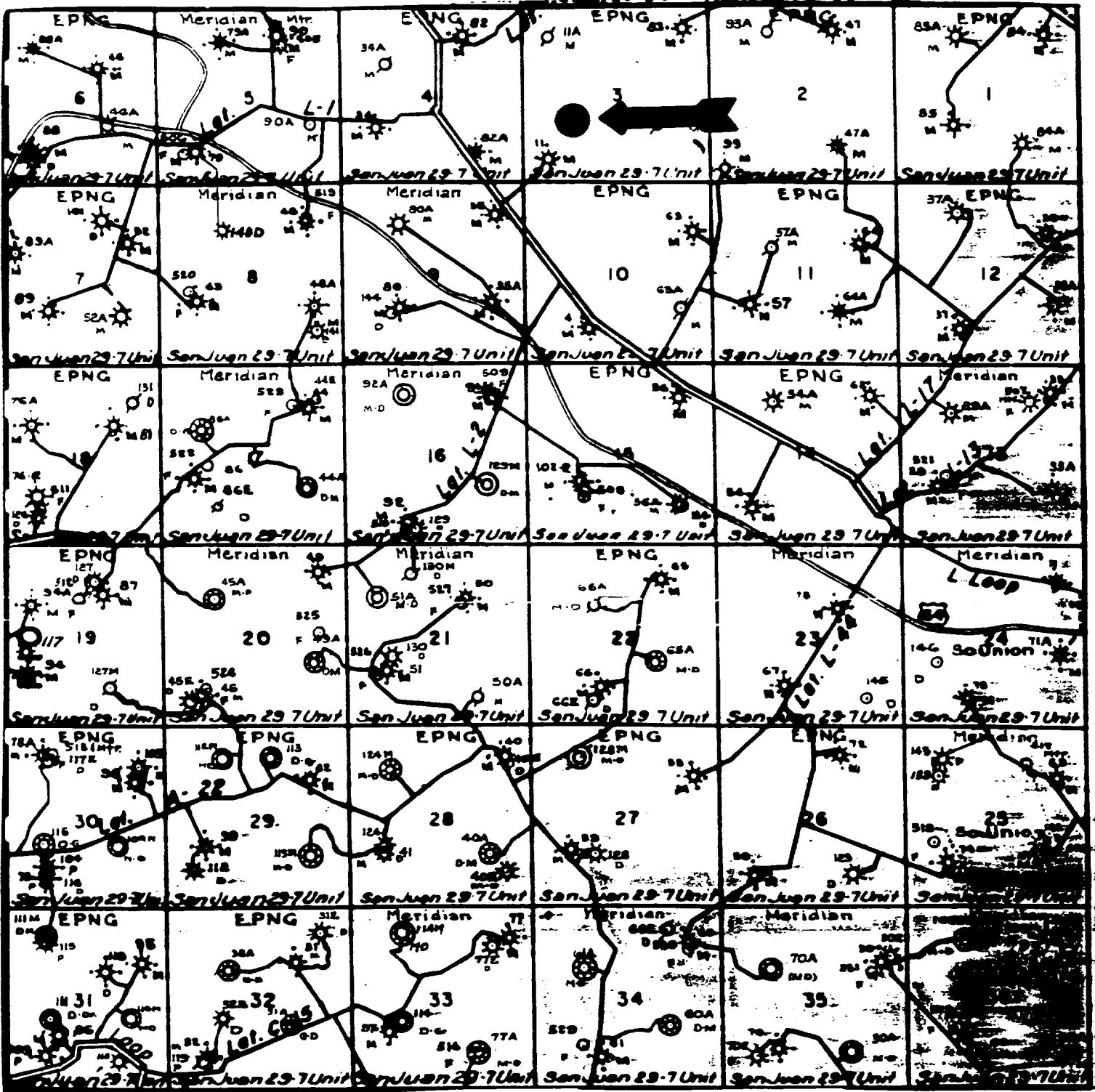
 9/28/90  
Regional Drilling Engineer

JWC/adw



10 000 FEET  
 (CENTRAL)  
 T 30 N  
 T 29 N  
 36°45' 107°37'30" BLANCO M. M.L. 7  
 Mapped, edited, and publ  
 Conducted by USGS and BLM

State Lands  
 Fee Lands  
 San Juan 29-7 Unit  
 San Juan 30-6 Unit  
 Applied for ROW for ROW  
 4000' New Construction  
 3100' Existing BLM Roads  
 Map 1  
 San Juan 29-7 Unit 543  
 T 29 N, R 7 W  
 SCALE 1:24000  
 1 MILE

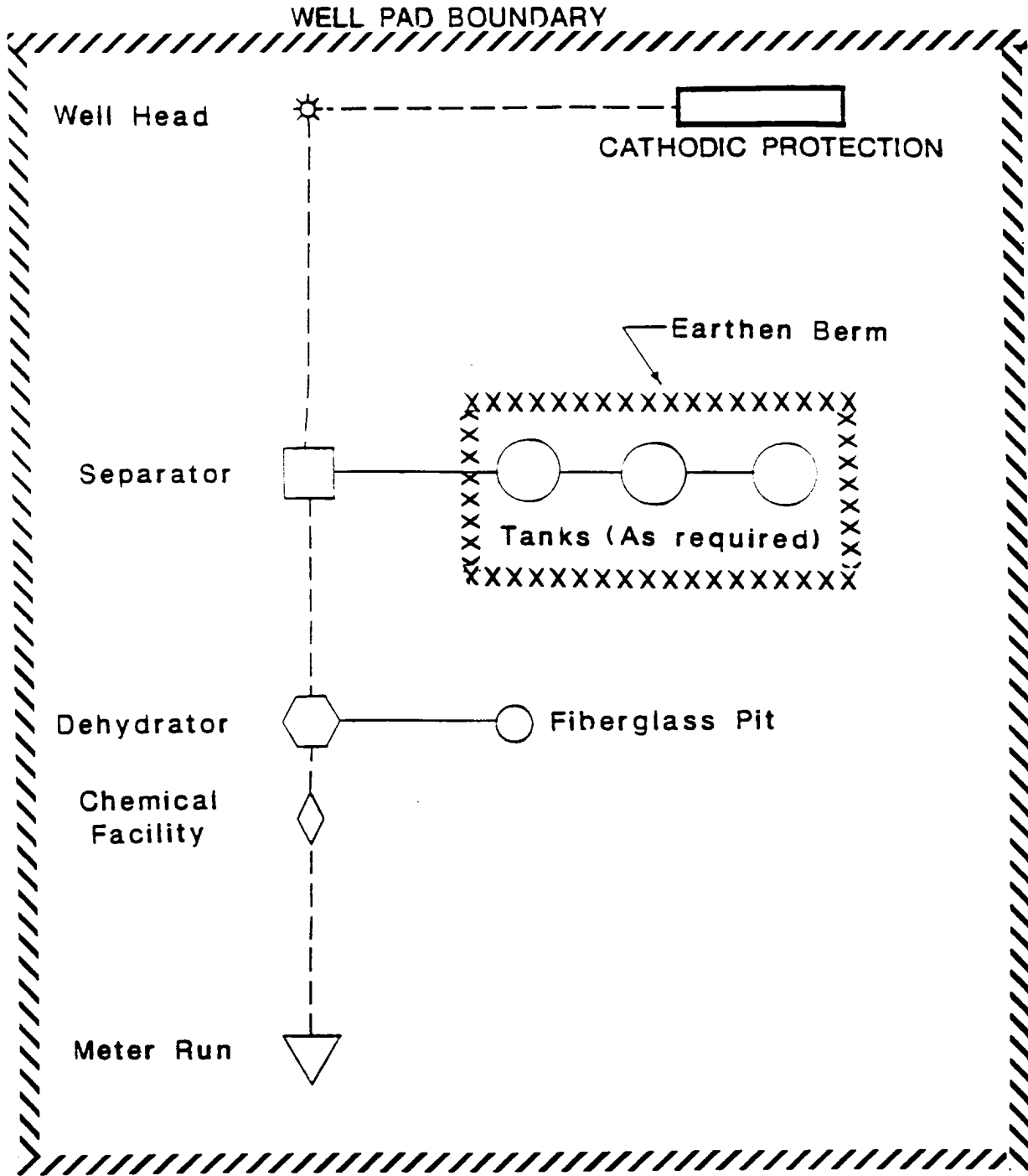


MERIDIAN OIL INC.  
 Pipeline Map  
 T-29-N, R-07-W  
 Rio Arriba County, New Mexico

Map 1A

29-7 UNIT # 543

01/90 adw



**PLAT #1**

**MERIDIAN OIL**  
 ANTICIPATED  
 PRODUCTION FACILITIES  
 FOR A  
 FRUITLAND WELL.

KFR 2/90



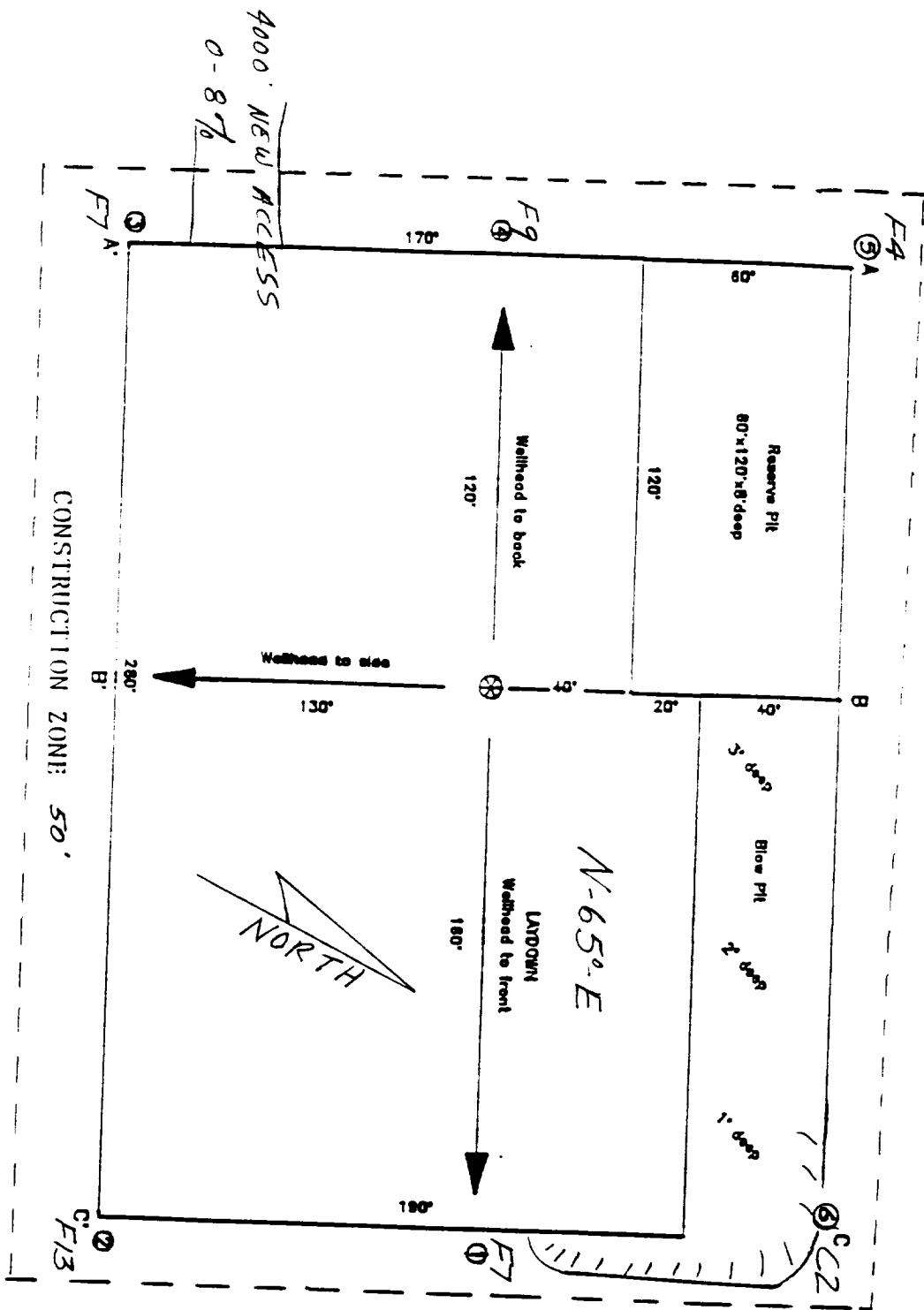
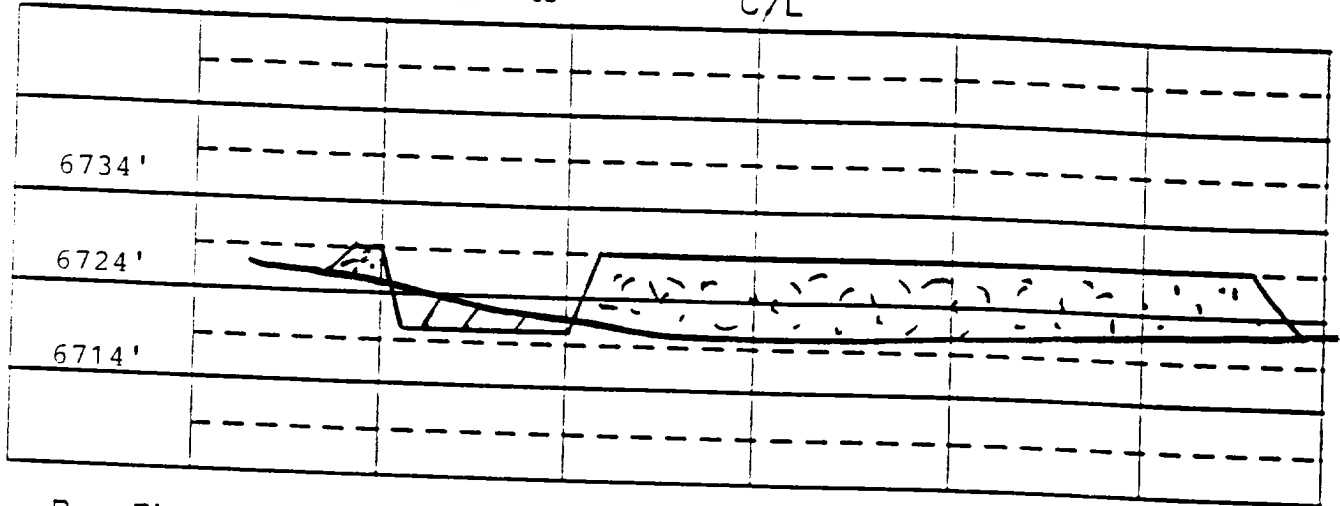


EXHIBIT: <u>PIAT 2</u>	
Name:	EPNG San Juan 29-7 Unit # 543
Footage:	2040' FSL, 1280' FWL,
Sec <u>3</u> T- <u>29</u> -N, R- <u>7</u> -W NMPM	
Co. <u>Rio Arriba</u>	St. <u>N.M.</u>
Elevation: <u>6724'</u>	Date: <u>8-2-90</u>

