

KELLAHIN, KELLAHIN AND AUBREY

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

TELEPHONE (505) 982-4285

TELEFAX (505) 982-2047

W. THOMAS KELLAHIN
KAREN AUBREY

CANDACE HAMANN CALLAHAN

JASON KELLAHIN
OF COUNSEL

July 31, 1990

RECEIVED

JUL 31 1990

**OIL CONSERVATION DIV.
SANTA FE**

HAND DELIVERED

Mr. William J. LeMay
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

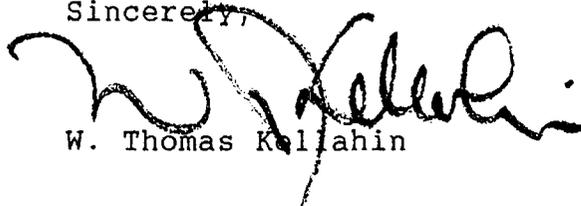
Re: Meridian Oil Inc., on behalf of
El Paso Natural Gas Company
for Unorthodox Location and Non-Standard
Unit, Rosa Unit 238, Basin
Fruitland Coal Gas Pool,
Rio Arriba County, New Mexico

Dear Mr. LeMay:

Enclosed please find the original and one copy of Meridian Oil Inc.'s application on behalf of El Paso Natural Gas Company, for approval of an unorthodox location and non-standard unit in the Basin Fruitland Coal Gas Pool, Rio Arriba County, New Mexico. Please set this application for hearing on the examiner docket on August 22, 1990.

There are no offsetting owners or operators to be notified because all surrounding lands are within the San Juan 30-6 Unit operated by El Paso Natural Gas Company.

Sincerely,



W. Thomas Kellahin

WTK/tic
Encl.

xc: Mr. Alan Alexander
Meridian Oil Inc.
P.O. Box 4289
Farmington, New Mexico 87499-4289

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION
OF MERIDIAN OIL INC, FOR APPROVAL
OF AN UNORTHODOX LOCATION AND NON-
STANDARD UNIT, BASIN FRUITLAND
COAL GAS POOL, RIO ARRIBA COUNTY,
NEW MEXICO

Case No. _____

A P P L I C A T I O N

COMES NOW Meridian Oil Inc., by and through its attorneys, KELLAHIN, KELLAHIN & AUBREY, and applies to the New Mexico Oil Conservation Division for approval of a non-standard proration unit and an unorthodox Basin Fruitland Coal gas well location for its Rosa Unit No. 238 well, 2045 feet FSL and 1960 feet FEL (NW/4NE/4(of Section 3, T31N, R6W, Rio Arriba County, New Mexico.

1. Meridian is the operator of the above-described proration and spacing unit which is part of the Rosa Unit.
2. Applicant proposes to form a non-standard proration and spacing unit consisting of all of Section 3, as an execution to Rule 6B governing the Basin Fruitland Coal Pool because said unit is not contained within a single governmental one-half section.

3. Due to archaeological and topographical considerations, Applicant proposes to drill its Rosa Unit 238 well at an unorthodox gas well location 2045 feet FSL and 1960 feet FEL (NE/4 NE/4) of Section 3, T31N, R6W, Rio Arriba County, New Mexico.

4. Attached as Exhibit A is a plat showing the described acreage and Exhibit B is a plat of the proposed well location.

5. The offsetting owners or operators to be notified are set forth on Exhibit "C" attached hereto.

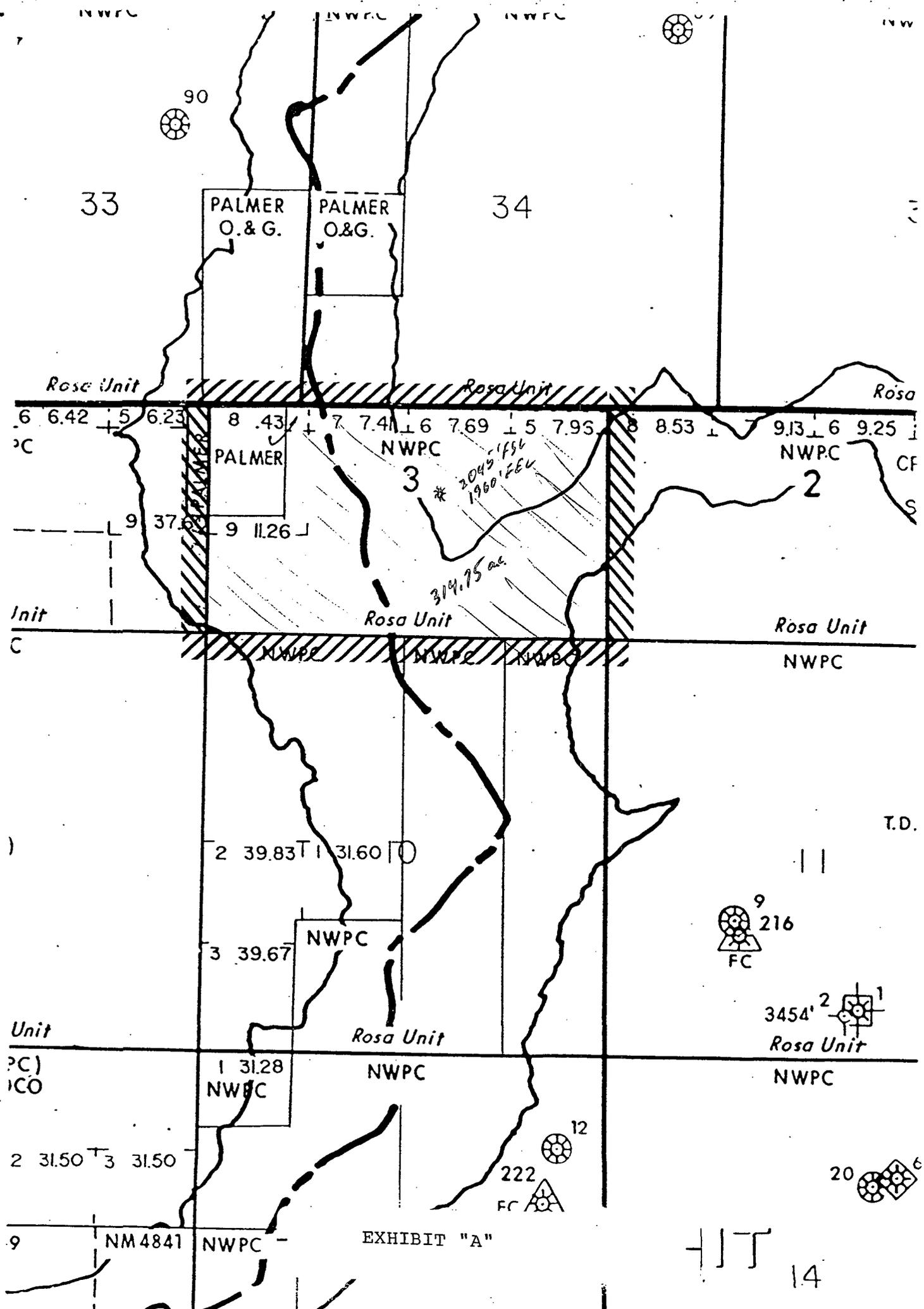
WHEREFORE, Applicant requests that after notice and hearing, the application be granted.

KELLAHIN, KELLAHIN & AUBREY



W. Thomas Kellahin
Post Office Box 2265
Santa Fe, New Mexico 87504
(505) 982-4285

Attorneys for Meridian Oil Inc.



MERIDIAN OIL INC

Well Name Rosa Unit #238

Footage 2045' FSL; 1960' FEL

APPLICATION FOR NON-STANDARD LOCATION

County Rio Arriba State New Mexico Section 3 Township 31N Range 6W

[Signature]

Rio Arriba

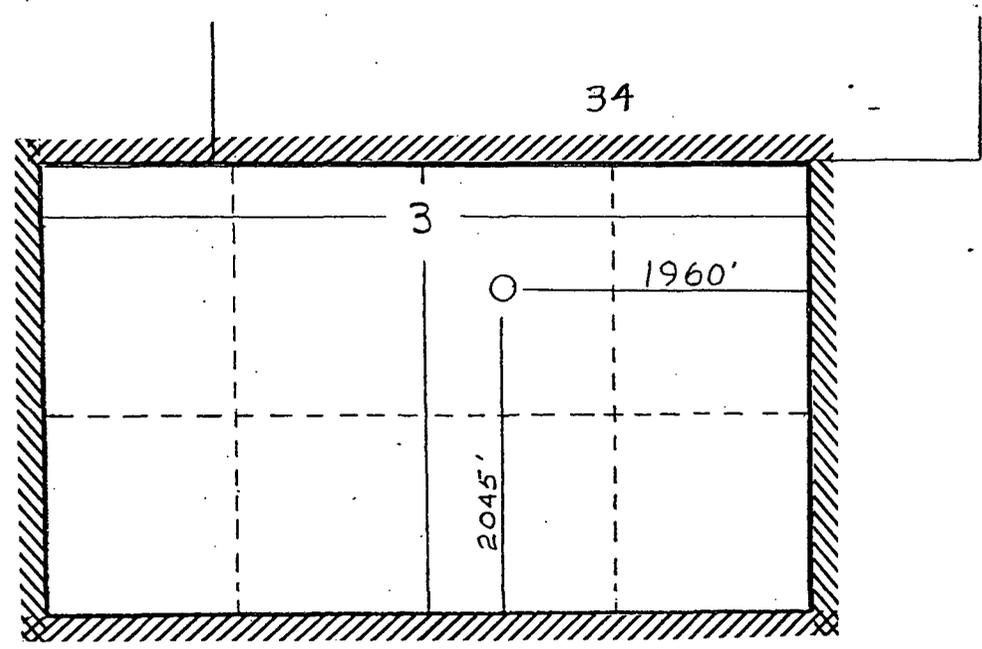


EXHIBIT "B"

Remarks _____

OFFSET OPERATORS - ROSA #238 WELL
Section 3, T-31-N, R-6-W
Rio Arriba County, New Mexico