Plot 2  
2/3/90

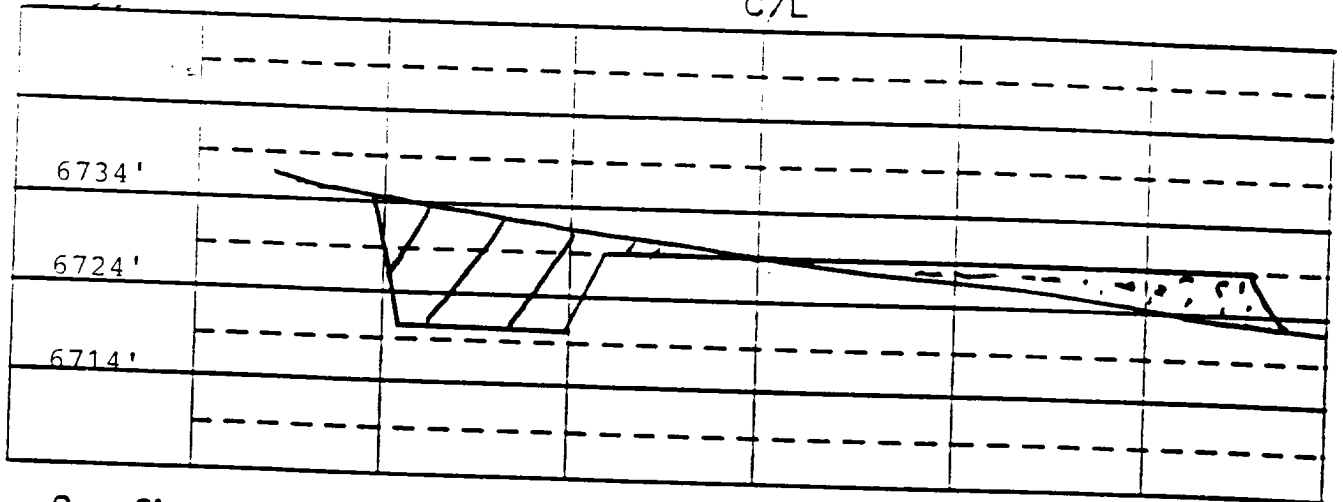
A - A' Vert.:1" = 20' Horiz.:1" = 50'

C/L



B - B'

C/L



C - C'

C/L

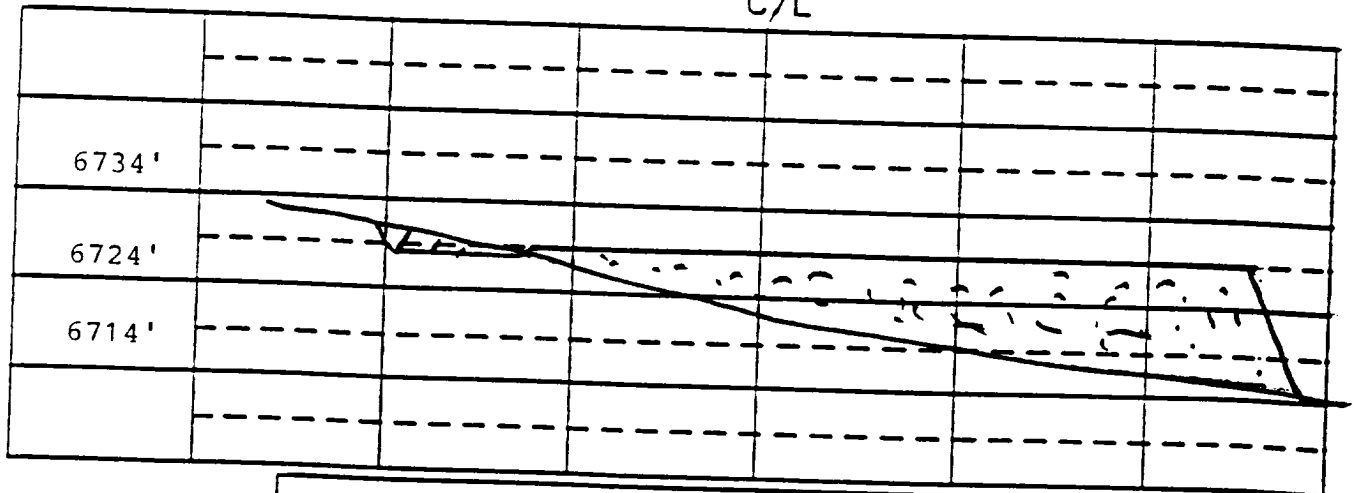


EXHIBIT: PIAT 2A

Name: EPNG San Juan 29-7 Unit # 543

Footage: 2040' FSL, 1280' FWL,

Sec 3 T- 29 -N,R- 7 -W NMPM

Co. Rio Arriba St. N.M.

Elevation: 6724' Date: 8-2-90

Plot XC  
2/4/90



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
FARMINGTON RESOURCE AREA  
1235 LAPLATA HIGHWAY  
FARMINGTON, NEW MEXICO 87401



IN REPLY REFER TO:  
3162.3-1 1019

El Paso Natural Gas Company  
#543 San Juan 29-7 Unit  
SF-078919  
NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 3, T. 29 N., R. 7 W.  
Rio Arriba County, New Mexico

Above Data Required on Well Sign

GENERAL REQUIREMENTS  
FOR  
OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES

In addition to those requirements set forth in the laws, regulations and Onshore Orders, these requirements apply generally to all oil and gas operations on Federal and Indian leases. They apply specifically to the above-described well. Special requirements that apply and are effective for this well, if any, are check-marked in Section VII of these General Requirements. The failure of the operator to comply with these requirements and the filing of required reports will result in strict enforcement of 43 CFR 3163.1 or 3163.2.

I. GENERAL

A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to Drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors.

B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or allotted. (see 43 CFR 3162.6(b)).

C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.

D. For Wildcat wells only, a drilling operations progress report is to be submitted weekly from spud date until the well is completed and the Well Completion Report (Form 3160-4) is filed. The report should be on 8 1/2 x 11 inch paper, and each page should identify the well by: operator's name, well number, location and lease number.

E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).

F. Prior approval by the BLM-Authorized Officer (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work, casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a notice of intent (on a Sundry Notice, Form 3160-5) within three business days (original and three copies on Federal leases and an original and four copies on Indian leases).

G. The Area Manager's Office (Inspection and Enforcement Section, phone number (505) 326-6201) is to be notified at least 24 hours in advance of any cementing or plugging operations so that a BLM representative may witness the operations.

H. Unless drilling operations are commenced within one year, approval of the Application for Permit to Drill will expire. A written request for a six month extension may be granted if submitted prior to expiration.

I. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the toolpusher shall maintain rig surveillance at all times, unless the well is secured with blowout preventers or cement plugs.

## II. REPORTING REQUIREMENTS

A. For reporting purposes, all leases, communitization agreements or unit agreements are to be referenced by the numbers and prefixes affixed to the respective contract documents by the issuing agency at the time of issue.

B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed:

1. Original and three copies on Federal and Original and four copies on Indian leases of Sundry Notice (Form 3160-5), giving complete information concerning:

a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.

b. Intervals tested, perforated (include: size, number and location of perforations), acidized, or fractured; and results obtained. Show date work was done (a Sundry Notice is not required if a Completion Report is submitted within 30 days of the operation).

c. Subsequent Report of Abandonment, showing the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were placed, and dates of the operations.

2. Well Completion Report (Form 3160-4) will be submitted within 30 days after well has been completed.

3. Two copies of all electrical and open-hole logs run (two copies of the mud log are required if no open hole electric logs are run).

4. A cement evaluation log if cement is not circulated to surface.

### III. DRILLER'S LOG

A. The following shall be entered in the daily driller's log:

1. Blowout preventer pressure tests, including test pressures and results.

2. Blowout preventer tests for proper functioning.

3. Blowout prevention drills conducted.

4. Casing run, including size, grade, weight, and depth set.

5. How pipe was cemented, including amount of cement, type, whether cement circulated to surface, location of cementing tools, etc..

6. Waiting on cement time for each casing string.

7. Casing pressure tests after cementing, including test pressure and results.

8. Estimated amounts of oil and gas recovered and/or produced during drillstem tests.

### IV. GAS FLARING

A. Gas produced from this well may not be vented or flared beyond an initial, authorized test period of \_\_\_\_\_\* days or 50 MMcf following its (completion) (recompletion), whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted, and you shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

\* 30 days, unless a longer test period specifically is approved by the authorized officer. The 30-day period begins when the casing is first perforated for cased holes, and when Total Depth (TD) is reached for open hole completion.

V. SAFETY

- A. All rig heating stoves are to be of the explosion-proof type.
- B. Rig safety lines are to be installed.
- C. Hard hats must be utilized.

VI. CHANGE OF PLANS OR ABANDONMENT

A. Any change of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section I.F..

B. If the well is dry it is to be plugged in accord with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section I.F.. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section II.B.1.c..

C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drillsite without prior approval from the BLM-Authorized Officer.

VII SPECIAL STIPULATIONS

The following special requirements apply and are effective when checked:

    A. A Communitization Agreement covering the acreage dedicated to the well must be filed for approval with the Bureau of Land Management, Fluids, 1235 La Plata Highway, Farmington, New Mexico 87401. The effective date of the agreement must be prior to any sales.

    B. Note attachments.

BLM ENVIRONMENTAL STIPULATIONS

Operator EL PASO NATURAL GAS CO. Well Name 543 SAN JUAN 29-7 UNIT  
Legal Location 2040'FSL/1280'FWL Sec. 3 T. 29 N. R. 7 W.  
Lease Number SF-078919 Field Inspection Date 8/13/90

The following stipulations will apply to this well unless a particular Surface Managing Agency (SMA) or private surface owner has supplied to BLM and the operator a contradictory environmental stipulation. The failure of the operator to comply with these requirements may result in the assessment of liquidated damages or penalties pursuant to 43 CFR 3163.3 or 3163.4. A copy of these stipulations shall be present on the location during construction, drilling and reclamation activity.

An agreement between the operator and fee land owner will take precedence over BLM surface stipulations unless 1) BLM determines that the operator's actions will affect adjacent Federal or Indian surface (43 CFR Part 3160), or 2) the operator does not maintain well area and lease premises in a workmanlike manner with due regard for safety, conservation and appearance (43 CFR Part 3162.7-4), or 3) no such agreement exists (43 CFR Part 3160), or 4) in the event of well abandonment, minimal Federal restoration requirements will be required (43 CFR Part 3162.7-2).

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Reserve pit dirt will be stockpiled and not be used for construction.

Vehicle turn out will be placed at the top of mesa before dropping down slope to well.

Pits will be lined with an impervious material at least 8 mils thick.

Diversion ditch will be constructed on the north side of the location below the fill slope, draining to the west.

The final cut slope shall not exceed a 3:1 ratio. The final fill slope shall not exceed a 3:1 ratio. To obtain this ratio, pits and slopes shall be backsloped into the pad upon completion of drilling and prior to setting production equipment. Construction slopes can be much steeper during drilling, but will be contoured to the above final slopes upon reclamation.

Paint color green seed mix 2. Pure Live Seed(PLS)=Germination X Purity. Recommended Seed Mixture (PLS) for BLM administered lands is for the hand seeding rate. For drilled seed, the PLS rate may be cut in half.

Seed Mix No. 2--BLM

Crested Wheatgrass	3
Fourwing Saltbush (dewinged)	2
*Sand Dropseed	1/2
Indian Ricegrass	3
Western Wheatgrass	2

\*Sand Dropseed should be hand seeded prior to drilling the above mix.

LOCATION AND ACCESS ROAD

- A. Well area and lease premises will be maintained in a workmanlike manner with due regard to safety, conservation and appearance. All liquid waste, completion fluids and drilling products associated with oil and gas operations will be contained and then buried in place, or removed and deposited in an approved disposal site. Trash cages will be used for all solid waste and removed from location to an approved solid waste disposal site. No solid waste shall be put in reserve pit before, during or after drilling operations.
- B. Pinyon-juniper trees and brush will be uprooted from road rights-of-way and well pad locations and distributed along rights-of-way and stockpiled beside well pads for fuelwood salvage. Care will be taken to keep trees as undamaged as practically possible. Large vegetation such as sagebrush, juniper and pinyon will not be incorporated into pit walls. All uprooted vegetation will be scattered on the reclaimed portion of location so it does not detract from the natural appearance of the area.
- C. Surface disturbance and vehicular traffic will be limited to the approved location and approved access road.
- D. Mud pits and blow pits will be constructed so as not to leak, break or allow discharge of liquids or produced solids. At least half of the capacity of reserve pit must be in cut. The top of the outside wall of reserve pit should be smoothed-off with a minimum of one blade width. The pit should have adequate capacity to maintain 2 feet of free board. Pits are not to be located in natural drainages. Pit walls are to be "walked down" by a crawlertype tractor following construction and prior to usage. Any plastic material used to line pits must be removed to below-ground level before pits are covered. The final grade of reserve pit (after reclamation) shall allow for drainage away from pit area.
- E. All unguarded pits (reserve/production/blow pits) containing liquids will be fenced with woven wire. Drilling pits will be fenced on three sides and once the rig leaves location, the fourth side will be fenced. All fencing must be a legal fence in accordance with N.M. State Law. Liquids in pits will be allowed to evaporate, or be properly disposed of, before pits are filled and recontoured. (This office will be notified 24 hours prior to fluid hauling). Under no circumstances will pits be cut and drained. Aeration of pit fluids must be confined within the pit area.
- F. No gravel or other related minerals from new or existing pits on Federal land will be used in construction of roads, well sites, etc., without prior approval from the Surface Managing Agency.
- G. Prior to crossing, using or paralleling any improvement on public land, the operator shall contact the owner of the improvement to obtain mitigating measures to prevent damage to improvements.
- 
- 
-



H. All cut fences are to be tied to braces prior to cutting. The opening will be protected as necessary during construction to prevent the escape of livestock. A temporary closure will be installed on all cut fences the same day the fence is cut. A permanent cattleguard will be installed and maintained in any cut fence unless otherwise stipulated in writing. A twelve-foot gate will be installed adjacent to all new cattleguards.

I. Berms or firewalls will be constructed around all storage facilities sufficient in size to contain the storage capacity of tanks, or the combined capacity of tanks if a rupture could drain more than one tank.

J. All roads on public land must be maintained in a good passable condition.

K. A proposed use of pesticide, herbicide or other possible hazardous chemical on BLM land shall be cleared for use prior to application.

#### CULTURAL RESOURCES (ARCHAEOLOGY)

A. EMERGENCY DISCOVERY IN THE ABSENCE OF MONITORING: This stipulation applies in emergency discovery situations where monitoring for cultural resources was not being performed because the presence of cultural resources could not have been anticipated. If, in its operations, operator discovers any historic or prehistoric ruin, monument, or site, or any object of antiquity subject to the Antiquities Act of 1979, and 43 CFR Part 3, then work will be suspended and the discovery promptly reported to BLM Area Manager. The BLM will then specify what action is to be taken. The BLM will evaluate the discovery, evaluate its significance, and consult with the State Historic Preservation Officer. Minor recordation, stabilization, or data recovery may be performed by BLM. However, more significant mitigation shall be carried out by a qualified, permitted archeologist. It is BLM's responsibility to ensure that such mitigation is carried out in accordance with 36 CFR Part 800.11. Given the timeframes involved in BLM's budgeting process, operators are strongly encouraged to fund such required mitigation. Further damage to significant cultural resources and operations in its vicinity will not be allowed until any required mitigation is successfully completed.

B. DISCOVERY OF CULTURAL RESOURCES DURING MONITORING: This stipulation applies to situations where archeological monitoring was taking place because local geologic conditions favored the presence of subsurface archeological sites in the project area. If monitoring confirms the presence of subsurface sites, all work will cease in the site area. The monitor will immediately report this find to BLM Area Manager. BLM will specify what further steps must be taken to assess the damage to the site and to mitigate any adverse effects to it. Monitoring in these circumstances is considered to be a form of inventory and the operator will be responsible for obtaining at his/her expense a qualified permitted archeologist to complete a damage assessment report and to carry out any mitigation required by the BLM.

C. DAMAGE TO PREVIOUSLY IDENTIFIED SITE: This stipulation applies to situations where operations have damaged a previously identified archeological site that was visible on the surface. If, in its operations, operator damages, or is found to have damaged, any historic or prehistoric ruin, monument, or site, or any object of antiquity subject to the Antiquities Act of 1906, the Archeological Resource Protection Act of 1979, and 32 CFR Part 3, the grantee will prepare and implement a data recovery plan at his/her expense. The grantee will obtain at his/her expense, a qualified permitted archeologist to carry out the specific instruction of BLM.