T. H. McElvain
Box 2148
Santa Fe, New Mexico 87501

James M. Raymond, Ind. & as Executor of
Estate of Mabelle McElvain Miller Nestler,
& Trustee for Corinne Miller Gay & Maydell
Miller Mast Trusts & Forrest Miller
Post Office Box 1445
Kerrville, Texas 78028

Mr. Jerome P. McHugh
650 South Cherry Street, Suite 1225
Denver, Colorado 80222

D.A. & Helen A. Greene
2407 Snowwater Place
Bartlesville, OK 74005

Mr. David L. Greene
1709 Harned Drive
Bartlesville, OK 74003

Mary Helen Maricoli
4208 Briarcrest
Norman, OK 73071

Mr. Jim Fullerton
Post Office Box 2368
Denver, Colorado 80201

OIL CONSERVATION DIVISION
RECEIVED

'90 JUL 25 AM 9 51

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-078772	
2. OPERATOR MERIDIAN OIL INC.		6. IF INDIAN, ALL. OR TRIBE NAME	
3. ADDRESS & PHONE NO. OF OPERATOR P O BOX 4289 FARMINGTON, NM 87499		7. UNIT AGREEMENT NAME ROSA UNIT	
4. LOCATION OF WELL 2045' FSL 1960' FEL 2270 1840		8. FARM OR LEASE NAME ROSA UNIT	
14. PERMIT NO.		9. WELL NO. 238	
15. ELEVATIONS 6365' GL		10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL	
16. OTHER: Permit to Drill Extension		11. SEC. T. R. M OR BLK. SEC. 3 T31N R06W NMPM	
17. Describe proposed or completed operations		12. COUNTY RIO ARRIBA	
		13. STATE NM	

It is anticipated that the Permit to Drill will expire on 07/12/90 before this well can be spudded, therefore an extension is requested.

RECEIVED

JUL 23 1990

OIL CON. DIV.
DIST. 3

THIS APPROVAL EXPIRES JAN 17 1991

18. AUTHORIZED BY: [Signature]
REGIONAL DRILLING ENGINEER

6/26/90
DATE

APPROVED
JUL 17 1990
DATE [Signature]
AREA MANAGER
FARMINGTON DISTRICT

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-5.

=====
(This space for Federal or State office use)

APPROVED BY _____ TITLE _____
CONDITION OF APPROVAL, IF ANY:

NMOCD

30-034-24501

Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIFLICATE*
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL DEEPEN PLUG BACK

b. TYPE OF WELL

OIL WELL GAS WELL OTHER SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR

Northwest Pipeline Corporation

3. ADDRESS OF OPERATOR

3539 E. 30th St. Farmington, NM 87401

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

2270' FSL & 1840' FEL NW/4, SE/4

At proposed prod. zone

Same

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

Approximately 20 miles to Gobernador

10. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drly. unit line, if any) 1840'

16. NO. OF ACRES IN LEASE N/A 2561.86

17. NO. OF ACRES ASSIGNED TO THIS WELL 352.875 / 314.75

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. + 5000'

19. PROPOSED DEPTH 3122'

20. ROTARY OR CABLE TOOL Rotary

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

6365' GR

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

22. APPROX. DATE WORK WILL START* 3-1-89

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

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	32.3 #	200'	125 cu. ft.
8-3/4"	7"	20 #	2958'	150 cu. ft.
6-1/4"	5-1/2"	23 #	3122'	Open hole completion

ALL OF sec. The 5/8 of Section 3 is dedicated to this well.

Should be State Fee

RECEIVED
OIL CONSERVATION DIV.
SANTA FE
JUL 22 11:00 AM
BUREAU OF LAND MANAGEMENT
FARMINGTON, NEW MEXICO

RECEIVED
JUL 31 1989
OIL CONSERVATION DIV.
SANTA FE

RECEIVED
JUL 17 1989
OIL CON. DIV
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 Mike Turnbaugh TITLE Senior Engineer DATE 12-19-88

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

ch-1 Hold E-104 FOR NSL & NSP NMCCG

*See Instructions On Reverse Side

All distances must be from the outer boundaries of the Section.

Operator Northwest Pipeline Corporation		Lease Rosa Unit		Well No. 238
Unit Letter J	Section 3	Township 31 North	Range 6 West	County Rio Arriba
Actual Footage Location of Well: 2270 feet from the South line and 1840 feet from the East line				
Ground Level Elev. 6365	Producing Formation Fruitland	Pool Basin Fruitland Pool	Dedicated Acreage 314.75 352.87 Acres	

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

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

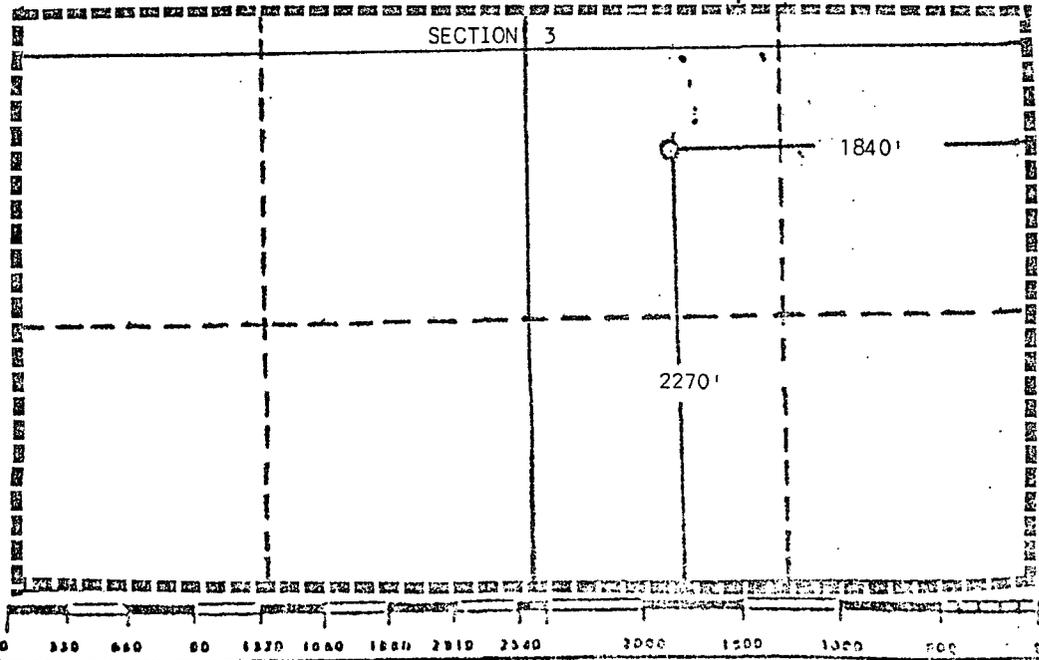
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

Yes No If answer is "yes," type of consolidation 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 interests, has been approved by the Division.

RECEIVED
MAIL ROOM
68 DEC 22 PM 1:09
FARMINGTON RESOURCE AREA
FARMINGTON, NEW MEXICO



CERTIFICATION

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

Mike Turnbaugh

Name
Mike Turnbaugh

Position
Senior Engineer

Company
Northwest Pipeline Corp.

Date
11-1-88

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

Date Surveyed
September 28, 1988

Registered Professional Engineer
and/or Land Surveyor

Edgar L. Risenhoover

Certificate No. 5979
Edgar L. Risenhoover, L.S.

Sent copy to E. Bauch 4/27/89

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS
GOVERNOR

January 12, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
505/227-5800

NORTHWEST PIPELINE
CORPORATION

FEB 8 1989

PRODUCTION AND DRILLING

Northwest Pipeline Corporation
P.O. Box 90
Farmington, NM 87499
Attn: Mike Turnbaugh
Sr. Engineer

Re: Application for Non-Standard Base
Protection Unit
Pera Unit Well No. 238
SE $\frac{1}{4}$ Sec. 3, T 31 N, R 6 W

Dear Mr. Turnbaugh,

The subject application shows that the proposed Pera Unit Well No. 238 will be located in the SE $\frac{1}{4}$ of said Section 3, which, pursuant to RULE 7 of the Special Rules and Regulations for the Basin & Pools (Coal) Pool, as promulgated by Division Order No. N-8768, is an non-surface coal gas well location.

I will therefore hold this application until such time as a request for administrative approval on this well's location is filed.

If you should have any questions concerning this matter, please contact me.

Sincerely
Michael E. Rogers
Administrative Application Reviewer

RECEIVED
FEB 20 1989
OIL CONSERVATION DIVISION
SANTA FE, N.M.

c.c. OGD B&C
Vic Lyon

NORTHWEST PIPELINE CORPORATION

PRODUCTION & DRILLING
3539 East 30th Street
Farmington, New Mexico 87401
4320-PD-039-89

February 13, 1989

NMOCC
Michael Stogner
310 Old Santa Fe Trail
Room #206
Santa Fe, NM 87503

Re: Non-Standard Proration Unit
Rosa #238
SE/4 Sec. 3, T31N, R6W

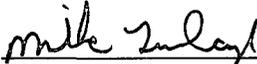
Dear Mr. Stogner

Attached you will find a copy of Northwest Pipeline's application for non-standard proration unit. Also attached is an application for an unorthodox location.

As can be seen from the attached map there are no offset operators requiring notification on this particular well.

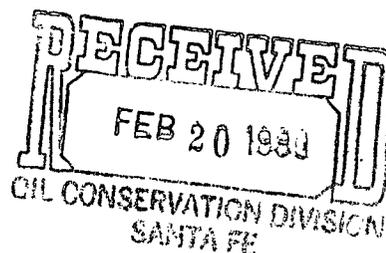
Should you need anything else to proceed with administrative approval of this well please let me know.

Sincerely,



Mike Turnbaugh
Senior Engineer

MJT/ch



NORTHWEST PIPELINE CORPORATION

PRODUCTION & DRILLING
3539 East 30th Street
Farmington, New Mexico 87401
4320-PD-048-89

February 13, 1989

NMOCD
Michael Stogner
310 Old Santa Fe Trail
Room #206
Santa Fe, NM 87503

Re: Unorthodox Location
Rosa Unit #238
SE/4 Sec. 3, T31N, R6W

Dear Mr. Stogner:

The subject well has been staked in the SE/4 of Sec. 3 which violates Rule 7 of Order R-8768.

Navajo Lake covers the SW/4 of Sec. 3 making a standard location impossible (see attached map).

Northwest Pipeline seeks administrative approval for this unorthodox location.

No offset operators exist thus notification will not be required.

Sincerely,



Mike Turnbaugh, Senior Engineer

MJT/ch

NORTHWEST PIPELINE CORPORATION

PRODUCTION & DRILLING
3539 East 30th Street
Farmington, New Mexico 87401
4320-PD-144-88

December 8, 1988

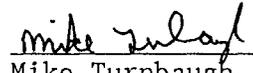
NMOCD
Attn: Bill Lemay
310 Old Santa Fe Trail
Room #206
Santa Fe, NM 87503

Re: Application for Non-Standard
Gas Proration Unit
Rosa Unit #238
SE/4 Sec. 3, T31N, R6W
Dedicated Acreage: 352.87 (all of Sec. 3)

Dear Mr. Lemay:

Northwest Pipeline Corporation requests permission to produce the above captioned well as a Non-Standard Gas Unit. The unorthodox size of this unit is necessitated by a variation in the legal subdivision of the U.S. Public Land Survey. The offset operators have been notified where applicable of our intentions by certified mail and they will forward any objections directly to your office. Copies of these letters along with the receipts for certified mail are enclosed.

Sincerely,



Mike Turnbaugh
Senior Engineer

MJT/ch

All distances must be from the outer boundaries of the Section. OCT 27 1988

Operator Northwest Pipeline Corporation		Lease Rosa Unit		Well No. 238
Unit Letter J	Section 3	Township 31 North	Range 6 West	County Rio Arriba
Actual Footage Location of Well: 2270 feet from the South line and 1840 feet from the East line				
Ground Level Elev. 6365	Producing Formation Fruitland	Pool Basin Fruitland Pool	Dedicated Acreage 352.87 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure 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 interests 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 interests, has been approved by the Division.

No Other wells in Unit

CERTIFICATION

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

Mike Turnbaugh

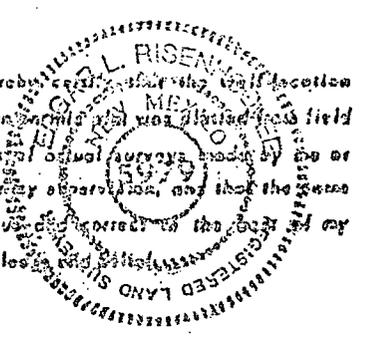
Name
Mike Turnbaugh

Position
Senior Engineer

Company
Northwest Pipeline Corp.

Date
11-1-88

I hereby certify that the well location shown on this plat was located in the 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.

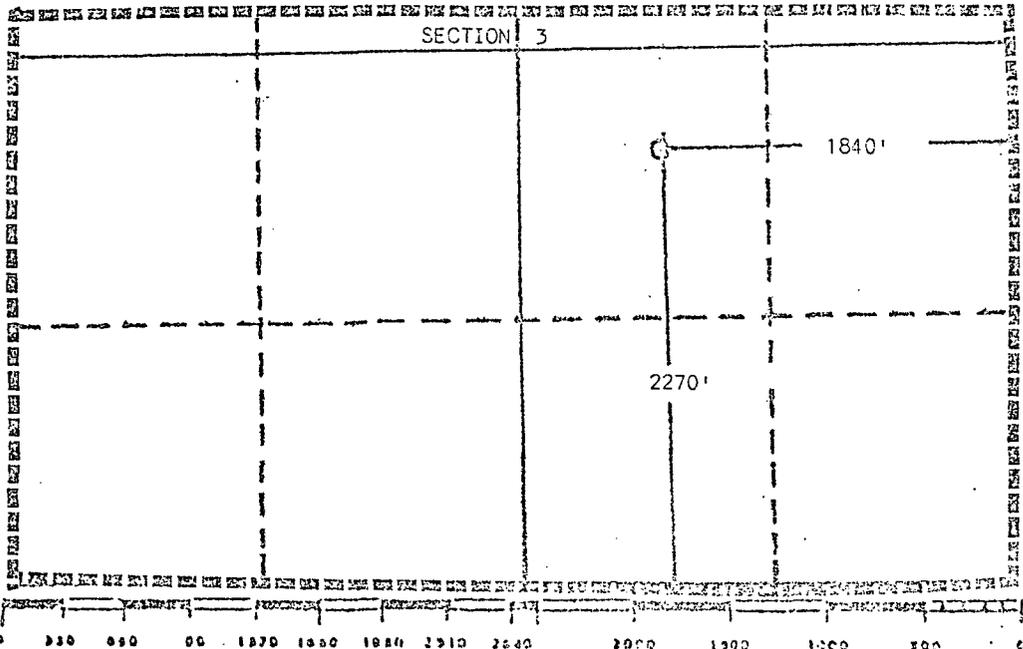


Date Surveyed
September 28, 1988

Registered Professional Engineer and/or Land Surveyor

Edgar L. Risenhoover

Certificate No. 5979
Edgar L. Risenhoover, L.S.



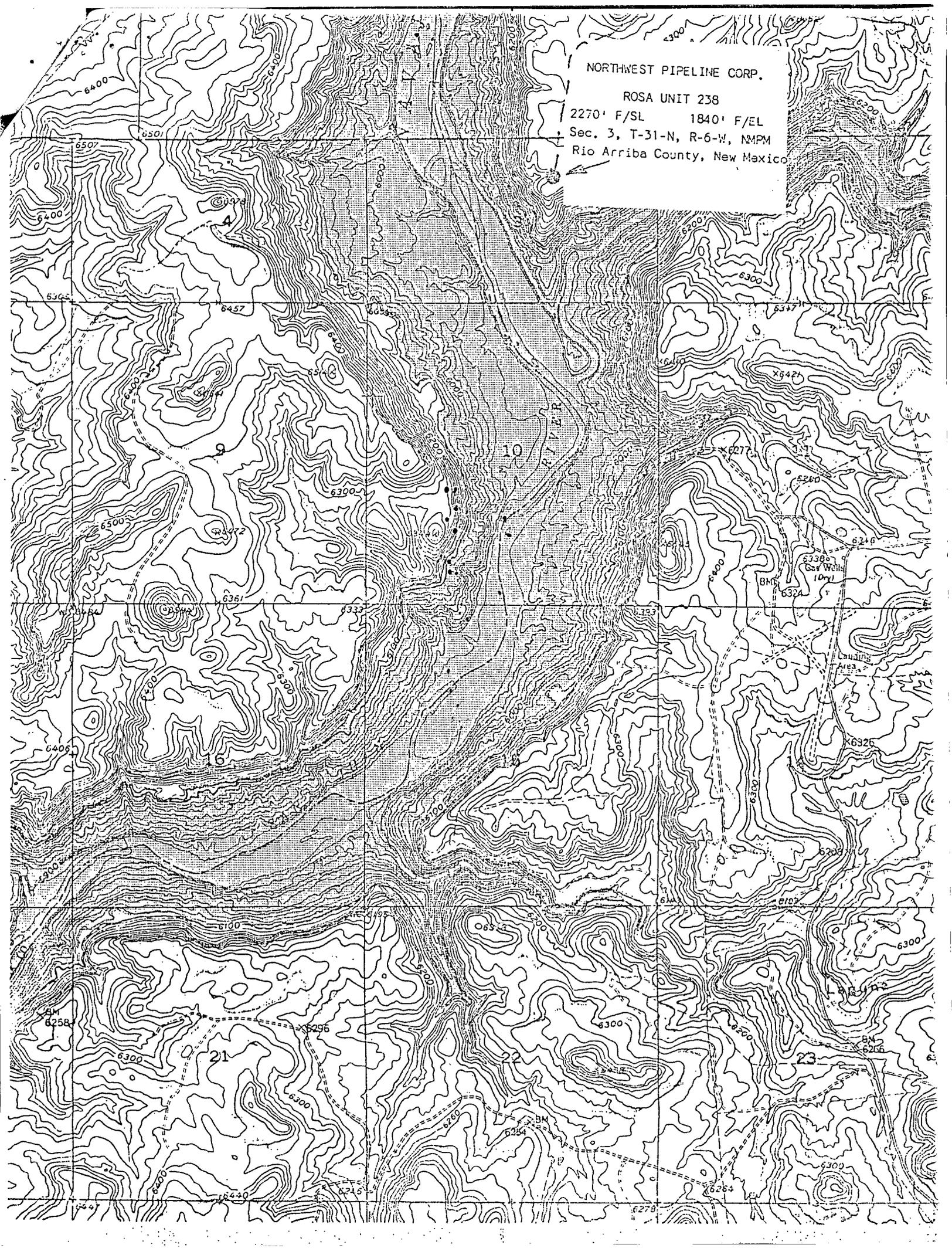
NORTHWEST PIPELINE CORP.

ROSA UNIT 238

2270' F/SL 1840' F/EL

Sec. 3, T-31-N, R-6-W, MPM

Rio Arriba County, New Mexico





STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

August 7, 1990

Kellahin, Kellahin & Aubrey
P.O. Box 2265
Santa Fe, NM 87504-2265

Attention: W. Thomas Kellahin
General Counsel for Meridian Oil, Inc.

*RE: Unorthodox coal gas well location request dated July 31, 1990.
Rosa Unit Well No. 238 to be drilled 2045' FSL - 1960' FEL,
NW/4 SE/4 (Unit J) of Irregular Section 3, Township 31 North,
Range 6 West, NMPM, Basin Fruitland Coal Gas Pool, Rio
Arriba County, New Mexico.*

Dear Mr. Kellahin:

By Division Administrative Order NSP-1576(L) dated July 18, 1989, authorization was given Northwest Pipeline Corporation to drill its Rosa Unit Well No. 238 at an unorthodox coal gas well location 2270' FSL & 1840' FEL (Unit J) of said Section 3 to test the Basin Fruitland Coal Gas Pool whereby all of Section 3 would be dedicated to said well forming a non-standard 352.89-acre, more or less, gas spacing and proration unit for said pool (see copy of order attached). Also, it is my understanding that Meridian Oil is now the operator the coal interest of in the Rosa Unit in this area.