#### RESEEDING AND ABANDONMENT

- A. All surface areas disturbed during drilling activities and not in use for production activities, will be reseeded the first July-September period after reserve pit has been filled in and/or location abandoned. For producing locations, this should occur in the first 12 months after drilling is completed.
- B. After top soil has been placed on location, compacted areas of well pad will be plowed or ripped to a depth of 12" before reseeding. The surface should be left rough to help retain rain fall. All seeding is recommended to be done between July 1 and September 15. Seeding will be done with a disc-type drill with two boxes for various seed sizes. The drill rows will be eight to ten inches apart. The seed will be planted between one-half inch deep and three quarter inch deep. The seeder will be followed with a drag, packer or roller to insure uniform coverage of seed, and adequate compaction. Drilling of the seed will be done on the contour where possible. Where slopes are too steep for contour drilling a "cyclone" hand-seeder or similar broadcast seeder will be used, after preparation of an adequate seed-bed. Seed will then be covered to a depth described above by whatever means is practical. Mulching, excelsior netting and/or netting may be required on steep slopes.
- C. After seeding, remaining rocks and vegetation (trees, brush, etc.) should be placed on the seeded areas using back hoes or rubber tired front-end loaders.
- D. If, in the opinion of the SMA, the seeding is unsuccessful, the lessee/operator may be required to make subsequent seedings.
- E. If, upon abandonment of wells, the retention of access road is not considered necessary for the management and multiple use of the natural resources, it will be ripped a minimum of 12" in depth. After ripping, water bars will be installed. All ripped surfaces are to be protected from vehicular travel by construction of a dead-end ditch and earthen barricade at the entrance to these ripped areas. (Reseeding of the affected areas may be required).

Report No. 90(1)0025

1. SITE PROTECTION AND OBSCURE STIPULATIONS: All employees of the project will be notified of cultural sites and will be supplied by all personnel, personal vehicles and company equipment. They will also be notified that it is illegal to collect, damage or disturb cultural resources.
2. Monitoring is required for all surface disturbing activities within well + access
- a. A copy of these stipulations will be supplied to the archeological monitor at least two working days prior to the start of construction activities.
- b. No construction activities, including vegetation removal, may begin before the arrival of the monitor.
- c. The monitor will:
1. Assist in the selection of the barrier fence location.
  2. Ensure the fence is located as indicated on the attached map.
  3. Other:
3. The grantee must select one of the following alternatives:
- a. Controlled test excavations to determine if cultural resources are present;
  - b. Reduction of the project size to avoid all significant cultural materials;
  - c. Relocation of the project;
  - d. Preparation and implementation of a data recovery plan for site(s)
- 
4. FENCING:
- a. A permanent Type 3 fence - see attachment with a locking pipe gate will be erected prior to well pad construction. The fence will be located at as directed by the BLM archaeologist access areas. The fence will extend for 100 feet to the North and 100 feet to the South or as indicated by BLM archaeologist. The AD grantee and/or the well operator is responsible for keeping the gate locked at all times and the maintenance of the gate and fence. The gate may remain open during the initial drilling of the well. Copies of the key or combination to the lock will be provided to the Farmington Resource Area Office in Farmington, and any personnel authorized by the BLM to pass through the gate.
- b. Other fencing:
5. CONSTRUCTION ZONES: There will be no construction zone \_\_\_\_\_
- 
6. AVOID SITES: LA 79440, LA 79441, LA 79442, LA 79443, LA 79443, LA 79444, LA 79445, LA 79446
7. Other: At least 5 days prior to access + well pad construction the BLM will be notified so that they may be, if desired, be present during construction in addition to the permitted archaeologist.
8. Route: Between sites LA 79446 and LA 79441 the road will be routed 10 feet to the east. The route will be flagged by the permitted archaeologist prior to construction.

WORK SUMMARY CHART

for

SECTION 02833 - WIRE FENCES AND GATES

Fence type: "A"

Type of top wire: *carbed or smooth*

Type of intermediate wires: *carbed*

Type of bottom wire: *smooth*

Wire locations-dimensions in inches:

E: *not critical dimension*

D: 3"

C: 10"

B: 10"

A: 14"

Line post spacing (L): 16 Ft 6 Inches

Stay spacing (l): 3 Ft 3 Inches

Length of wood posts ( $H_1$ ): 6' +

Depth of wood posts in ground ( $h_1$ ): 2' min.

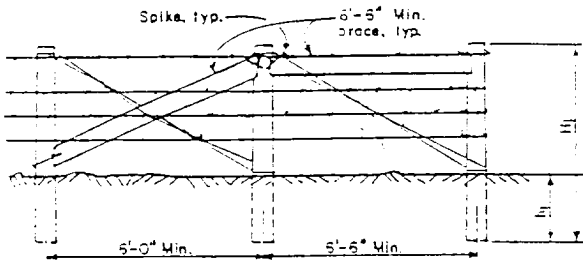
Length of steel posts ( $H_2$ ):

Depth of steel posts in ground ( $h_2$ ): 1'2"

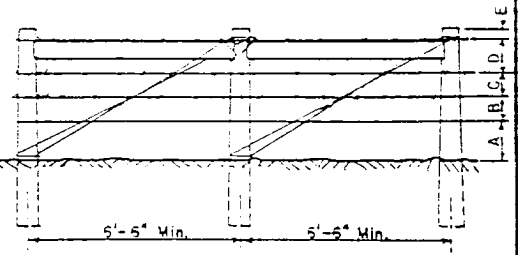
No. of mechanical gate closers:

*top wire 42" or less*

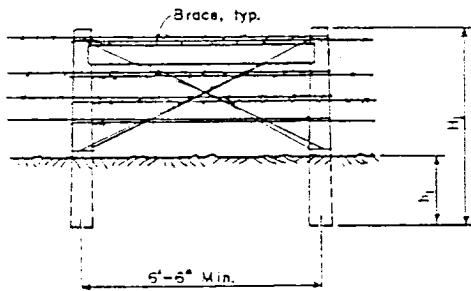
Note: If several fence projects are included, a tabular format may be more appropriate (9/17/84).



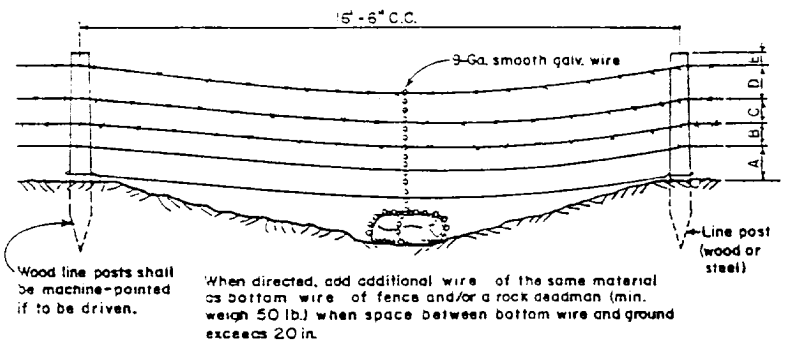
**END PANEL-TYPE I**  
(See specifications for type to be used)



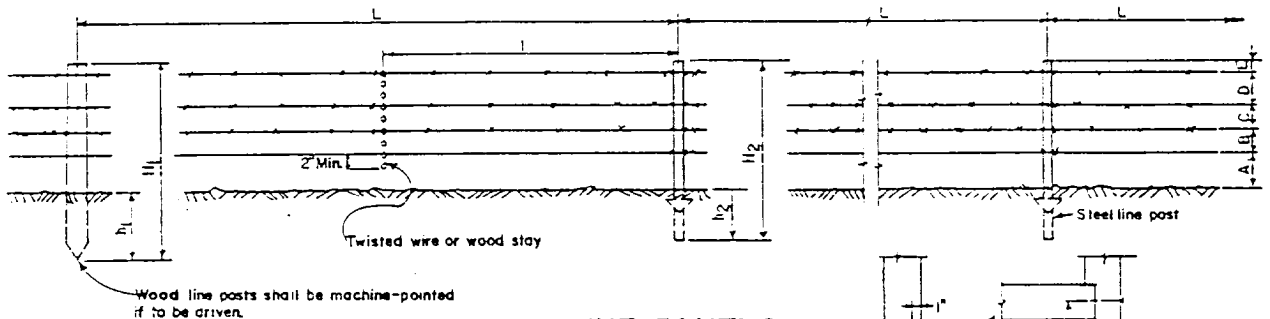
**END PANEL-TYPE II**  
(See specifications for type to be used)



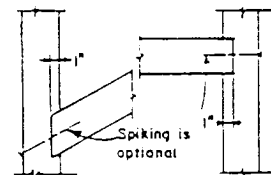
**STRESS PANEL**



**PANEL AT MINOR DEPRESSION**



**LINE PANELS**



**MORTISE DETAIL**

**NOTE:**

1. See specifications for the following:
- Ratio of steel to wood line posts.
  - Post spacing.
  - Type of end panel to be used.
  - Type of wire to be used.
  - Spacing between wires.
  - Type of gate(s) to be used.
  - Type of corner panel(s) to be used.

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
DIVISION OF ENGINEERING SYSTEMS DENVER SERVICE CENTER

**BARBED WIRE FENCE  
TYPE-A**

DESIGNED BY OTHERS  
REVIEWED *[Signature]*  
APPROVED

DRAWN J.D.Sedillo	SCALE NONE
DATE MARCH 9, 1984	SHEET OF
DRAWING NO. 02833-1	

9/1/89

Serial Number: NM  
Company Reference: El Paso Natural Gas  
San Juan 29-7 UNIT #54

EXHIBIT A  
ROAD RIGHT-OF-WAY/PERMIT STIPULATIONS

I. Special Stipulations:

The special stipulations designated below with ( X ) apply.

( X ) A. A copy of these stipulations, including exhibits and the plans of development if required, shall be on the project area and available to persons directing equipment operation.

( X ) B. EMERGENCY DISCOVERY IN THE ABSENCE OF MONITORING: This stipulation applies in emergency discovery situations where monitoring for cultural resources was not being performed because the presence of cultural resources could not have been anticipated. If, in its operations, the Holder discovers any historic or prehistoric ruin, monument, or site, or any object of antiquity subject to the Antiquities Act of 1979, and 43 CFR Part 3, then work will be suspended and the discovery promptly reported to the BLM Area Manager. The BLM will then specify what action is to be taken. The BLM will evaluate the discovery, evaluate its significance, and consult with the State Historic Preservation Officer. Minor recordation, stabilization, or data recovery may be performed by the BLM. However, more significant mitigation shall be carried out by a qualified, permitted archeologist. It is BLM's responsibility to ensure that such mitigation is carried out in accordance with 36 CFR Part 800.11. Given the timeframes involved in the BLM's budgeting process, operators are strongly encouraged to fund such required mitigation. Further damage to significant cultural resources and operations in its vicinity will not be allowed until any required mitigation is successfully completed.

( X ) C. DISCOVERY OF CULTURAL RESOURCES DURING MONITORING: This stipulation applies to situations where archeological monitoring was taking place because local geologic conditions favored the presence of subsurface archeological sites in the project area. If monitoring confirms the presence of subsurface sites, all work will cease in the site area. The monitor will immediately report this find to the BLM Area Manager. The BLM will specify what further steps must be taken to assess the damage to the site and to mitigate any adverse effects to it. Monitoring in these circumstances is considered to be a form of inventory and the operator will be responsible for obtaining at their expense a qualified permitted archeologist to complete a damage assessment report and to carry out any mitigation required by the BLM.

( X ) D. DAMAGE TO PREVIOUSLY IDENTIFIED SITE: This stipulation applies to situations where operations have damaged a previously identified archeological site that was visible on the surface. If, in its operations, the Holder damages, or is found to have damaged, any historic or prehistoric ruin, monument, or site, or any object of antiquity subject to the Antiquities Act of 1906, the Archeological Resource Protection Act of 1979, and 32 CFR Part 3, the Holder will prepare and implement a data recovery plan at their expense. The Holder will obtain at their expense, a qualified permitted archeologist to carry out the specific instruction of the BLM.

( X ) E. Performing construction maintenance activities outside the existing disturbed area of the existing road requires a cultural survey and clearance.

( ) F. Holder shall call the BLM, Farmington Resource Area (505) 327-5344 at least three (3) days prior to commencing construction and/or surface disturbing activities (a BLM representative \_\_\_\_\_ may want to be present). The Authorized Officer may require and schedule a preconstruction conference with Holder prior to commencing construction and/or surface disturbing activities. Holder and/or their representative shall attend this conference with contractors or agents involved with construction and/or any surface disturbing activities associated with this right-of-way to review the stipulations of the grant.

( ) G. No construction activities shall be conducted between the following dates:

- \_\_\_ November 1 & March 31 because of eagle winter habitat.
- \_\_\_ December 1 & March 31 because of deer & elk winter habitat.
- \_\_\_ March 1 & June 30 because of an active raptor nest site.
- \_\_\_ May 1 & July 15 because of antelope fawning.

Exceptions may be granted with proper documents provided to Bureau of Land Management, Area Manager, 1235 La Plata Highway, Farmington, NM 87401.

(  ) H. Mark the specified exterior boundaries of the authorized area at 100 to 200 foot intervals with painted laths or flags of a distinctive color. These shall be maintained until final cleanup and restoration is complete, after which they shall be removed.

( ) I. Reference markers for all angle stations (P.I.) shall be set on both sides of the right-of-way prior to construction activities.

( ) J. \_\_\_ inches of top soil material shall be removed and stockpiled \_\_\_\_\_ for future reclamation.

(X) K. A gate will be installed on the access to the SJ 29-7 #533, a second gate will be installed on the access to the SJ 29-7 #543 where it drops off the rim.

II. Construction and Maintenance:

A. Construction Specifications - applicable as indicated with an (X).

1. Fences and Cattleguards

( ) a. When construction associated with this right-of-way breaks or destroys a natural barrier used for livestock control, gaps thus opened shall be fenced to prevent passage (drift) of livestock. This fence shall be constructed to BLM specifications. These can be obtained from the Farmington Resource Area, 1235 La Plata Highway, Farmington, NM 87401, telephone: (505) 327-5344.

( ) b. Each fence crossed by this right-of-way shall be braced and secured to prevent slacking of the wire, before cutting the wire. Upon completion of construction, provide one of the following:

Repair the fence to the original or better condition.

Install a cattle-guard with and adjacent sixteen (16) foot gate at the location(s) shown on the attached map marked Exhibit D. The cattleguard shall be constructed to BLM specifications. These can be obtained from Farmington Resource Area, 1235 La Plata Highway, Farmington, NM 87401 or call (505) 327-5344.

Install a metal gate capable of being locked, but not a cattleguard. The gate shall be constructed to BLM specifications. These can be obtained from the Farmington Resource Area, 1235 La Plata Highway, Farmington, NM 87401 or call (505) 327-5344.

Holder is responsible to contact the grazing lessee(s) named below, prior to crossing any fence on public land or any fence between public and private land, and to offer the lessee(s) an opportunity to be present when the fence cut(s) is made so the lessee(s) can be satisfied that the fence is adequately braced and secured.

Lessee \_\_\_\_\_ Address \_\_\_\_\_ Phone \_\_\_\_\_

Lessee \_\_\_\_\_ Address \_\_\_\_\_ Phone \_\_\_\_\_

( ) c. All cattleguard grid and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASTHO) load rating H-20, although AASTHO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading) are anticipated. (See BLM standard drawings for cattleguards, obtainable from Farmington Resource Area, 1235 La Plata Highway, Farmington, NM). Cattleguard grid lengths shall not be less than eight (8) feet and width of not less than fourteen (14) feet. A wire gate with a minimum width of sixteen (16) feet will be provided on one side of the cattleguard.

2. Clearing, grading, and disturbance of other and vegetation shall be limited to the minimum area required for construction. Trees, in pinyon-juniper type vegetation, cleared from the right-of-way shall be left for wood gathering activities. Remove the trees from the right-of-way before any relocation of soil material. Do not mix soil with the trees during right-of-way clearing.

### 3. Improvements

( ) a. Maintain all existing improvements effected by construction and maintenance of this right-of-way in a serviceable (as good as or better than original) condition.

( ) b. Maintain a minimum of ten (10) feet of undisturbed surface between fence lines and roads that are constructed parallel to fences.