It would therefore appear that your application for a case to be set for the August 22, 1990 examiner hearing is nothing more than an amendment to the previously issued administrative order.

Also, since this amendment is being requested because of "archeological and topographical considerations" such authorization can be accomplished administratively and does not require a hearing. I am therefore returning the subject request for hearing to you since it is deemed unnecessary at this time.

Please resubmit the required information for administrative review pursuant to the Special Rules and Regulations for the Basin-Fruitland Coal Gas Pool, as promulgated by Division Order No. R-8768, and pursuant to Memorandum 1-90, so attached.

Kellahin, Kellahin & Aubrey
Attn: W. Thomas Kellahin
August 7, 1990
Page 2

Should you have any questions concerning this matter, please contact me.

Sincerely,

Michael E. Stogner
Chief Hearing Officer/Engineer

MES/ag

cc: Oil Conservation Division - Aztec
US Bureau of Land Management - Farmington
US Bureau of Reclamation - Durango
Meridian Oil, Inc. - Farmington



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

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

No. 1-90

MEMORANDUM

TO: All Operators

FROM: William J. LeMay, Director *WJL*

SUBJECT: Administrative Applications for Unorthodox Locations

DATE: March 21, 1990

Division Memorandum No. 3-89, dated March 24, 1989, advised the industry that the OCD would no longer automatically approve unopposed unorthodox location applications. Unorthodox locations can be approved administratively in accordance with the Rules and Regulations or applicable special pool rules if surface conditions truly prevent the use of a legal location and if directional drilling to a legal location is not feasible.

Topographic conditions which will be considered to justify an unorthodox location include such traditional factors as terrain features (steep slopes, arroyos, etc.) which make drilling impractical. In addition, approval may be given to avoid archeological sites which may not be disturbed without substantial mitigation, incompatible surface uses such as buildings, recreation areas, etc. Applications should fully document the reason an unorthodox location is required.

The attached guidelines state the minimum information which should be submitted with applications for administrative approval of unorthodox locations. Failure to provide the necessary information will probably result in processing delays.

If the surface of the proration unit or proposed drill site is controlled by a Federal Surface Management Agency, a copy of the application must be sent to the appropriate agency office.

If there are legal locations within the proration unit which are drillable, but the operator chooses not to drill those locations for geological reasons the application cannot be approved administratively and a hearing will be required.

NEW MEXICO OIL CONSERVATION DIVISION

**SUBMITTAL GUIDELINES FOR ADMINISTRATIVE APPROVAL
OF NON-STANDARD LOCATION APPLICATIONS**

- I. If the well is located on Federal or Indian Lands, the Federal Surface Management Agency must be notified and an on-site inspection conducted prior to filing the application. If an Application for Permit to drill or a Notice of Staking has been prepared, a copy must be submitted.
- II. Completed C-102 showing the well location, proration unit, leases within the unit and other required information.
- III. Land plat showing offset operators and working interest owners and any offsetting wells producing from the same pool or formation.
 - A. This information may be shown on the topo map if it does not impair the readability of the map.
 - B. The operator should certify that the information is current and correct.
- IV. Original or clear copy of topographic map, preferably 7.5 minute quad, showing contours and other mapped features impacting the location, with the following information marked thereon (In order to be able to adequately show all of the necessary surface conditions it may be necessary to enlarge the relevant portion of the topo map to provide room for detail):
 - A. The proposed well location and proration unit;
 - B. An outline of the orthodox drilling windows as provided in the applicable rules for the subject application;
 - C. The location of any wells to any formation within the area of the proration unit and a statement as to whether an existing pad can be used to drill the proposed well;
- V. An enlargement of the topo map showing the subject area with the applicable additional information:
 - A. Terrain features not shown on the map which make an orthodox location unusable;
 - B. Proposed access roads and pipelines if they affect the location selection;
 - C. The location of any surface uses which prevent use of a legal location;

- D. The location of any archeological sites identified in the archeological survey;
 - E. The location and nature of any other surface conditions which prevent the use of an orthodox location.
- VI. If archeological sites are a reason for the unorthodox location request, a copy of the archeological survey, or a summary, identifying sites which cannot be disturbed or which must have any disturbance mitigated. In addition, the location of such areas should be marked on the enlarged topo so they can be clearly identified.
- VII. A narrative report of any on-site inspection of the potential locations. If such on-site has resulted in elimination of legal locations due to surface conditions, such information should also be noted on the enlarged topo.
- VIII. A statement of why directional drilling to reach a legal bottom-hole location is not feasible.
- IX. An affidavit that notice has been sent to all parties entitled thereto, under the Divisions Rules and Regulations with return receipt cards showing date of receipt of notice.

KELLAHIN, KELLAHIN AND AUBREY

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN
KAREN AUBREY

CANDACE HAMANN CALLAHAN

JASON KELLAHIN
OF COUNSEL

TELEPHONE (505) 982-4285
TELEFAX (505) 982-2047

July 31, 1990

RECEIVED

JUL 31 1990

OIL CONSERVATION DIV.
SANTA FE

HAND DELIVERED

Mr. William J. LeMay
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

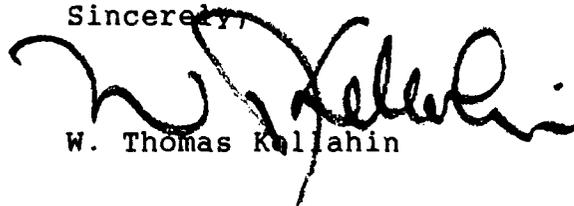
Re: Meridian Oil Inc., on behalf of
El Paso Natural Gas Company
for Unorthodox Location and Non-Standard
Unit, Rosa Unit 238, Basin
Fruitland Coal Gas Pool,
Rio Arriba County, New Mexico

Dear Mr. LeMay:

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There are no offsetting owners or operators to be notified because all surrounding lands are within the San Juan 30-6 Unit operated by El Paso Natural Gas Company.

Sincerely,



W. Thomas Kellahin

WTK/tic
Encl.

xc: Mr. Alan Alexander
Meridian Oil Inc.
P.O. Box 4289
Farmington, New Mexico 87499-4289

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION
OF MERIDIAN OIL INC, FOR APPROVAL
OF AN UNORTHODOX LOCATION AND NON-
STANDARD UNIT, BASIN FRUITLAND
COAL GAS POOL, RIO ARRIBA COUNTY,
NEW MEXICO

Case No. _____

A P P L I C A T I O N

COMES NOW Meridian Oil Inc., by and through its attorneys,
KELLAHIN, KELLAHIN & AUBREY, and applies to the New Mexico Oil
Conservation Division for approval of a non-standard proration
unit and an unorthodox Basin Fruitland Coal gas well location
for its Rosa Unit No. 238 well, 2045 feet FSL and 1960 feet FEL
(NW/4NE/4(of Section 3, T31N, R6W, Rio Arriba County, New
Mexico.

1. Meridian is the operator of the above-described prora-
tion and spacing unit which is part of the Rosa Unit.
2. Applicant proposes to form a non-standard proration
and spacing unit consisting of all of Section 3, as an execution
to Rule 6B governing the Basin Fruitland Coal Pool because said
unit is not contained within a single governmental one-half sec-
tion.

3. Due to archaeological and typographical considerations, Applicant proposes to drill its Rosa Unit 238 well at an unorthodox gas well location 2045 feet FSL and 1960 feet FEL (NE/4 NE/4) of Section 3, T31N, R6W, Rio Arriba County, New Mexico.

4. Attached as Exhibit A is a plat showing the described acreage and Exhibit B is a plat of the proposed well location.

5. The offsetting owners or operators to be notified are set forth on Exhibit "C" attached hereto.

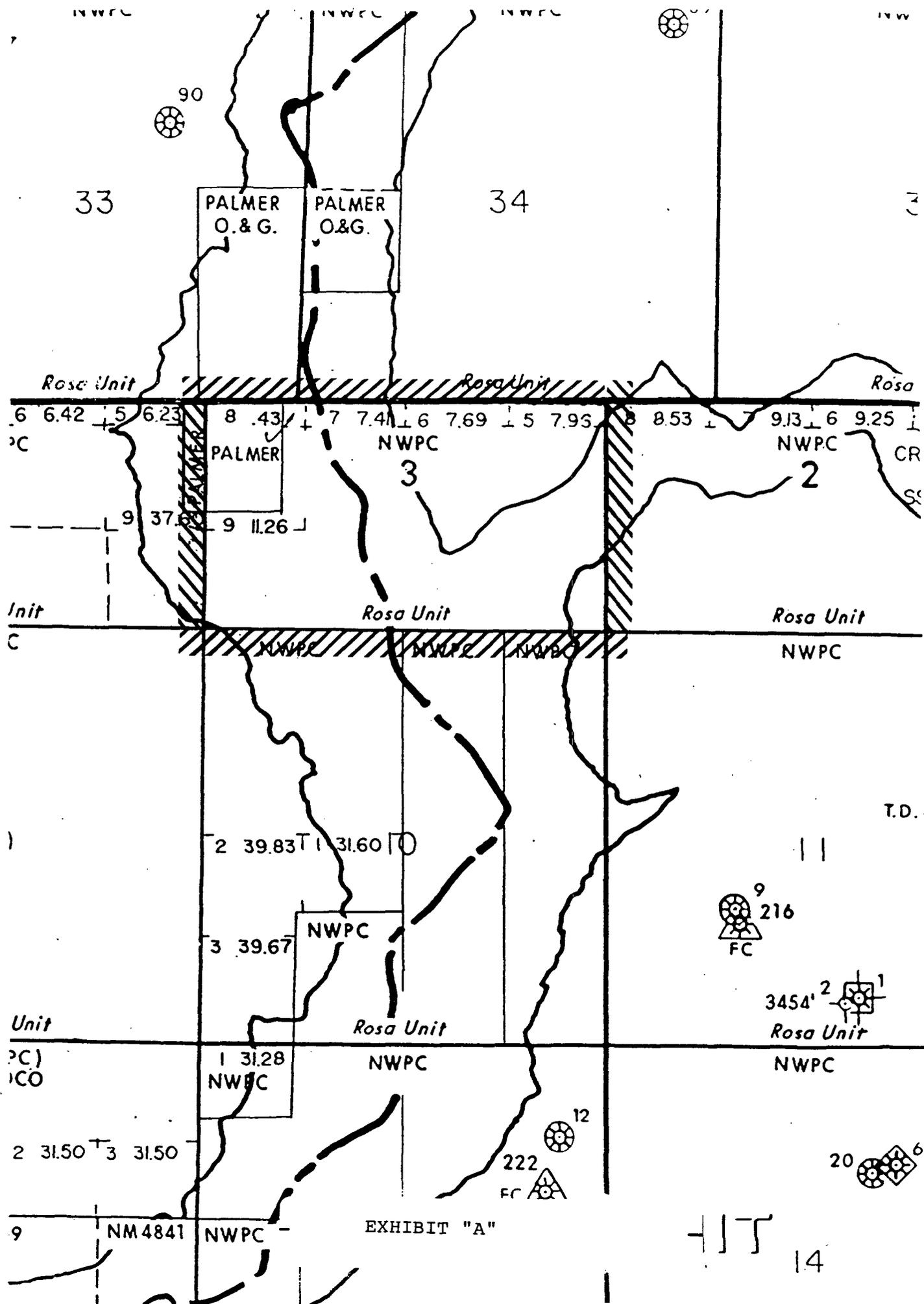
WHEREFORE, Applicant requests that after notice and hearing, the application be granted.