### 4. Road Grade and Width

a. The road will have a driving surface of 20 feet (all roads shall have a minimum driving surface of fourteen (14) feet, unless local conditions dictate a different width). The maximum grade is ten (10) percent unless the box below is checked. Maximum width of surface disturbance from construction will be 35 feet.

Those segments of road where grade is in excess of ten (10) percent for more than 300 feet shall be designed by a professional engineer.

### 5. Crowning and Ditching

a. Crowning and ditching is required. The road cross section will conform to the cross section diagrams in Exhibit B. The crown shall have a grade of approximately two (2) percent (i.e., two (2) inch crown on a fourteen (14) foot wide road).

### 6. Drainage

a. Drainage control shall be ensured over the entire road through the use of borrow ditches, drainage dips, outsloping, insloping, natural rolling topography, culverts, and/or turnout (lead-off) ditches. Every drainage dip shall drain water into an adjacent turnout ditch.

1) Unless otherwise approved in writing by the Authorized Officer, drainage dip location for grades over two (2) percent shall be determined by the formula:



$$\text{Spacing Interval} = \frac{400}{\text{road slope \%}} + 100'$$

Example: For a road with a four (4) percent slope.

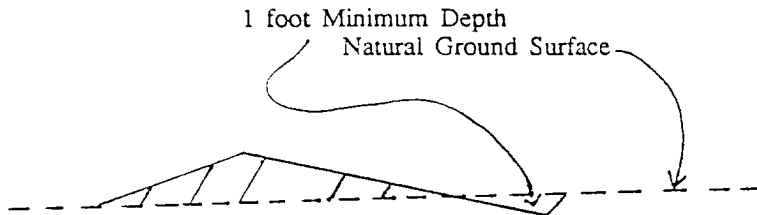
$$\text{Spacing Interval} = \frac{400}{4\%} + 100' = 200 \text{ feet.}$$

2) Unless otherwise approved in writing by the Authorized Officer, all turnout ditches shall be graded to drain water with a one (1) percent minimum to three (3) percent maximum ditch slope. The spacing interval for turnout ditches shall be determined according to the following table, but may be amended depending upon existing soil types and centerline road slope (in percent):

SPACING INTERVAL FOR TURNOUT DITCHES

Percent Slope	Spacing Interval
Less than 1%	400 feet
1 - 5%	300 feet
5 - 15%	200 feet
15 - 25%	100 feet
More than 25%	50 feet

TYPICAL TURNOUT DITCH



For this road the spacing interval for turnout ditches shall be:

At locations staked in the field.

At locations delineated on the attached map, marked Exhibit D.

( ) b. Culvert pipes shall be used for cross drains where drainage dips or low water crossings are not feasible. The minimum culvert diameter is 18 inches. Any culvert pipe installed shall be of sufficient diameter to pass the anticipated flow of water. Culvert location and required diameter are shown on the attached map, marked Exhibit D. Their location is also flagged on the ground. Further details can be obtained from the Farmington Resource Area Office at 1235 La Plata Highway, Farmington, NM 87401 or by calling (505) 327-5344.

7. Turnouts

(x) a. Unless otherwise approved by the Authorized Officer, vehicle turnouts will be required. Turnouts will be located at 2000 foot intervals, or the turnouts will be intervisible, whichever is less. Turnouts will conform to the diagram in Exhibit B. *be placed at the top of mesa before dropping down slope to well location.*

8. Surfacing

( ) a. All weather access is desired and surface material ( \_\_\_\_\_ ) is economically available, therefore the road shall be surfaced. The surfacing material will be compacted to a minimum thickness of \_\_\_\_\_ inches. The width of surfacing shall be no less than the driving surface. Prior to using any mineral material from an existing or proposed Federal source, authorization must be obtained from the Authorized Officer.

( ) b. Surfacing may be applied at the Holder's discretion, but is not required at this time. However, if it becomes evident there is resource damage or it becomes evident the road is receiving excess damage, surfacing will be required.

( ) 9. Seed all disturbed areas except the driving surface and road shoulders (entire area if road is to be reclaimed) using the following designated seed mixture. The designated seed mixture and specifications are given in Exhibit C. Disturbed areas shall be reseeded within one year of final construction, and if the first seeding is unsuccessful, the Holder may be required to perform additional seedings.

Seed Mixture No. 1     Seed Mixture No. 2     Seed Mixture No. 3

B. The construction and maintenance stipulations given below apply in ALL cases

1. Holder shall confine all activities associated with the construction, operation, maintenance, and termination, including vehicle traffic, within the authorized limits of this right-of-way.

2. After the right-of-way project is constructed and complying with all applicable restoration stipulations, submit a "proof of restoration" letter. Proof of restoration letters shall be filed with the BLM, Albuquerque District, 435 Montano N.E., Albuquerque, NM 87107 not later than two (2) years after completion of construction.

3. Maintenance

a. Grantee is responsible for notifying the party(s) listed below for sharing in road maintenance.

<u>Right-of-way</u>	<u>Holder</u>	<u>Address</u>	<u>Telephone</u>
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b. Failure of the grantee/permittee to share maintenance costs in dollars, equipment, materials, or manpower proportionate to the grantee/permittee's use with other authorized users may be adequate grounds to terminate the right-of-way grant. The determination as to whether this has occurred and the decision to terminate shall rest with the Authorized Officer. Upon request, the Authorized Officer shall be provided with copies of any maintenance agreement.

c. The grantee/permittee shall regularly maintain the road in a safe, usable condition. A regular maintenance program shall include, but not be limited to, blading, ditching, culvert installation, culvert cleaning, drainage installation, cattleguard maintenance and surfacing.

### III. Abandonment:

The following abandonment stipulation applies: Upon cancellation, relinquishment, or expiration of this right-of-way, Holder shall contact the Albuquerque District Manager, 435 Montano Northeast, Albuquerque, NM 87107 and comply with the abandonment procedures that are prescribed. These procedures may include but are not limited to removing surfacing material, reshaping, controlling erosion, reseeding, and scattering trees, rocks, and other material removed from the right-of-way during construction, back across the disturbed area.

### IV. General:

All the general stipulations apply.

A. Public access along this road will not be restricted by the grantee/permittee without specific written approval being granted by the Authorized Officer. Gates or cattleguards on public lands will not be locked or closed to public use unless specifically determined by the Authorized Officer.

B. Holder shall not violate applicable air and water quality standards or related facility siting standards established by or pursuant to applicable Federal and State law.

C. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant. This shall include liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on this right-of-way (unless the release or threatened release is wholly unrelated to Holder's activity in this right-of-way), or resulting from the activity of Holder on this right-of-way. This applies without regard to whether a release is caused by the Holder, their agent, or unrelated third parties.

D. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated under the Toxic Substance Control Act of 1976 as amended, 15 USC 2601 et seq. (1982). In any event, Holder shall comply with the Toxic Substance Control Act of 1976 as amended with regards to any toxic substances that are used, generated by, or stored on this right-of-way or on facilities authorized under this right-of-way. (See 40 CFR 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

E. Holder, or Holder's successor in interest, shall comply with Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d et seq.) and the regulations of the Secretary of the Interior issued pursuant thereto.

F. Use of pesticides and herbicides shall comply with the applicable Federal and State laws. Pesticides and herbicides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides and herbicides, Holder shall obtain from the Authorized Officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the Authorized Officer. Emergency use of pesticides and herbicides shall be approved in writing by the Authorized Officer prior to use.

Right-of-way Name: San Juan 29-7 unit

Number: 543

New Mexico Principal Meridian

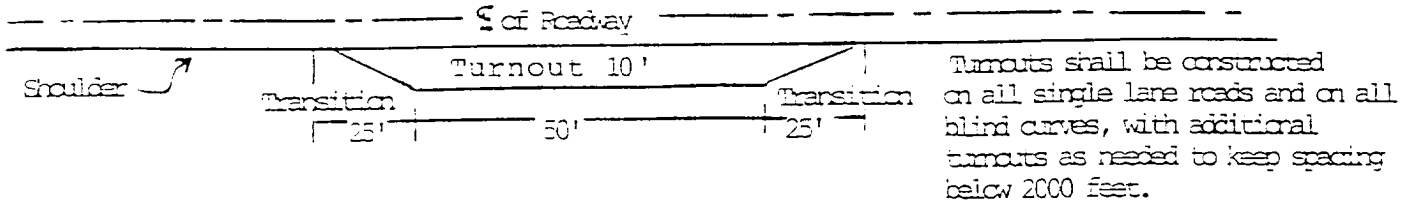
T. 29 N., R. 7 W., Section (s) 3, NE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>

T.      N., R.      W., Section (s)

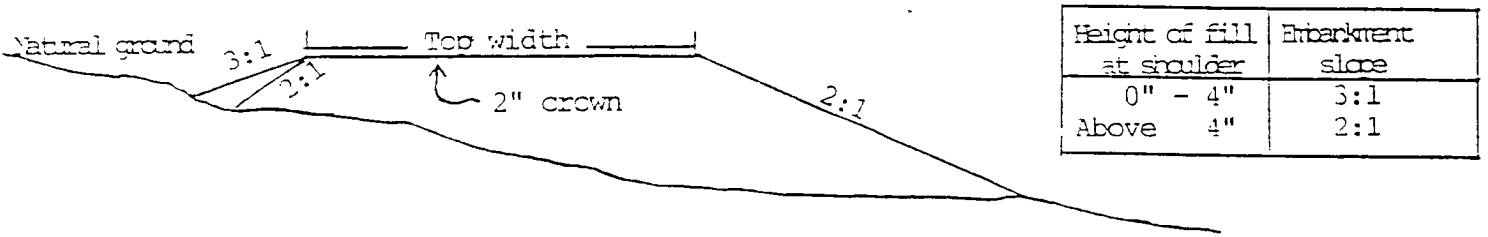
Jimm. Jewke  
BLM Field Examiner

8/15/00  
Date

EXHIBIT B  
ROAD CROSS-SECTION DIAGRAMS

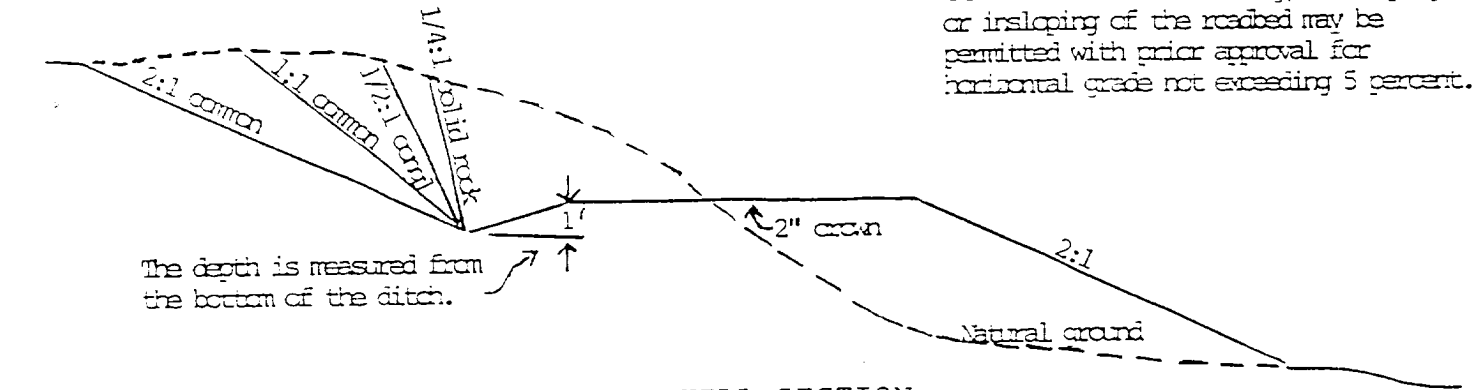


TYPICAL TURNOUT PLAN

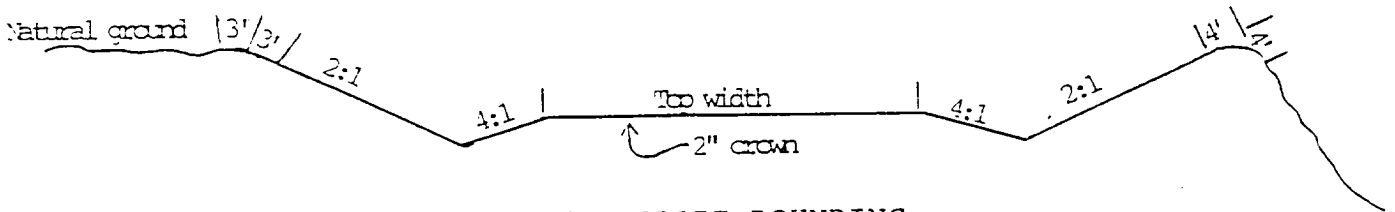


EMBANKMENT SECTION

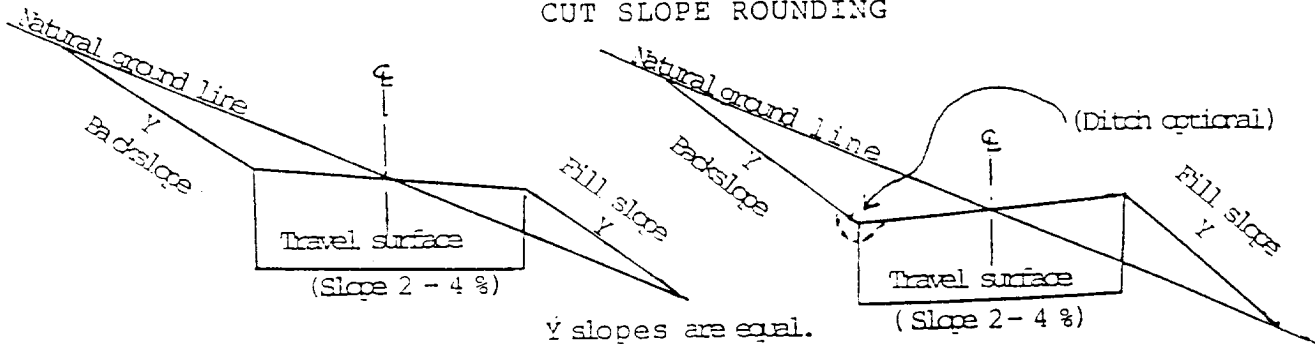
NOTE: In lieu of ditching, outsloping or insloping of the roadbed may be permitted with prior approval for horizontal grade not exceeding 5 percent.



SIDE HILL SECTION



CUT SLOPE ROUNDING



TYPICAL OUTSLOPED SECTION

TYPICAL INSLOPED SECTION

**EXHIBIT C  
SEEDING REQUIREMENTS**

**I. SPECIES TO BE PLANTED IN POUNDS OF PURE LIVE SEED PER ACRE: \***

1. Seed Mixture Number One (1):
  - CRESTED WHEATGRASS (Agropyron desertorum) - two (2) pounds.
  - SMOOTH BROME (Bromus inermis) - one (1) pound.
  - FOURWING SALTBUSH (dewinged) (Atriplex conesens) - one (1) pound.
  - NOMAD ALFALFA (Medicago sitiva) - two (2) pounds.
  - INDIAN RICEGRASS (Oryzopsis hymenoides) - one (1) pound.
  - WESTERN WHEATGRASS (Agropyron smithii) - two (2) pounds.
  
2. Seed Mixture Number Two (2):
  - CRESTED WHEATGRASS (Agropyron desertorum) - three (3) pounds.
  - FOURWING SALTBUSH (dewinged) (Atriplex conesens) - two (2) pounds.
  - SAND DROPSEED (Sporobolus cryptandrus) - one-half (1/2) pound\*\*.
  - INDIAN RICEGRASS (Oryzopsis hymenoides) - two (2) pounds.
  - WESTERN WHEATGRASS (Agropyron smithii) - two (2) pounds.
  
3. Seed Mixture Number Three (3):
  - FOURWING SALTBUSH (dewinged) (Atriplex conesens) - two (2) pounds.
  - ALKALI SACATON (Sporobolus airoides) - one (1) pound\*\*.
  - SHADSCALE (Atriplex convertifolia) - two (2) pounds.
  - INDIAN RICEGRASS (Oryzopsis hymenoides) - two (2) pounds.