KELLAHIN, KELLAHIN & AUBREY



W. Thomas Kellahin
Post Office Box 2265
Santa Fe, New Mexico 87504
(505) 982-4285

Attorneys for Meridian Oil Inc.



MERIDIAN OIL INC

Well Name Rosa Unit #238

Footage 2045' FSL; 1960' FEL

APPLICATION FOR NON-STANDARD LOCATION

County Rio Arriba State New Mexico Section 3 Township 31N Range 6W

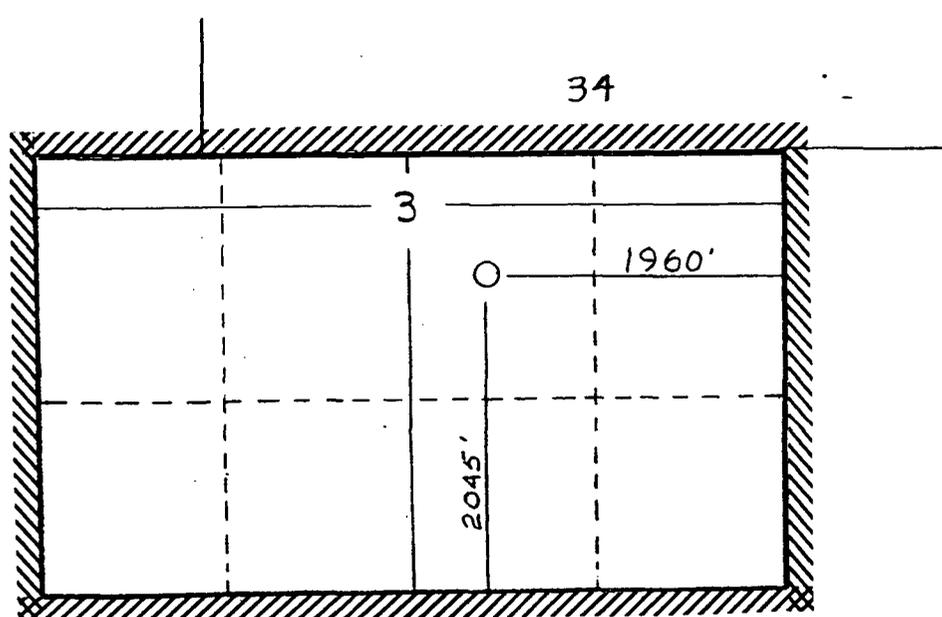


EXHIBIT "B"

Remarks _____

OFFSET OPERATORS - ROSA #238 WELL
Section 3, T-31-N, R-6-W
Rio Arriba County, New Mexico

T. H. McElvain
Box 2148
Santa Fe, New Mexico 87501

James M. Raymond, Ind. & as Executor of
Estate of Mabelle McElvain Miller Nestler,
& Trustee for Corinne Miller Gay & Maydell
Miller Mast Trusts & Forrest Miller
Post Office Box 1445
Kerrville, Texas 78028

Mr. Jerome P. McHugh
650 South Cherry Street, Suite 1225
Denver, Colorado 80222

D.A. & Helen A. Greene
2407 Snowwater Place
Bartlesville, OK 74005

Mr. David L. Greene
1709 Harned Drive
Bartlesville, OK 74003

Mary Helen Maricoli
4208 Briarcrest
Norman, OK 73071

Mr. Jim Fullerton
Post Office Box 2368
Denver, Colorado 80201

MERIDIAN OIL

August 9, 1990

Federal Express

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

RE: Huerfano Unit NP #257
1840'FNL, 1840'FWL
Section 36, T-27-N, R-10-W
San Juan, New Mexico

Dear Mr. LeMay:

This is a request for administrative approval for a non-standard gas well location in the Basin Fruitland Pool.

Meridian Oil intends to plugback and recomplete the Huerfano Unit NP #257 well from the Pictured Cliffs pool to the Basin Fruitland Coal Pool. The current location of this well is 1840'FNL, 1840'FWL, Section 36, T-27-N, R-10-W, San Juan, New Mexico. The well is considered non-standard due to the NE-SW dedicated pattern established for the Basin Fruitland Coal Pool. To comply with the New Mexico Oil Conservation Division rules, Meridian is submitting the following for your approval of this non-standard location:

1. C-102 plat showing location of the well;
2. Plat showing offset owners/operators;
3. Affidavit of notification of offset owners/operators;
4. Copy of Well Completion Log for original completion.

A copy of this application is being submitted to all offset owners/operators by certified mail with a request that they furnish your Santa Fe office with a Waiver of Objection, and return one copy to this office.

Sincerely yours,



Peggy Bradfield
encl.

WAIVER

Amoco Production Co hereby waives objection to Meridian Oil Inc.'s application for a non-standard location for their Huerfano Unit NP #257 as proposed above.

By: JW Hawkins Date: 9/6/90

xq; Meridian Oil Inc.
Amoco Production Co.
Conoco, Inc.
Hondo Oil & Gas Co.

- Check if approved

MERIDIAN OIL

OIL CONSERVATION DIVISION
RECEIVED

'90 OCT 12 AM 9 05

September 13, 1990

NSP-1576(L)

Re: Rosa Unit #238
2045'S, 1960'E, Section 3, T-31-N, R-6-W
Rio Arriba County, New Mexico

To: Offset Owners/Operators

This is notification that Meridian Oil Inc. is seeking an amendment to the administrative approval of NSP-1576 (L) for the Rosa Unit #238 in the Fruitland Coal formation.

This well was originally staked and permitted by Northwest Pipeline at 2270'S, 1840'E, Section 3, T-31-N, R-6-W on December 19, 1988 and approved July 12, 1989. The well was resurveyed and the stake was found by Meridian Oil Inc. at 2045'S, 1960'E, Section 3, T-31-N, R-6-W after assuming operatorship on October 20, 1989. A copy of the C-102 showing the location and a topographic map are enclosed.

A copy of this application is being submitted to all offset owners/operators by certified mail with a request that you furnish the New Mexico Oil Conservation Division, PO Box 2088, Santa Fe, NM 87501 with a Waiver of Objection, and return one copy to this office.

Sincerely yours,

Peggy Bradford
Peggy Bradford

encl.

WAIVER

T. H. McElvain Oil & Gas Properties hereby waives objection to Meridian Oil Inc.'s application for a non-standard location for their Rosa Unit #238 as proposed above.

By: *[Signature]* Date: 10/9/90

McElvain Oil & Gas, PO Box 2148, Santa Fe, New Mexico 87501
James R. Raymond, Ind. & as Trustee, PO Box 1445, Kerrville, TX 78028
Jerome P. McHugh, 650 S. Cherry St., Suite 1225, Denver, CO 80222
James B. Fullerton, PO Box 2368, Denver, CO 80201

MERIDIAN OIL

OIL CONSERVATION DIVISION
RECEIVED

'90 SEP 26 AM 9 25

September 13, 1990

Re: Rosa Unit #238
2045'S, 1960'E, Section 3, T-31-N, R-6-W
Rio Arriba County, New Mexico

To: Offset Owners/Operators

This is notification that Meridian Oil Inc. is seeking an amendment to the administrative approval of NSP-1576 (L) for the Rosa Unit #238 in the Fruitland Coal formation.

This well was originally staked and permitted by Northwest Pipeline at 2270'S, 1840'E, Section 3, T-31-N, R-6-W on December 19, 1988 and approved July 12, 1989. The well was resurveyed and the stake was found by Meridian Oil Inc. at 2045'S, 1960'E, Section 3, T-31-N, R-6-W after assuming operatorship on October 20, 1989. A copy of the C-102 showing the location and a topographic map are enclosed.

A copy of this application is being submitted to all offset owners/operators by certified mail with a request that you furnish the New Mexico Oil Conservation Division, PO Box 2088, Santa Fe, NM 87501 with a Waiver of Objection, and return one copy to this office.

Sincerely yours,


Peggy Bradford

encl.

WAIVER

JAMES B. FULLERTON hereby waives objection to Meridian Oil Inc.'s application for a non-standard location for their Rosa Unit #238 as proposed above.