\* Percent Pure Live Seed (PLS) = 
$$\frac{\text{Purity} \times \text{Germination}}{100}$$

\*\* Hand seed these species prior to drilling the mixtures.

Two lots of seed can be compared on the basis of PLS as follows:

<u>Source No. One (poor quality)</u>	<u>Source No. Two (better quality)</u>
Purity            50 percent	Purity            80 percent
Germination    40 percent	Germination    63 percent
Percent PLS    20 percent	Percent PLS    50 percent

5 lb. bulk seed required to make 1 lb. PLS.                      2 lb. bulk seed required to make 1 lb. PLS.

**NOTICE:** Seed labels from each bag shall be available for inspection while seeding is being accomplished.

**II. TIME:** Seeding shall be accomplished between July 1 and September 15.

**III. EQUIPMENT:** Seed with a disc-type drill with two (2) boxes for various seed sizes. Com-pacted areas shall be ripped to a depth of twelve (12) inches and disked to a depth of six (6) inches before seeding. The drill rows shall be eight to ten inches apart. The seed shall be planted at not less than one-half (1/2) inch deep or more than one (1) inch deep. The seeder shall be followed with a drag, packer, or roller to ensure uniform coverage of the seed, and adequate compaction. Drilling shall be done on the contour where possible, not up and down the slope. The given poundage of seed per acre can be reduced by one-half if it is drill seeded. Where slopes are too steep for contour drilling a "cyclone" hand seeder or similar broadcast seeder shall be used. Seed shall then be covered to the depth described above by whatever means is practical, i.e., hand raked.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well  
GAS

5. Lease Number  
SF-078919

6. If Indian, All.or  
Tribe Name

2. Name of Operator  
Meridian Oil Inc.

7. Unit Agreement Name  
San Juan 29-7 Unit

3. Address & Phone No. of Operator  
Box 4289, Farmington, NM 87499 (505) 326-9700

8. Well Name & Number  
San Juan 29-7 Unit #543  
9. API Well No.

4. Location of Well, Footage, Sec, T, R, M.  
480'S, 680'W Sec.3 , T-29-N, R-7-W, NMPM

10. Field and Pool  
Basin Fruitland Coal  
11. County and State  
Rio Arriba County, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission	Type of Action	
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input checked="" type="checkbox"/> Change of Plans
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut Off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Other	

13. Describe Proposed or Completed Operations

Attached is a copy of the C-102 plat, cut and fill diagram, and topographic map showing the revised location of this well.

This well was moved at the request of the Bureau of Land Management. The application for permit to drill was originally approved by the BLM on February 11, 1991 at: 2040'S, 1280'W, Section 3, T-29-N, R-7-W.

14. I hereby certify that the foregoing is true and correct  
Signed [Signature] Title Regulatory Affairs Date 10-14-91

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITION OF APPROVAL, IF ANY:

Submit to Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesa, NM 88210

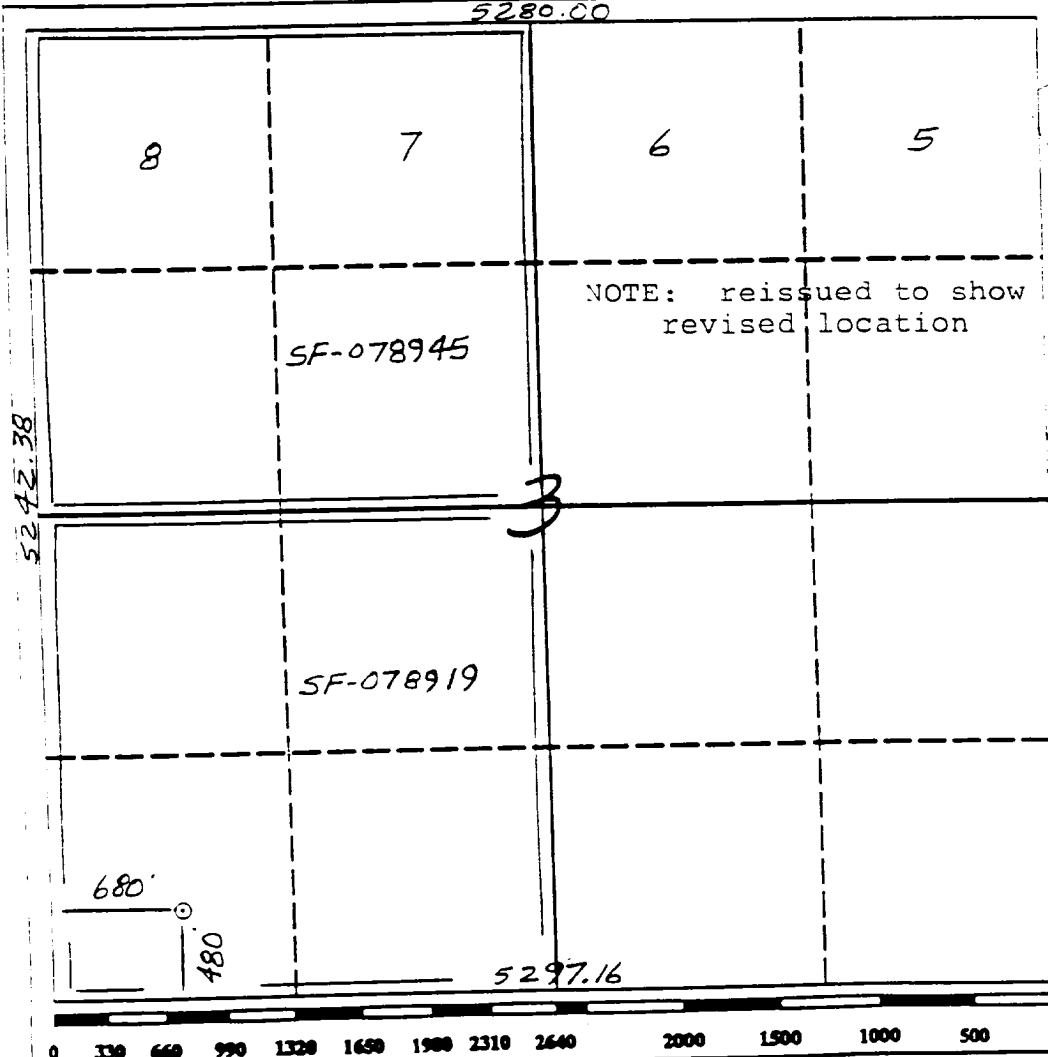
DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

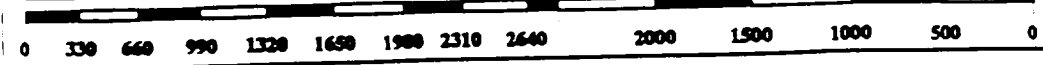
Operator Meridian Oil Inc.		Lease San Juan 29-7 Unit		Well No. 543
Unit Letter M	Section 3	Township 29 North	Range 7 West	County NMNM Rio Arriba
Actual Footage Location of Well: 480 feet from the South line and 680 feet from the West line				
Ground level Elev. 6225'	Producing Formation Fruitland Coal Basin		Dedicated Acreage: 317.83 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hectare marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc?  
 Yes  No If answer is "yes" type of consolidation unitization  
 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 interest, has been approved by the Division.



**OPERATOR CERTIFICATION**  
I hereby certify that the information contained herein is true and complete to best of my knowledge and belief.  
*Peggy Bradford*  
Signature  
 Peggy Bradford  
Printed Name  
 Regulatory Affairs  
Position  
 Meridian Oil Inc.  
Company  
 Date

**SURVEYOR CERTIFICATION**  
I hereby certify that the well location shown on this plat was plotted from field notes actual surveys made by me or under supervision, and that the same is true correct to the best of my knowledge and belief.  
 Date Surveyed: 10-10-01  
*Neale C. Edwards*  
Signature & Seal of Professional Surveyor  
 NEALE C. EDWARDS  
 NEALE C. EDWARDS  
Professional Surveyor  
 Neale C. Edwards  
 Certificate No. 6857





# MERIDIAN OIL

## Plat 2

Name: SAN JUAN 29-7 UNIT # 543  
 Footage: 480' FSL 680' FNL  
 Sec 3 T. 29 N.R. 7 W NMPM  
 Co. RIO ARRIBA St. N.M.  
 Elevation: 6225' Date: 10-10-91

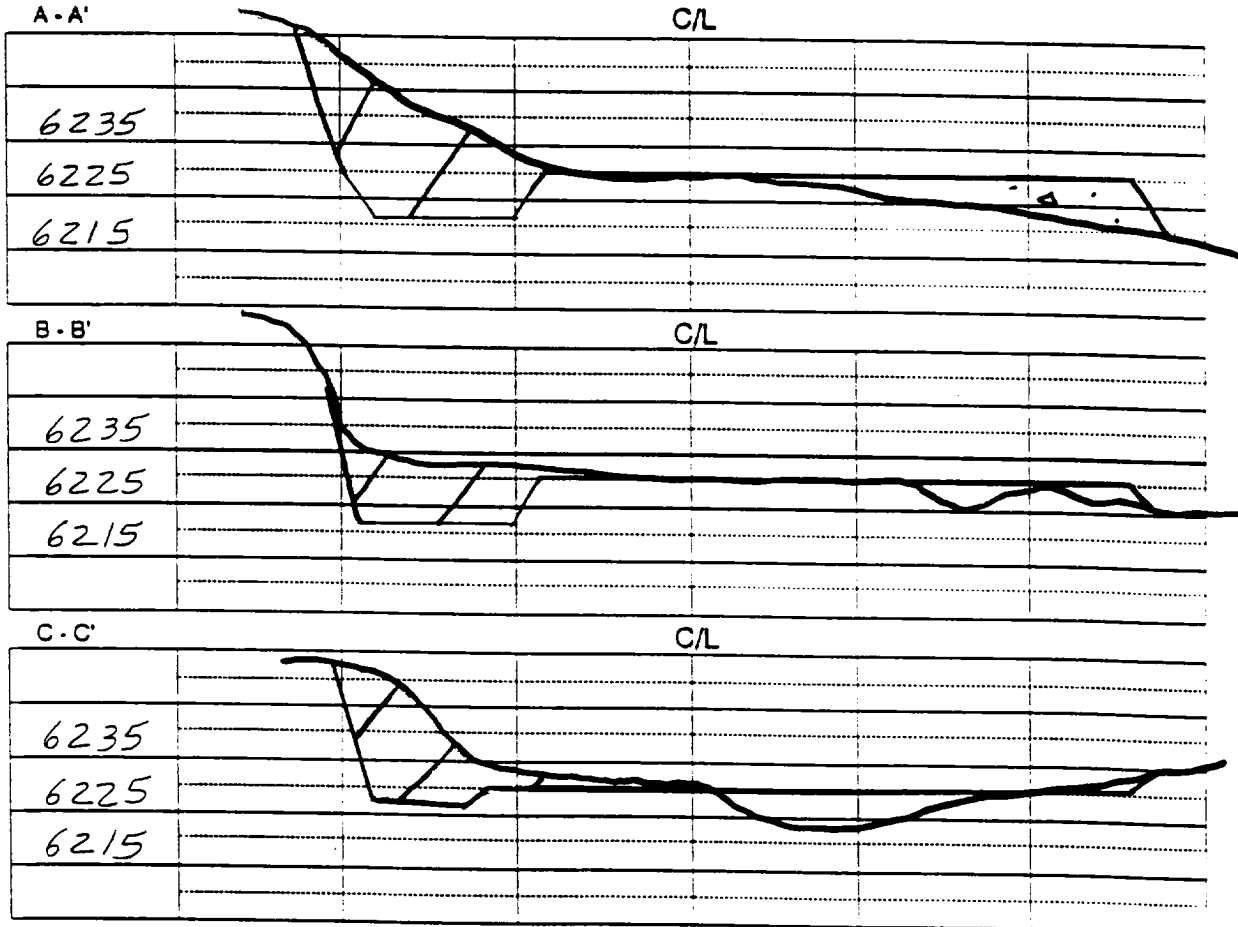
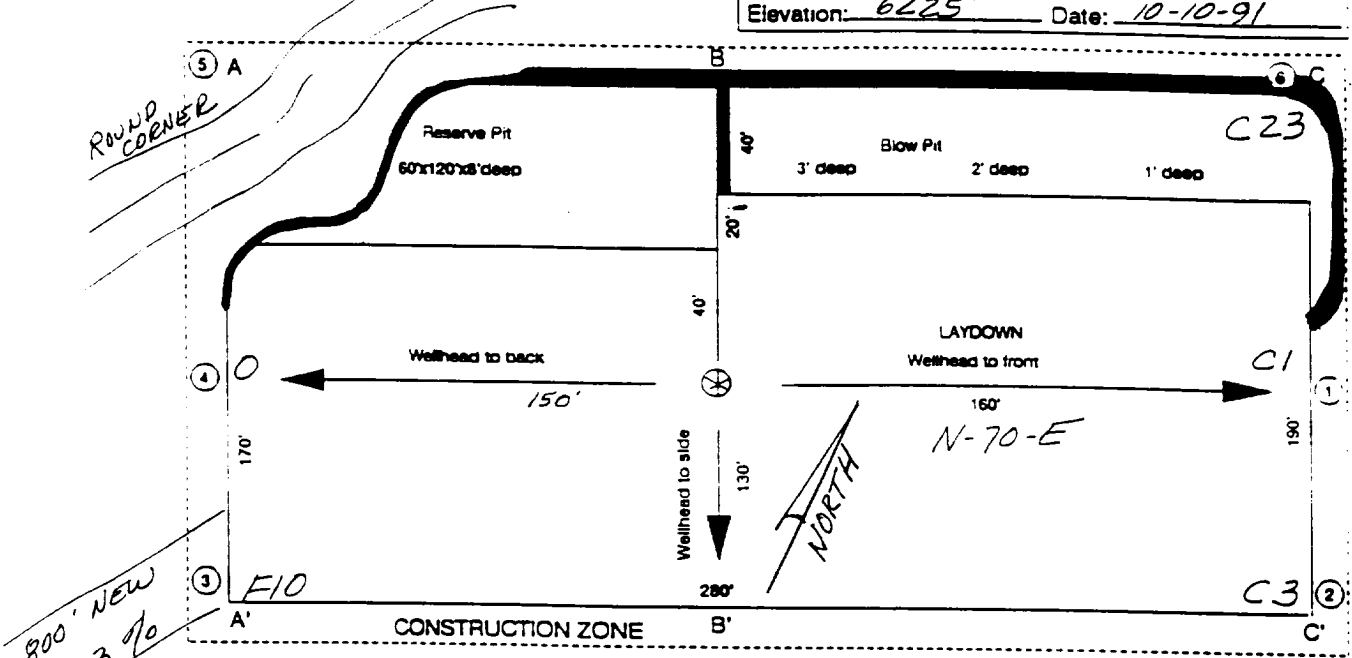
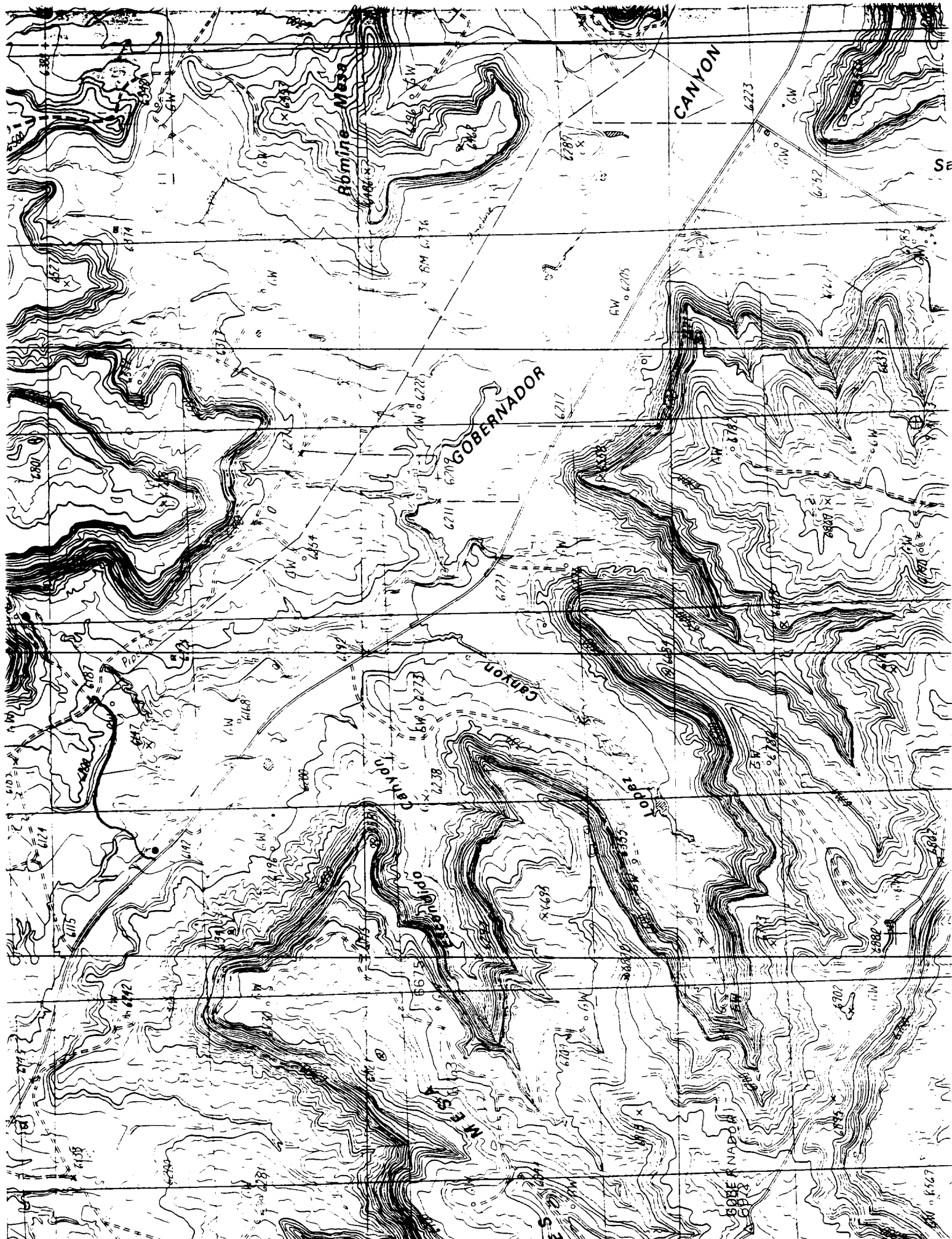