By: James B. Fullerton Date: 9-21-90

McElvain Oil & Gas, PO Box 2148, Santa Fe, New Mexico 87501
James R. Raymond, Ind. & Gas Trustee, PO Box 1445, Kerrville, TX 78028
Jerome P. McHugh, 650 S. Cherry St., Suite 1225, Denver, CO 80222
James B. Fullerton, PO Box 2368, Denver, CO 80201

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

<p>1. TYPE OF WELL</p> <hr/> <p>2. OPERATOR MERIDIAN OIL INC.</p> <hr/> <p>3. ADDRESS & PHONE NO. OF OPERATOR P O BOX 4289 FARMINGTON, NM 87499</p> <hr/> <p>4. LOCATION OF WELL 2045'S 1960'E</p> <hr/>	<p>5. LEASE NUMBER SF-078772</p> <p>6. IF INDIAN, ALL. OR TRIBE NAME</p> <hr/> <p>7. UNIT AGREEMENT NAME ROSA UNIT</p> <hr/> <p>8. FARM OR LEASE NAME ROSA UNIT</p> <p>9. WELL NO. 238</p> <hr/> <p>10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL</p> <p>11. SEC. T. R. M OR BLK. SEC. 3 T31N R06W NMPM</p> <hr/>		
<p>14. PERMIT NO.</p>	<p>15. ELEVATIONS 6365'GL</p>	<p>12. COUNTY RIO ARRIBA</p>	<p>13. STATE NM</p>
<p>16. OTHER: Revision</p>			
<p>17. Describe proposed or completed operations</p>			

Attached is a revised copy of the C-102 showing the resurveyed footages for this well. This resurvey was conducted by Meridian Oil Incorporated to verify or correct the location of the stake as reported in the Northwest Pipeline APD. The location of the stake has not moved, only the footages describing the staked location have been corrected.

NWPL Survey	2270'S 1840'E
MOI Survey	2045'S 1960'E

18. AUTHORIZED BY:  REGIONAL DRILLING ENGINEER

DATE 2/9/90

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-5.

=====

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITION OF APPROVAL, IF ANY:

Submit to Appropriate -
 District Office -
 State Leases - 4 copies
 Fee Leases - 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

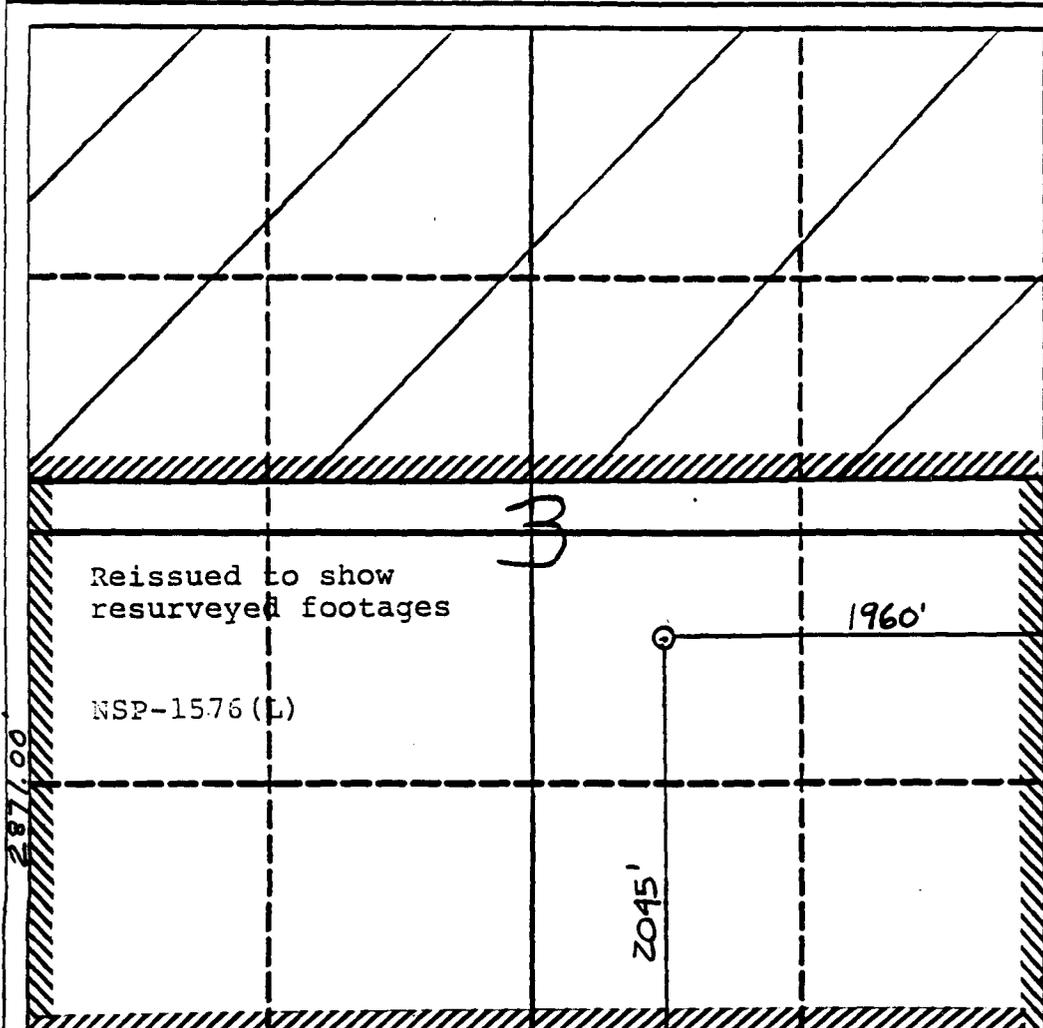
DISTRICT II
 P.O. Drawer 00, Artesia, NM 88210

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 Rosa Unit (SF-078772)		Well No. 238
Unit Letter J	Section 3	Township 31 North	Range 6 West	County NMEM Rio Arriba	
Actual Footage Location of Well: 2045 feet from the South line and 1960 feet from the East line					
Ground level Elev. 6365'	Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 352.87 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or ballpoint marker 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-quantum 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
 Meridian Oil Inc.

Company
 2-9-90

Date

SURVEYOR CERTIFICATION

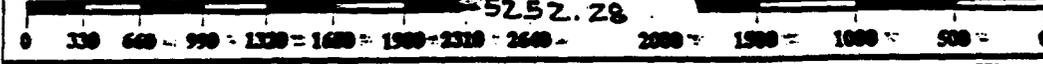
I hereby certify that the well location shown on this plat was plotted from field notes actual surveys made by me or under supervision, and that the same is true, correct to the best of my knowledge and belief.

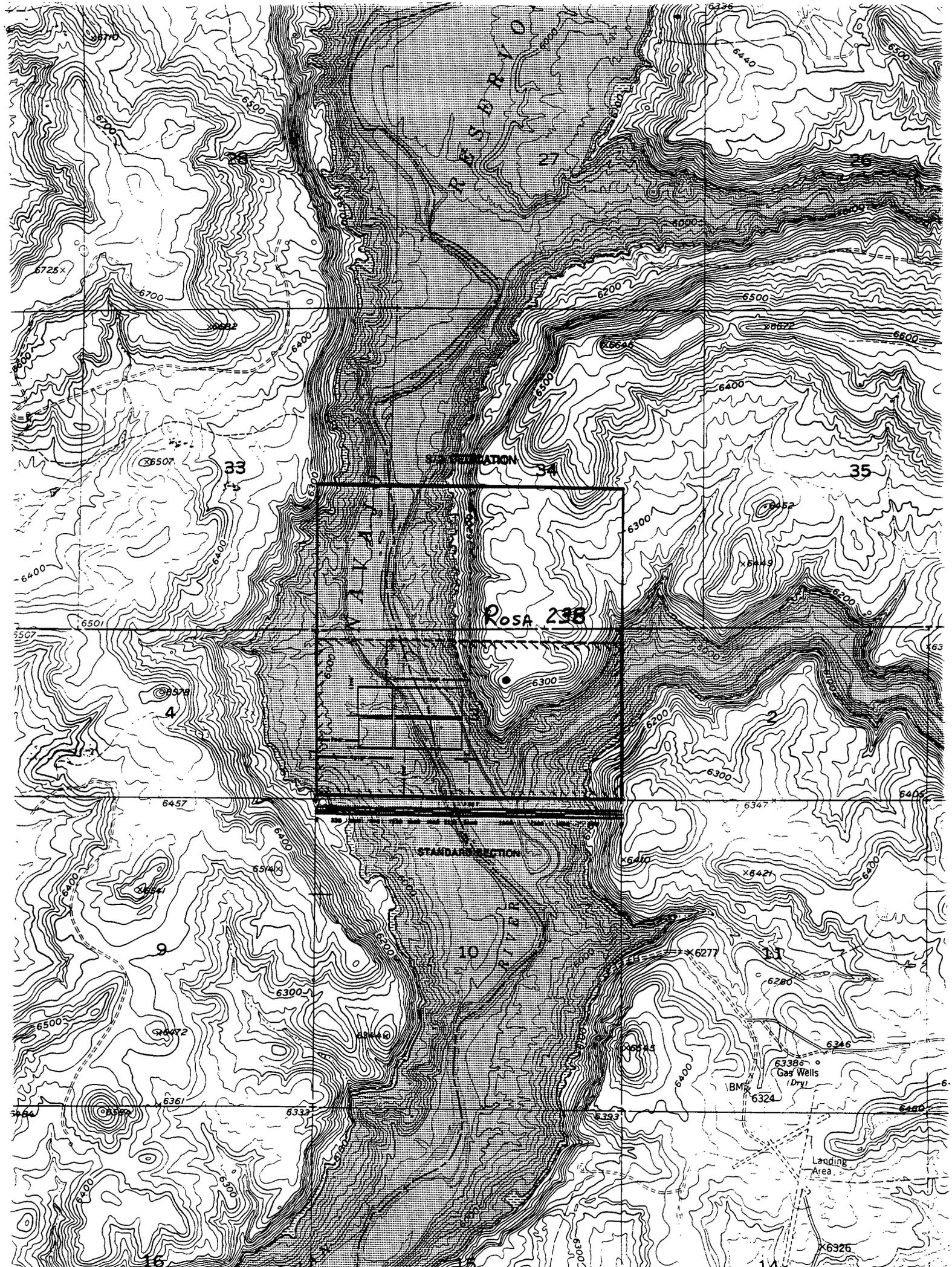
11-18-89
 Date Surveyed
 Neal C. Edwards