Figure #4





# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Farmington Resource Area  
1235 Laplata Highway  
Farmington, New Mexico 87401



IN REPLY REFER TO:

3100 (019)

Mr. Ennie Bush  
New Mexico Oil Conservation Commission  
1000 Rio Brazos Road  
Aztec, NM 87410

Dear Mr. Bush:

This letter is written to follow-up our efforts to find a suitable orthodox location for Meridian Oil, Inc., Basin Fruitland Coal Gas well, San Juan 29-7, #543 in T. 29 N., R. 7 W., Section 3 SW $\frac{1}{4}$ , lease number SF-078919. An acceptable orthodox location was not found because of numerous archeological sites, topographical constraints, and disturbance to critical big-game wildlife habitat.

It is the Bureau of Land Management's recommendation that this well be approved in an unorthodox location 480 FSL, 680 FWL, Section 3, T. 29 N., R. 7 W. To reduce or eliminate impacts to a variety of concerns existing in this area.

Sincerely,

John A. Phillips  
Acting Area Manger

cc:  
Meridian Oil, Inc. (Charles Warner) ✓

Submit to Appropriate District Office  
 State Lease - 4 copies  
 Fee Lease - 3 copies

State of New Mexico  
 Energy, Minerals and Natural Resources Department

Form C-102  
 Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088  
 Santa Fe, New Mexico 87504-2088

DISTRICT I  
 P.O. Box 1980, Hobbs, NM 88240

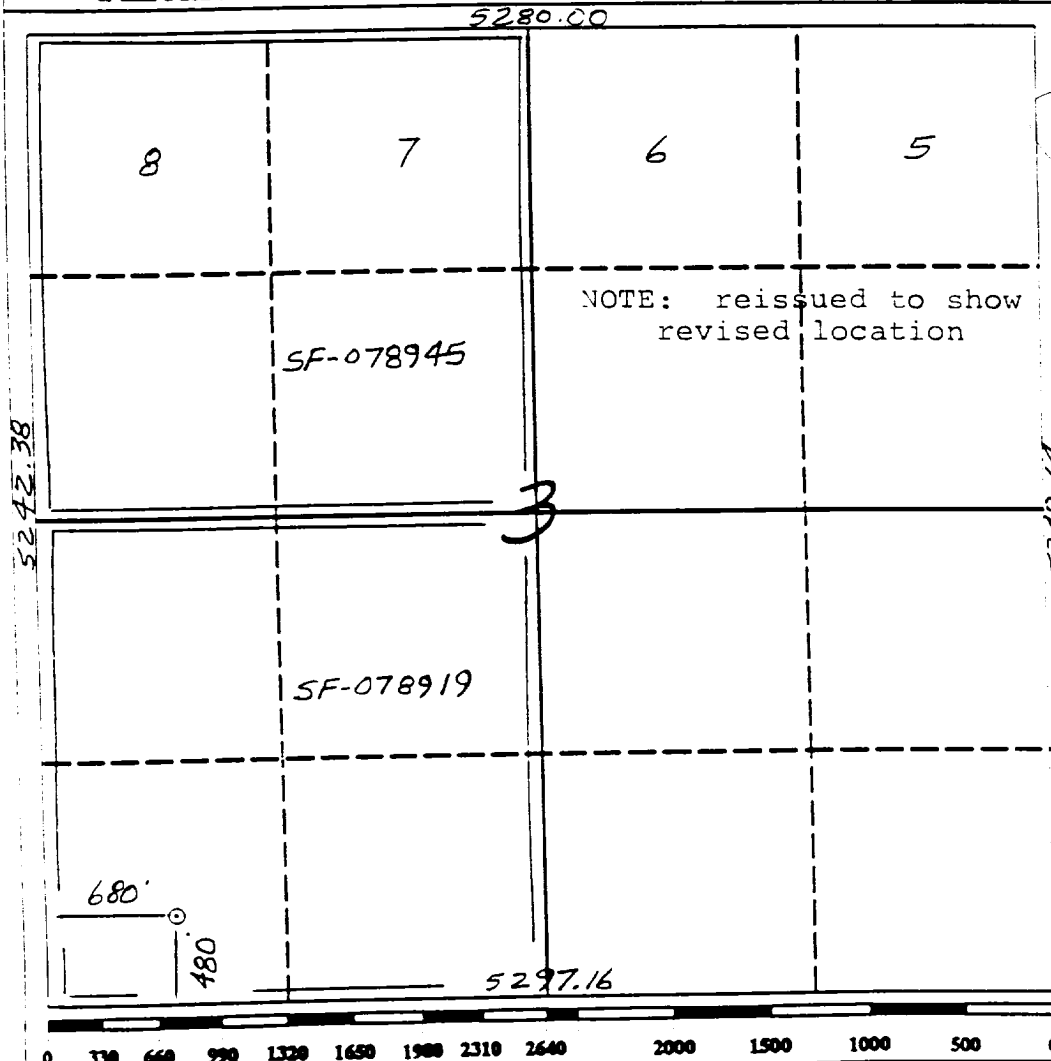
DISTRICT II  
 P.O. Drawer DD, Artesa, NM 88210

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

WELL LOCATION AND ACREAGE DEDICATION PLAT  
 All Distances must be from the outer boundaries of the section

Operator Meridian Oil Inc.			Lease San Juan 29-7 Unit		Well No. 543
Unit Letter M	Section 3	Township 29 North	Range 7 West	County NMPM Rio Arriba	
Actual Footage Location of Well: 480 feet from the South line and 680 feet from the West line					
Ground level Elev. 6225'	Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 317.83 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?  
 Yes  No If answer is "yes" type of consolidation unitization  
 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 interest, has been approved by the Division.

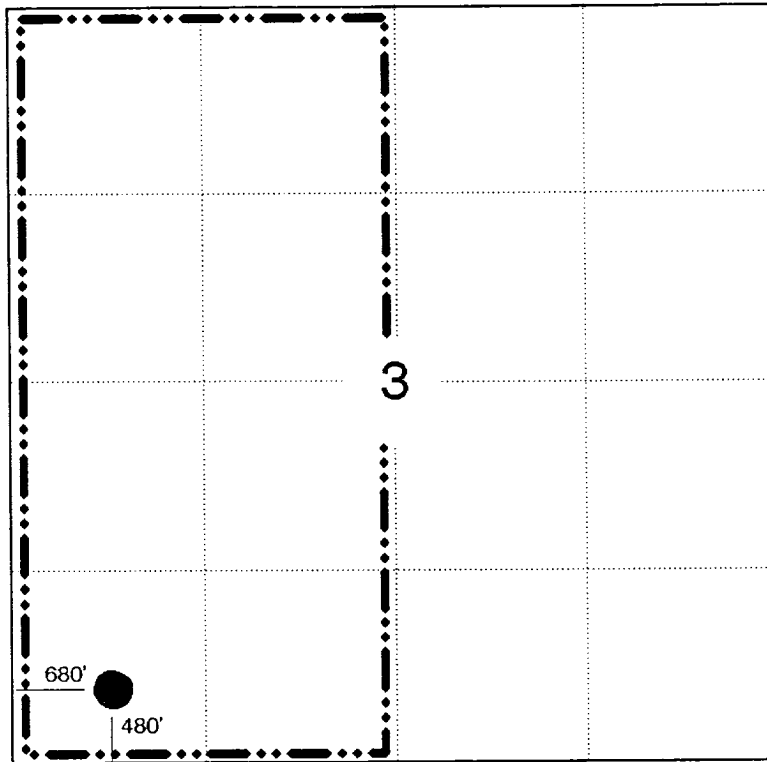


**OPERATOR CERTIFICATION**  
 I hereby certify that the information contained herein is true and complete to best of my knowledge and belief.  
*Peggy Bradfield*  
 Signature  
 Peggy Bradfield  
 Printed Name  
 Regulatory Affairs  
 Position  
 Meridian Oil Inc.  
 Company  
 Date

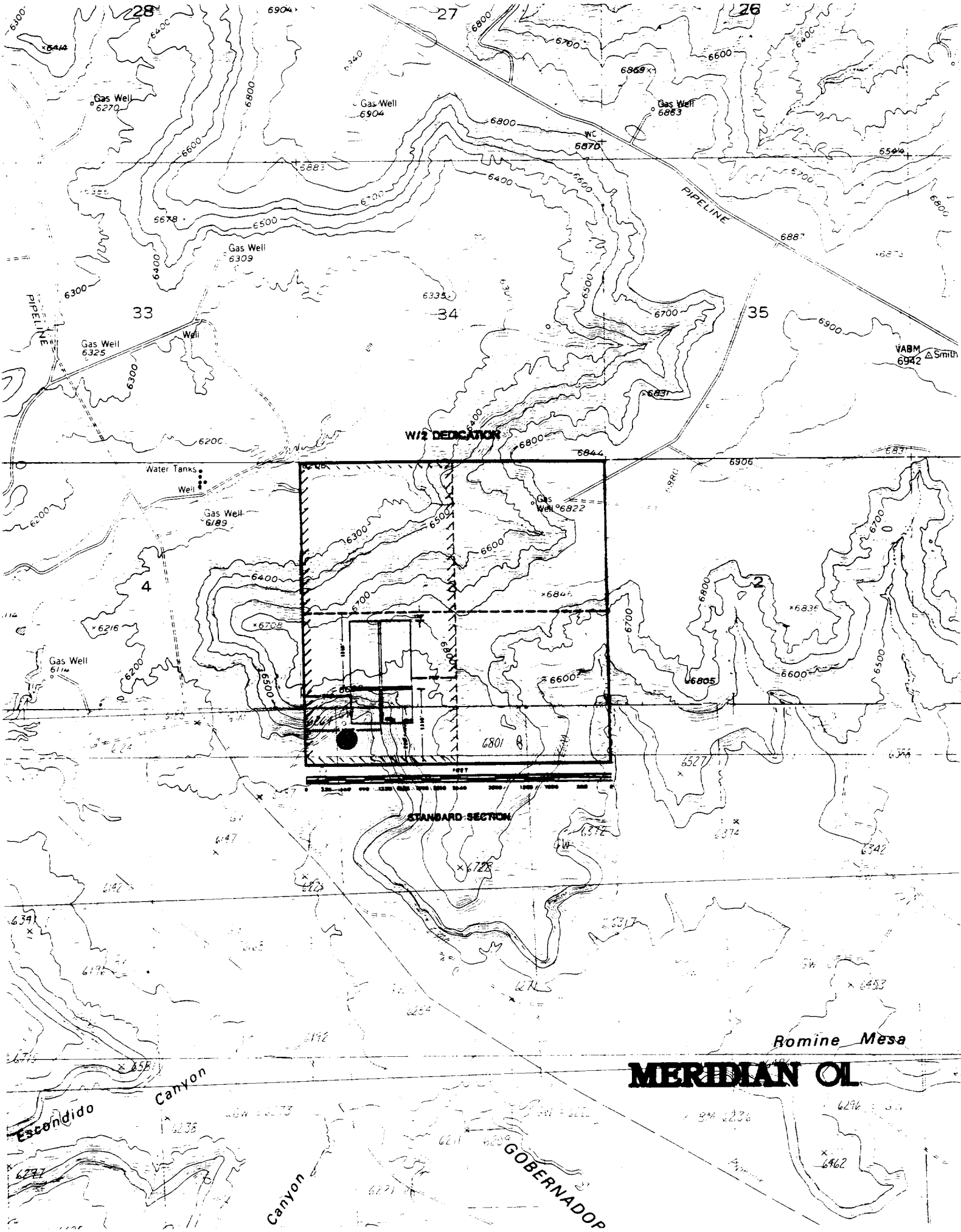
**SURVEYOR CERTIFICATION**  
 I hereby certify that the well location on this plat was plotted from field not actual surveys made by me or under supervision, and that the same is true correct to the best of my knowledge and belief.  
 Date Surveyed  
 Signature & Seal of Professional Surveyor  
  
 Neale C. Edwards  
 Certificate No. 6857

APPLICATION FOR UNORTHODOX LOCATION  
MERIDIAN OIL INC

WELL NAME San Juan 29-7 Unit #543  
FOOTAGE 480' FSL; 680' FWL ACRES 317.83  
COUNTY Rio Arriba STATE NM SECTION 3 TOWNSHIP 29N, RANGE 07 W



REMARKS All surrounding lands are operated by Meridian Oil Inc.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



W/2 DEDICATION

STANDARD SECTION

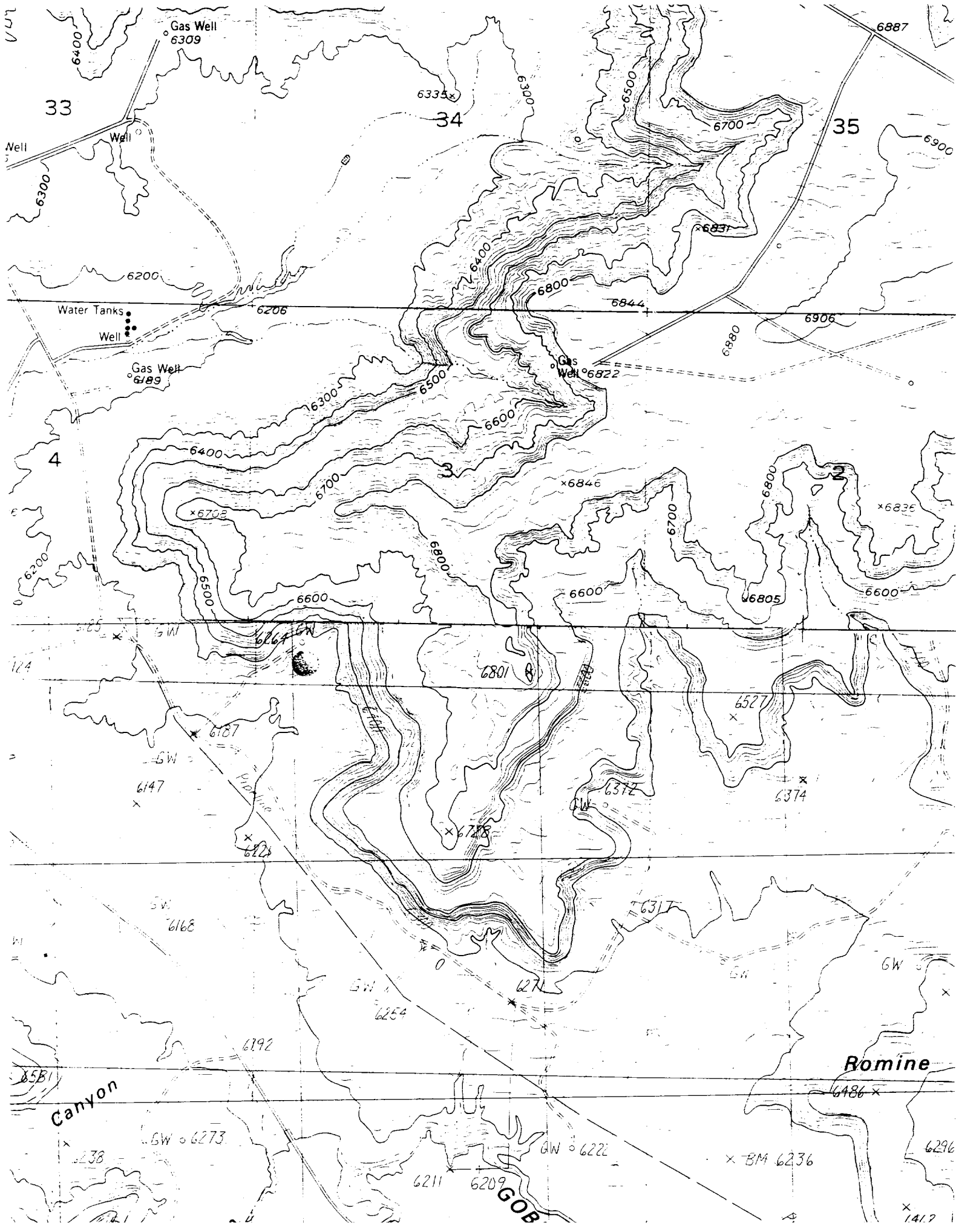
Romine Mesa

**MERIDIAN OIL**

Escobido Canyon

Canyon

GOVERNADOR



Gas Well 6309

33

34

35

Well

Water Tanks

Well

Gas Well 6189

Gas Well 6822

4

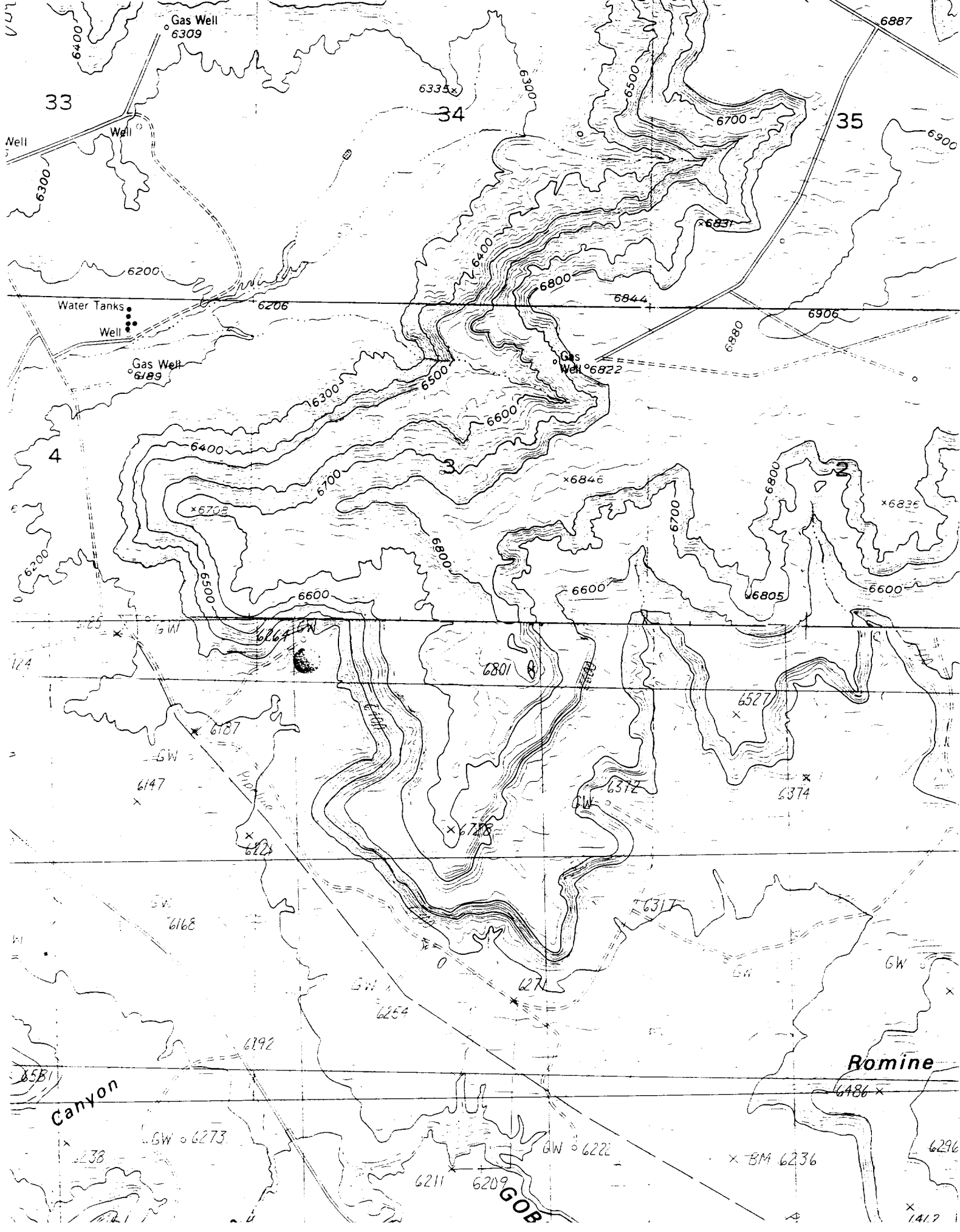
3

2

Canyon

Romine

GOB



Gas Well 6309

33

34

35

Well

Water Tanks

Well

Gas Well 6189

Gas Well 6822

4

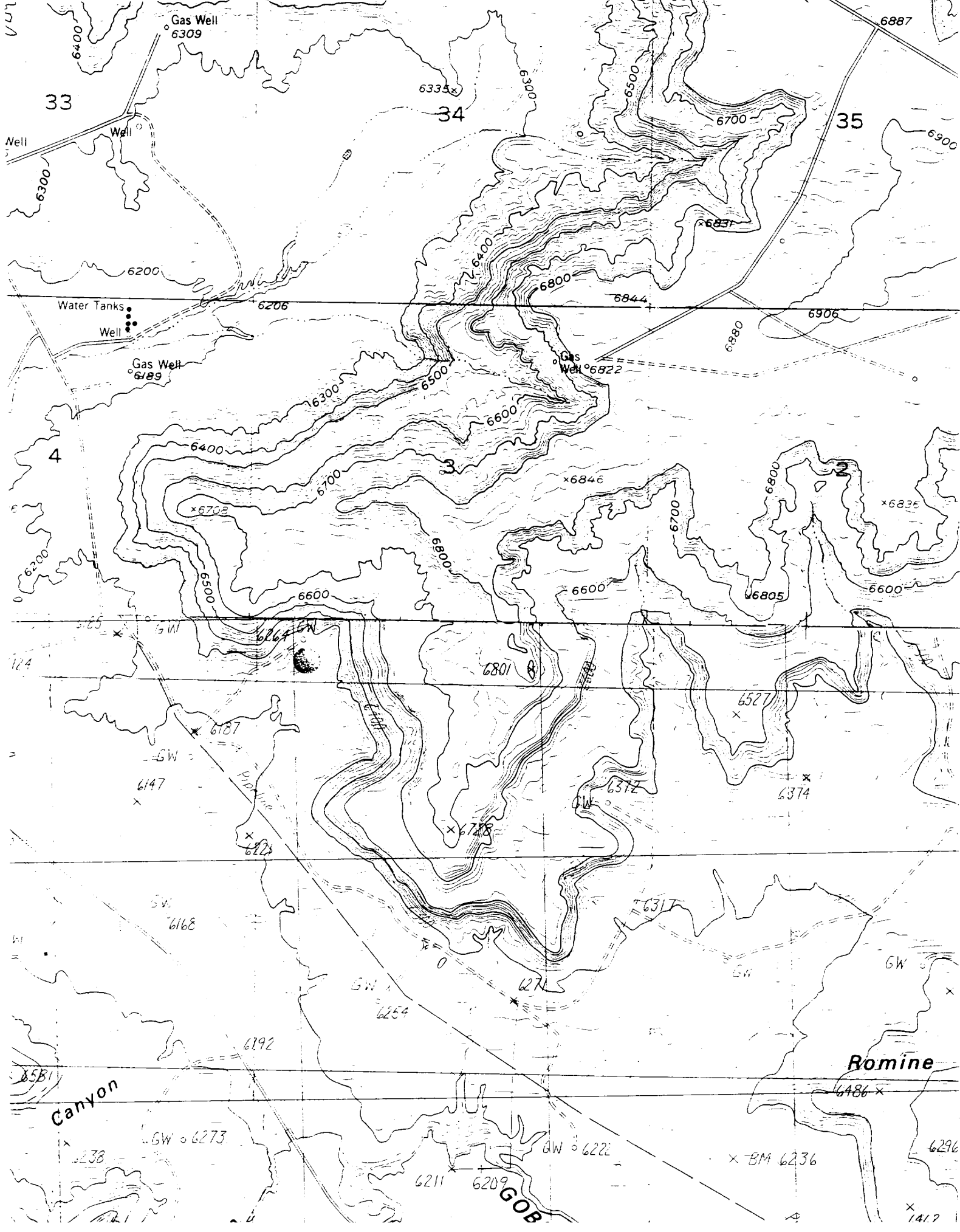
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2

Canyon

Romine

GOB



Gas Well 6309

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35

Well

Water Tanks

Well

Gas Well 6189

Gas Well 6822

4

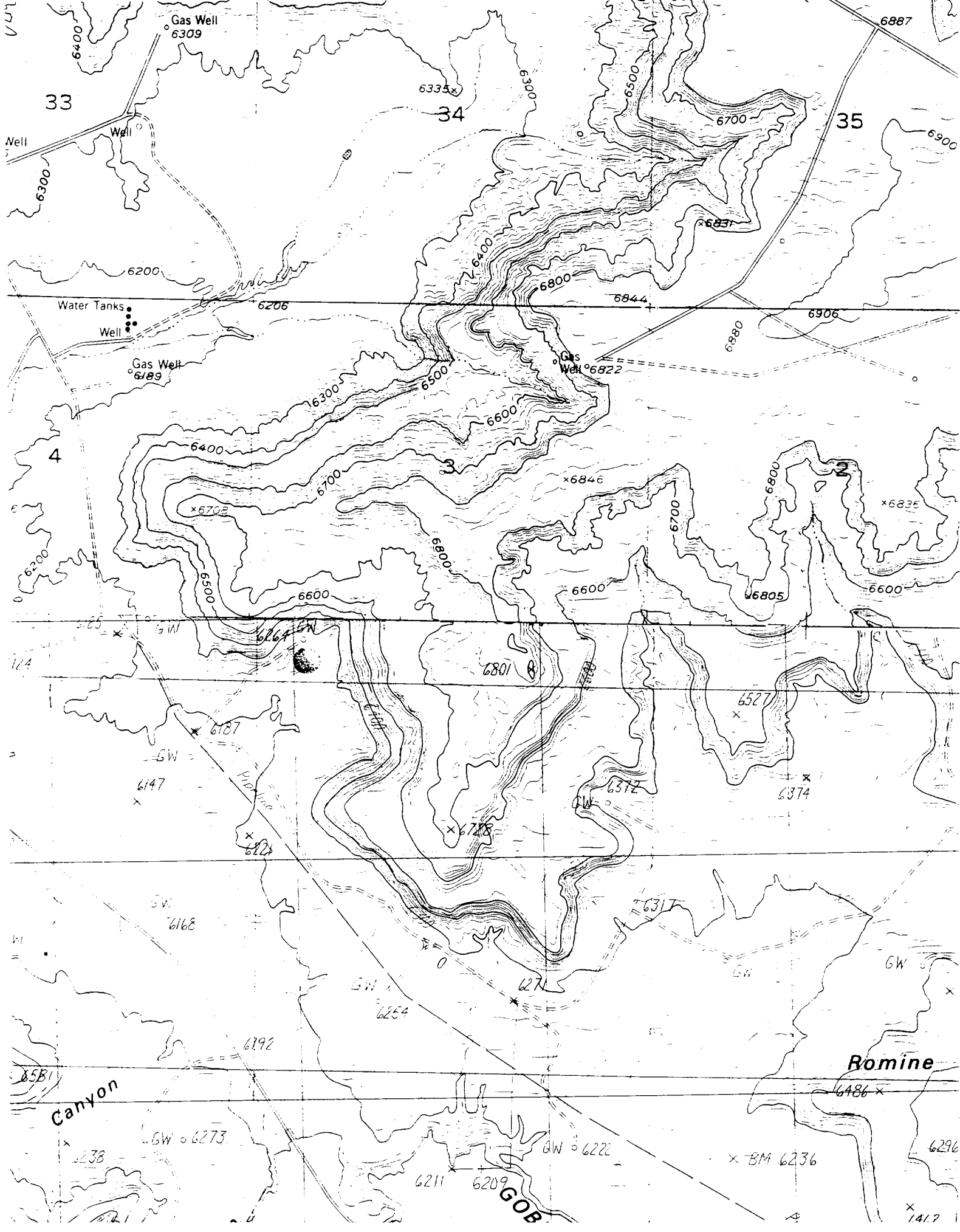
3

2

Canyon

Romine

GOB



Gas Well 6309

33

34

35

Well

Water Tanks

Well

Gas Well 6189

Gas Well 6822

4

3

2

Canyon

Romine

GOB

**ARCHAEOLOGICAL SURVEY OF  
MERIDIAN OIL INCORPORATED'S  
ABANDONED AND RELOCATED  
EPNG SAN JUAN 29-7 NO. 543 WELL PAD AND ACCESS ROAD  
T29N, R7W, SECTION 3, 1280 FWL, 2040 FSL  
RIO ARriba COUNTY, NEW MEXICO**

**LAC REPORT 9080k**

by

Steven L. Fuller

**MERIDIAN OIL**

AUG 6 1990

FARMINGTON, NEW MEXICO  
Construction Supervisor

LA PLATA ARCHAEOLOGICAL CONSULTANTS  
P.O. Box 783  
Dolores, Colorado 81323  
(303) 882-4933