Signature of Section Professional Surveyor
 857



857





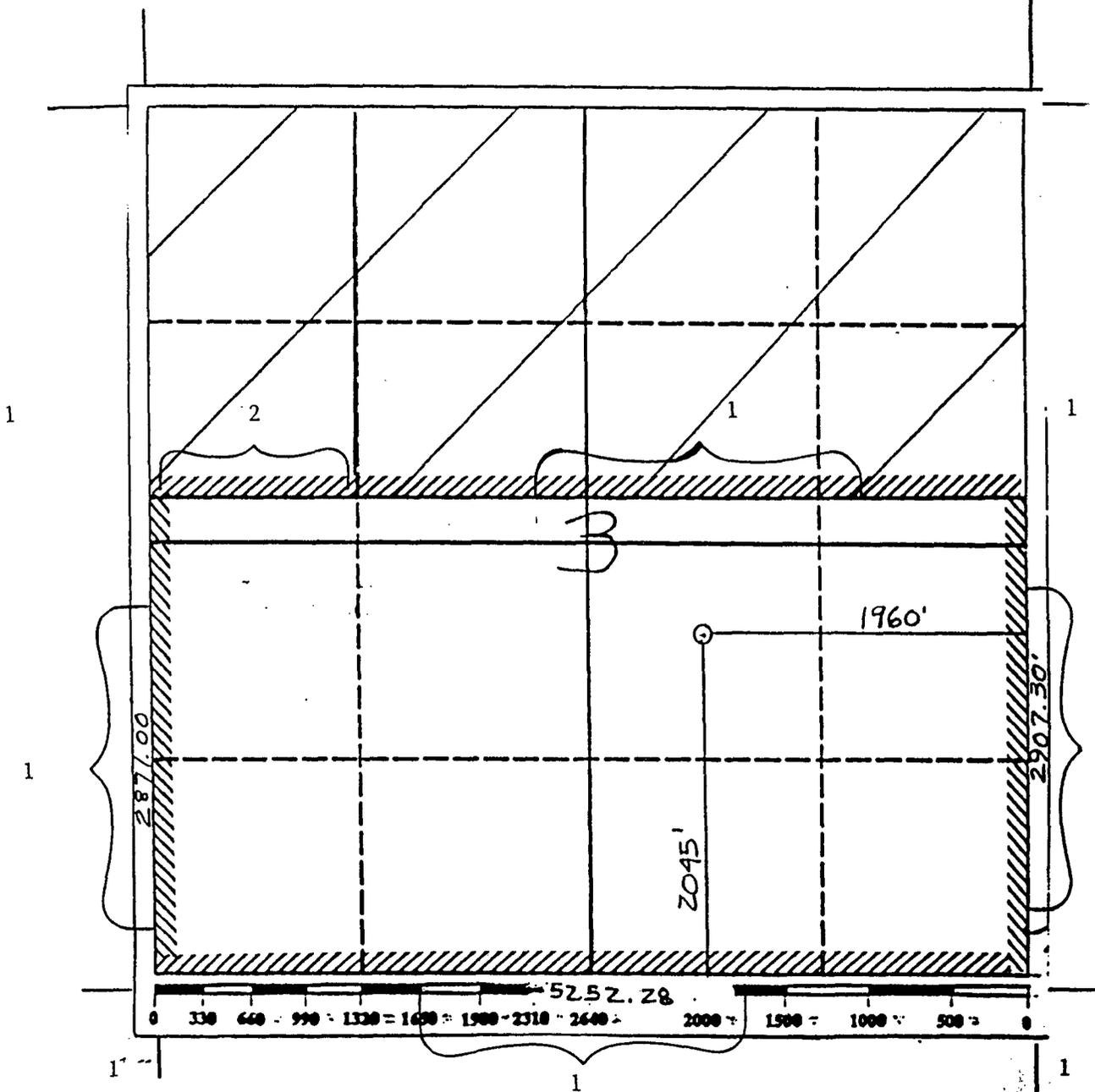
MERIDIAN OIL INC.

Well Name Rosa Unit Com #238, Basin Fruitland Coal

Footage----- 2045' FSL, 1960' FEL

APPLICATION FOR NON-STANDARD LOCATION

County Rio Arriba State New Mexico Section 3 Township 31N Range 6



REMARKS:

(1) Meridian Oil Inc. - Rosa Unit Designated Operator of Fruitland Coal

(2) McElvain Oil & Gas

Jerome P. McHugh

James M. Raymond, Ind. & as Trustee

Jim Fullerton

T. H. McElvain Oil & Gas Properties
Attention: Mr. T.H. McElvain Jr,
Catherine B. Harvey, George B. Broome,
Post Office Box 2148
Santa Fe, New Mexico 987501

James M. Raymond, Individually and
as Trustee for Corinne Miller Gay
and Maydell Miller Mast Trusts
Post Office Box 1445
Kerrville, Texas 78028

Jerome P. McHugh
650 S. Cherry Street, Suite 1225
Denver, Colorado 80222

Mr. James B. Fullerton
Post Office Box 2368
Denver, Colorado 80201



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

ARREY CARRUTHERS
 GOVERNOR

662-7ED

1000 THE PLAZAS ROAD
 AZTEC, NEW MEXICO 87410
 (505) 334-0170

'90 OCT 5 AM 9 29

Date: 10-3-90

ATTN: M. Hogner

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

Re: Proposed MC _____
 Proposed DIC _____
 Proposed NSL X _____
 Proposed SWD _____
 Proposed WFX _____
 Proposed PMX _____

Gentlemen:

I have examined the application dated 9-14-90
 for the Mission Oil Inc. Block Unit # 238
 Operator Lease & Well No.

J-3-31N-6W and my recommendations are as follows:
 Unit, S-T-R

Approved

Yours truly,

Ernie Brails

MERIDIAN OIL

September 12, 1990

Mr. William LeMay
New Mexico Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Meridian Oil Inc. Rosa Unit #238
2045'S, 1960'E, Section 3, T-31-N, R-6-W,
Rio Arriba County, New Mexico
Administrative Order NSP-1576 (L)

*Verbal
OK by
E. Beach
10/4/90*

**NEW MEXICO
OIL CONSERVATION DIVISION
SEP 14 1990**

Dear Mr. LeMay:

Meridian Oil Inc. is applying for amendment to NSP-1576(L) due to the relocation of the Rosa Unit #238 at the referenced footages.

This well was originally staked and permitted by Northwest Pipeline at 2270'S, 1840'E, Section 3, T-31-N, R-6-W on December 19, 1988 and approved July 12, 1989. The well was resurveyed and the stake was found by Meridian Oil Inc. at 2045'S, 1960'E, Section 3, T-31-N, R-6-W after assuming operatorship on October 20, 1989.

The following attachments are for your review:

1. Approved Application for Permit to Drill - submitted by Northwest Pipeline at 2270'S, 1840'E, Sec.3, T-31-N, R-6-W.
2. Completed C-102 at referenced footages, attached to sundry notice for corrected location.
3. Offset owners/operators plat and affidavit of notification to offset owners/operators.
4. 7.5 minute topographic map showing the orthodox windows for the south-half dedication, and enlargement of the map to define topographic features.
5. This well would be deemed economically unfeasible to drill directionally to a standard bottom hole location due to incremental directional drilling costs of \$95,000.00.
6. Archaeological report for corrected 2045'S, 1960'E location.
7. Copy of NSP-1576(L).

Please let me know if you require any other information.

Sincerely,



Peggy Bradford

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

my ch JM
PH

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1A. TYPE OF WORK
DRILL DEEPEN PLUG BACK

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

2. NAME OF OPERATOR
Northwest Pipeline Corporation

3. ADDRESS OF OPERATOR
3539 E. 30th St. Farmington, NM 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface
2270' FSL & 1840' FSL NW/4, SE/4
At proposed prod. zone
Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE
Approximately 20 miles to Gobernador

16. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	1840'	18. NO. OF ACRES IN LEASE	N/A 256186	17. NO. OF ACRES ASSIGNED TO THIS WELL	352.87
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	5000'	19. PROPOSED DEPTH	3122'	20. ROTARY OR CABLE TOOLS	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
6365' GR
22. APPROX. DATE WORK WILL START
3-1-89

23. PROPOSED DRILLING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	GENERAL REQUIREMENTS
12-1/4"	9-5/8"	32.3#	200'	125 cu. ft.
8-3/4"	7"	20#	2958'	150 cu. ft.
6-1/4"	5-1/2"	23#	3122'	Open hole completion

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

The S/2 of Section 3 is dedicated to this well.

NORTHWEST PIPELINE CORPORATION

JUL 13 1989

PRODUCTION AND DRILLING

RECEIVED
BLM MAIL ROOM
88 DEC 22 PM 1:08
FARMINGTON RESOURCE AREA
FARMINGTON, NEW MEXICO

18. 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 azimuthal locations and measured and true vertical depths. Give blowout preventer program, if any.