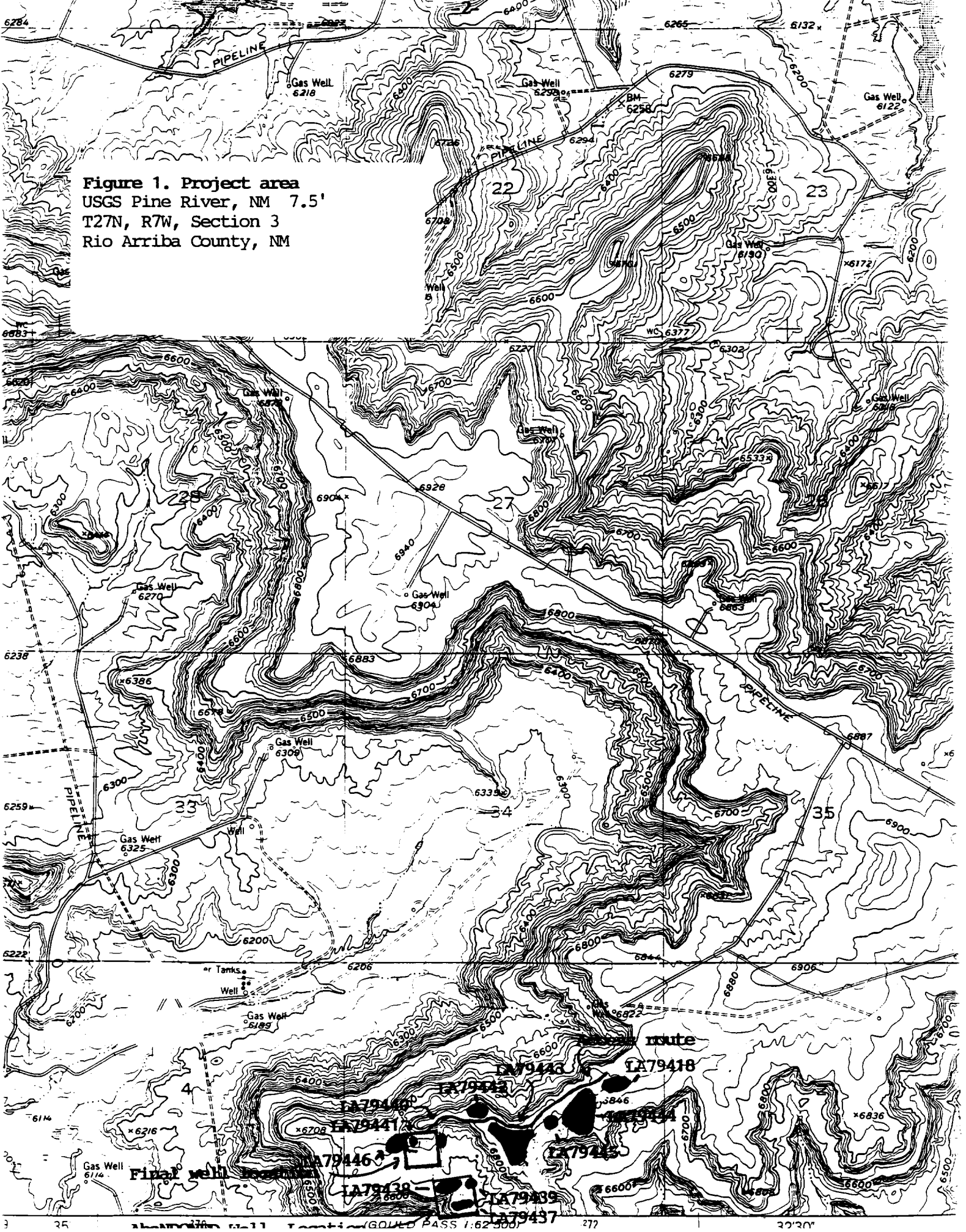
New Mexico Cultural Resource Use Permit No. 19-2920-90-I

August 31, 1990

Prepared For:

Meridian Oil Incorporated  
P.O. Box 4289  
Farmington, New Mexico 87499-4289





**Figure 1. Project area**  
 USGS Pine River, NM 7.5'  
 T27N, R7W, Section 3  
 Rio Arriba County, NM

Final well location

## **FIELD METHODS**

Prior to the survey, the original well pad was staked at the center and the four corners. A 7.1 acre block (580 by 530 feet) was surveyed centered on the well pad center stake. This was sufficient to cover the 280 by 230 foot well pad, 50 foot construction zone and a 100 foot buffer for cultural resources. The area was examined using parallel pedestrian transects which measured no further than 15 m or 50 feet apart. The location was moved due to the presence of several sites and an alternative location was surveyed using the same techniques. A 150 foot wide corridor was examined for the 4000 feet of access road that extends beyond the block survey area.

The 11 archaeological sites were recorded on Laboratory of Anthropology site forms, photographed, and mapped.

## **ENVIRONMENT**

The proposed project area lies on a broad bench at the base of a spur of Frances Mesa overlooking Gobernador Canyon to the south. Soils on the final location are formed on colluviated clay-shale and sandstone residuum forming low hills and ridges. The ridges are eroded around the edges by small tributaries to Gobernador Wash.

Vegetation includes sparse old-growth pinyon and juniper with sagebrush, broadleaf yucca, prickly pear, Mormon tea, serviceberry, and mountain mahogany.

## **PROJECT LOCATION AND DESCRIPTION**

### San Juan 29-7 No. 543 Well Pad

Legal Description:	T29N, R7W, Section 39, NE 1/4 NW 1/4 SW 1/4, NMPM; 1280 FWL, 2040 FSL, Rio Arriba County, New Mexico (See Figure 2, well pad plat). Access road extends within SE 1/4 and NE 1/4 of Section 3.
Elevation:	6724 feet
Map Reference:	USGS Pine River, New Mexico 7.5' ( 1954, photorevised 1971).
Land Jurisdiction:	BLM, Farmington Resource Area
Project Area:	Final Well pad will measure 280 by 230 feet. Access extend about 4000 feet east to an existing well pad.

Figure 2

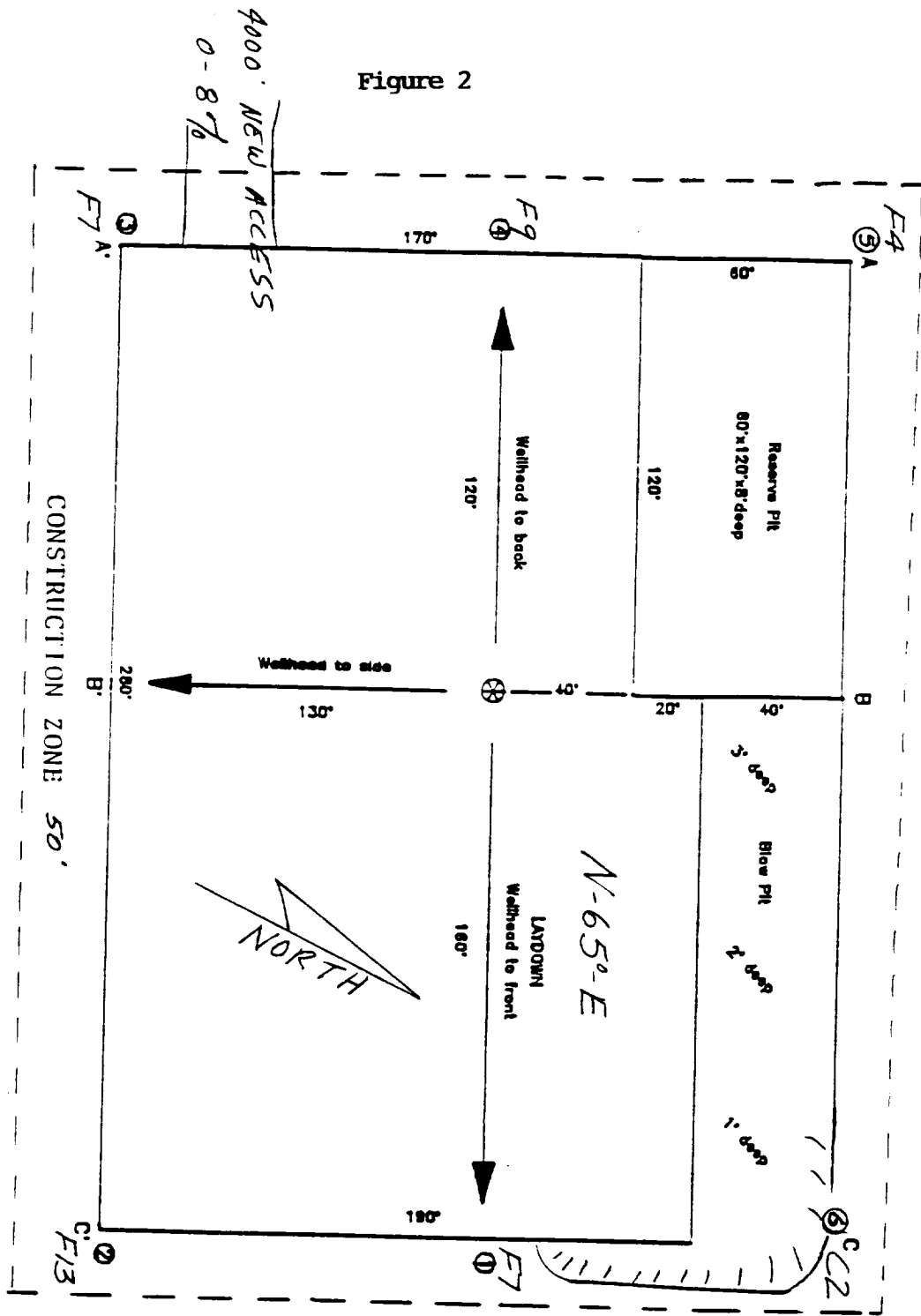


EXHIBIT: _____	
Name:	EPNG San Juan 29-7 Unit # 543
Footage:	2040' FSL, 1280' FWL,
Sec	3 T- 29 -N, R- 7 -W NMPM
Co.	Rio Arriba St. N.M.
Elevation:	6724' Date: 8-2-90

Plot 2  
2/3/90

**Surveyed Area:** A 580 by 530 foot block surrounding the original well center stake (7.1 acres) to cover the well pad, construction zone, and buffer zone. A 580 by 530 foot block surrounding the final well center stake (7.1 acres) to cover the well pad, construction zone, and buffer zone. A corridor 4000 feet long by 150 feet wide for the portion of the road that extends beyond the survey block. Total area surveyed includes 28 acres.

**Results:** Eleven archaeological sites were encountered and recorded on the abandoned and final well pad and access road. The site are described in Appendix A, included only with BLM copies of this report.

## **RECOMMENDATIONS**

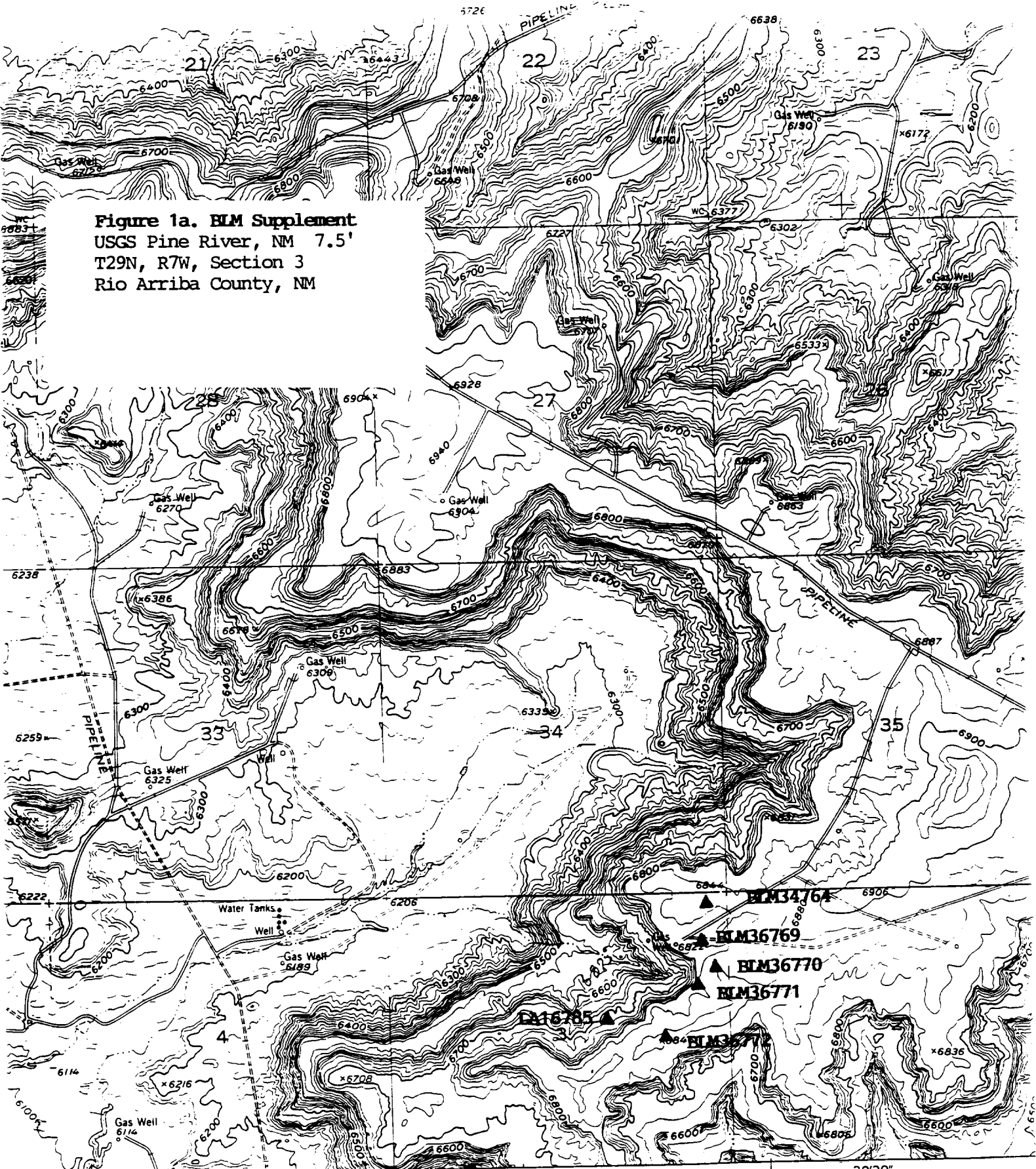
A total of 11 archaeological sites, including 10 newly recorded and one previously recorded site, were encountered during the survey for the abandoned and relocated SJ 29-7 No. 543 well pad and access road. Each of the sites has been avoided and site-by-site recommendations for protection are as follows:

- LA79418: This site is located approximately 75 feet southeast of the proposed access road (Figure 3) and can be protected during initial road clearing by placing a protective fence along the south edge of the road.
- LA79437: This site is located on the abandoned well location and requires no further protection.
- LA79438: This site is located on the abandoned well location and requires no further protection.
- LA79439: This site is located on the abandoned well location and requires no further protection.
- LA79440: This site is located over 150 feet east of the final well pad location and over 100 feet south of the proposed access road (Figure 7) and requires no further protection.
- LA79441: The site is located approximately 50 feet east of the access route (Figure 8) leading to the final well location and can be protected by placing a protective fence along the east edge of the road only during initial road clearing activities.

- LA79442: The site is located approximately 55 feet north of the access route leading to the final well location (Figure 9) and can be protected by placing a fence along the north edge of the road only during initial road clearing activities.
- LA79443: This site is located approximately 65 feet south of the access route leading to the final well location (Figure 10) and can be protected by placing a fence along the south edge of the road only during initial road clearing activities.
- LA79444: This site is located approximately 60 feet south of the proposed access road (Figure 11) and can be protected during initial road clearing by placing a protective fence along the south edge of the road.
- LA79445: This site is located approximately 65 feet south of the access route leading to the final well location (Figure 12) and can be protected by placing a fence along the south edge of the road only during initial road clearing activities.
- LA79446: This site is located approximately 35 feet west of the access route leading to the final well location (Figure 13) and can be protected by placing a fence along the west edge of the road only during initial road clearing activities.

Given these recommendations for site avoidance and protection, archaeological is recommended for the final San Juan 29-7 No. 543 well pad and access road.

**Figure 1a. BLM Supplement  
USGS Pine River, NM 7.5'  
T29N, R7W, Section 3  
Rio Arriba County, NM**



(GOULD PASS 1:62 500)  
4457 11

SCALE 1:24 000