SIGNED Mike [Signature] TITLE Senior Engineer DATE 12-19-88

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____
CONDITIONS OF APPROVAL, IF ANY: _____

APPROVED AS AMENDED

JUL 12 1989
[Signature]
AREA MANAGER

OPERATOR

All distances must be from the outer boundaries of the Section. OCT 27 1988

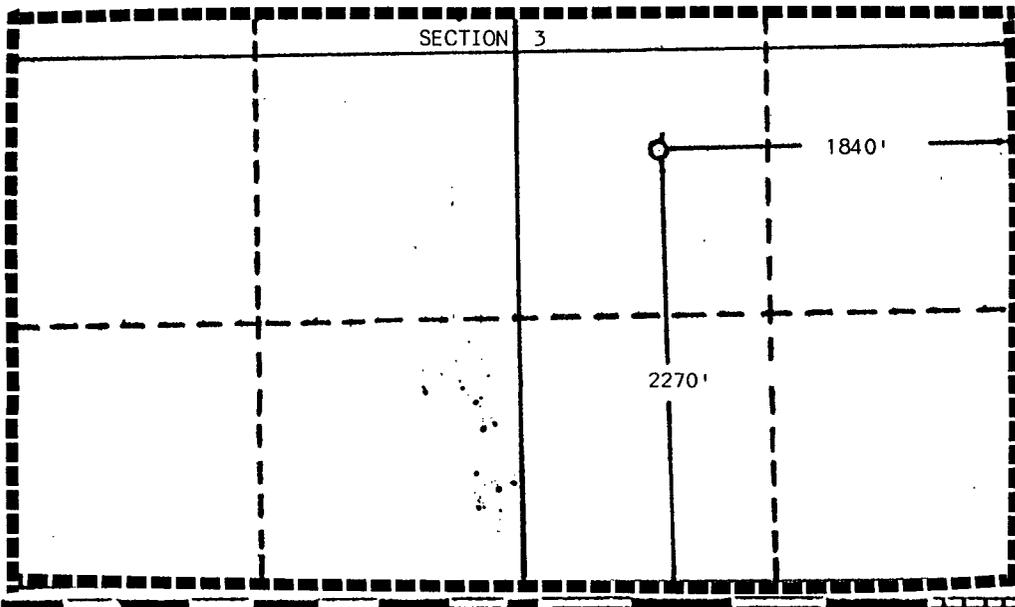
Operator Northwest Pipeline Corporation		Lease Rosa Unit		Well No. 238
Unit Letter J	Section 3	Township 31 North	Range 6 West	County Rio Arriba
Actual Footage Location of Well: 2270 feet from the South line and 1840 feet from the East line				
Ground Level Elev. 6365	Producing Formation Fruitland	Pool Basin Fruitland Pool		Dedicated Acres 352.87 Acres

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

Yes No If answer is "yes," type of consolidation 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 interests, has been approved by the Division.



CERTIFICATION

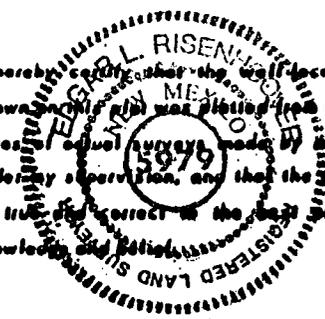
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Mike Turnbaugh

Name
Mike Turnbaugh
Position
Senior Engineer
Company
Northwest Pipeline Corp.

Date
11-1-88

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.



Date Surveyed
September 28, 1988

Registered Professional Engineer and/or Land Surveyor

Edgar L. Risenbower
Certificate No. 5979
Edgar L. Risenbower

NORTHWEST PIPELINE CORPORATION
OPERATIONS PLAN

Well Name: Rosa Unit #238

Date: December 20, 1988

I. Location: 1840' FEL & 2270' FSL
Sec. 3, T31N, R6W
Rio Arriba County, NM

Elevation: 6365' GR
6375' KB

Field: Basin Fruitland Pool

Surface: BOR
Minerals: Fed SF-073772

II. Geology: Surface formation - San Jose

<u>Formation Tops</u>	<u>Depth</u>
Ojo Alamo	2368'
Kirtland	2468'
Fruitland Sand	2911'
Fruitland Coal	2973'
Pictured Cliffs	3123'
Intermediate TD	2958'
Final TD	3122'

B. Logging Program: None. Mud loggers will pick tops.

C. Natural Gauges: Gauge any noticeable increases in gas flow. Record all gauges on daily drilling and morning reports.

III. Drilling:

A. Contractor:

B. Mud Program: Mud, water & gas will be furnished by Northwest Pipeline Corporation from surface to total depth.

a) From surface to total casing depth to be drilled with mud.

C. While drill pipe is in use the pipe rams will be tested not less than once each day. The blind rams will be tested once each trip. All tests will be reported in the Northwest Pipeline Tour Reports as to time and date.

IV. Materials:

A. Casing Program:

<u>Hole Size</u>	<u>Depth O.H.</u>	<u>Casing Size</u>	<u>Wt. & Grade</u>
12-1/4	200'	9-5/8"	32.3# H-40
8-3/4"	2958'	7"	20# K-55
6-1/4	3122'	5-1/2"	23# P110

B. Float Equipment:

- a) Surface Casing: 9-5/8" - B&W Regular Pattern Shoe.
- b) Intermediate Casing: 7" - Dowell guide shoe (Code #50101-070) and self fill insert float collar (Code #53003-070). Five (5) centralizers (Code #56011-070) spaced every other joint above the shoe. Place float one joint above shoe.
- c) Liner: 5-1/2" - Perforated liner w/ notched collar on bottom. Liner hanger with neoprene pack off.

C. Tubing Program: 3100' of 2-7/8" 6.4w, EUE, J-55 tubing w/ seating nipple on top of bottom joint. Expendable check valve on bottom.

D. Wellhead Equipment: Reactor well head drawing 88-0203 or equivalent. Wellhead company representative to set slips and make cut off.

V. Cementing

- A. Surface Casing: 9-5/8" - Use 105 sx (125 cu.ft.) of Cl "B" w/ 1/4# gel flake/sx and 3% CaCl₂ (Yield=1.19) (100% excess to circulate). WOC 12 hrs. Test surface casing to 600 psi for 30 min.
- B. Intermediate Casing: 7" - Cement w/ 80 sx Cl "B" w/ 6% gel and 6-1/4# gils/sx (Yield=1.87) (150 cu.ft.) 70% excess to cover Ojo Alamo. WOC 12 hrs. Test casing to 1200 psi for 30 min. Run temperature survey in 8 hrs.
- C. Production Liner: 5-1/2" - Perforated liner will be run without cement (open hole completion).


M.J. Tornbaugh
Sr. Engineer

MJT/ch
Original: Well file
cc: Regular distribution

Multi-Point Surface Use Plan

1. Existing Roads

To reach the proposed location, start from Farmington, New Mexico and go on N.M. 64, approximately 45 miles to Gobernador. Turn north on Sims Highway and travel approximately 5 miles. Turn right on Rosa Road 15 miles to location.

All existing roads used to access the proposed location shall be maintained in the same or better condition than presently found. Access road classified as "Temporary Resource Road".

2. Planned Access Roads

The required new access road is shown on the attached map. The proposed route is flagged and approximately 5200' feet in length. The road surface will not exceed 20 feet in width. Grade of the road will be consistent with the local terrain with a maximum grade of five percent. Upon completion of the project, the access road shall be adequately drained to control soil erosion. Water bars, culverts or turnouts will be used as necessary. Gates will be installed where the access road crosses an existing fence line as per map. Access road to be classified "Temporary Resource Road".

3. Location of Existing Wells

Attached map shows existing wells within a one mile radius of the proposed wells.

4. Location of Production Facilities

In the event of production, production facilities will be located on the drill pad. The actual placement of this equipment will be determined when the well's production characteristics can be evaluated after completion.

To protect livestock and wildlife, the reserve pit will be fenced. The condensate tanks will be enclosed by a dike.

Upon completion of drilling, the location and surrounding area will be cleared of all debris. All trash will be disposed of in the trash pit.

5. Water Supply

Water for drilling and completion operations will be hauled by truck from La Jara water hole. (SW/11, T30N, R6W)

6. Source of Construction Materials

No additional construction materials will be required to build the proposed location.

7. Methods for Handling Waste Disposal

a. The drill cuttings, fluids and completion fluids will be placed in the reserve pit. The reserve pit will be fenced on three sides away from the pad during drilling and the fourth side fenced as soon as the rig moves out. The reserve pit will be allowed to dry, and materials remaining in the reserve pit buried. The reserve pit will be backfilled, leveled and contoured so as to prevent any materials being carried into the watershed. Upon completion, the pad will be leveled, contoured, and reseeded with the appropriate seed mixture.

b. All garbage and trash will be placed in a burn pit (Plat 2). This earthen pit will be four to six feet deep with small mesh wire fencing to prevent the scattering of trash. Upon cleanup, any refuse in the burn pit will be buried at least three feet deep.

c. Portable toilets will be provided and maintained during drilling operations. See Plat 2 for location.

8. Ancillary Facilities

No ancillary facilities are planned.

9. Well Site Layout

A cross-section of the drill pad with approximate cuts, fills and pad orientation is attached. Location of drilling equipment, rig orientation, and access road approach is also attached.

10. Plans for Restoration of Surface

When the well is abandoned, the location and access road will be cleaned and restored to the original topographical contours as much as possible. The area will be reseeded with the appropriate seed mixture.

If the well is productive, areas not used in production will be contoured and seeded with stipulated seed mixture. Production equipment will be painted the color designated by the surface managing agency. A stock pond will be built adjacent to the location as per map.

11. Surface Ownership

a. The surface ownership is Bureau of Reclamation, administered by the Bureau of Reclamation.

12. Other Information

Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.

13. Lessee's or Operator's Representative

Northwest Pipeline Corporation
Production & Drilling Department
3539 East 39th Street
Farmington, New Mexico 87401
Phone: 505/327-5351

14. 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 Northwest Pipeline Corporation, and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

10-21-88
Date

Mike Turnbaugh
Mike Turnbaugh
Senior Engineer

Northwest Pipeline Corp.

Rosa Unit 238

2270' F/SL 1840' F/EL

PORTAGES

3 31N 6W

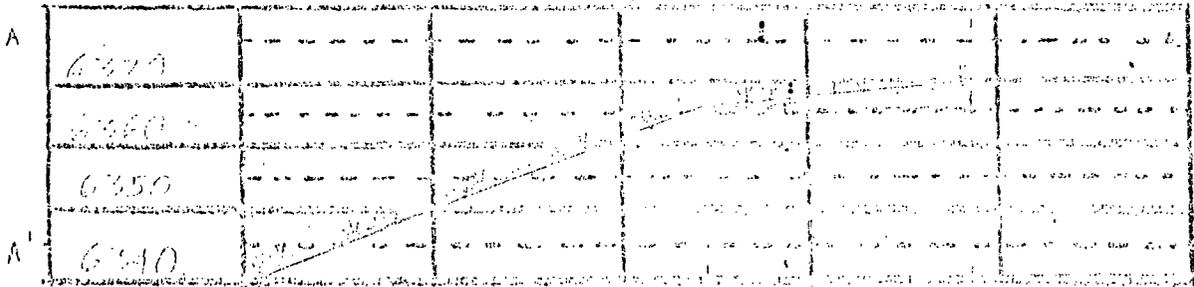
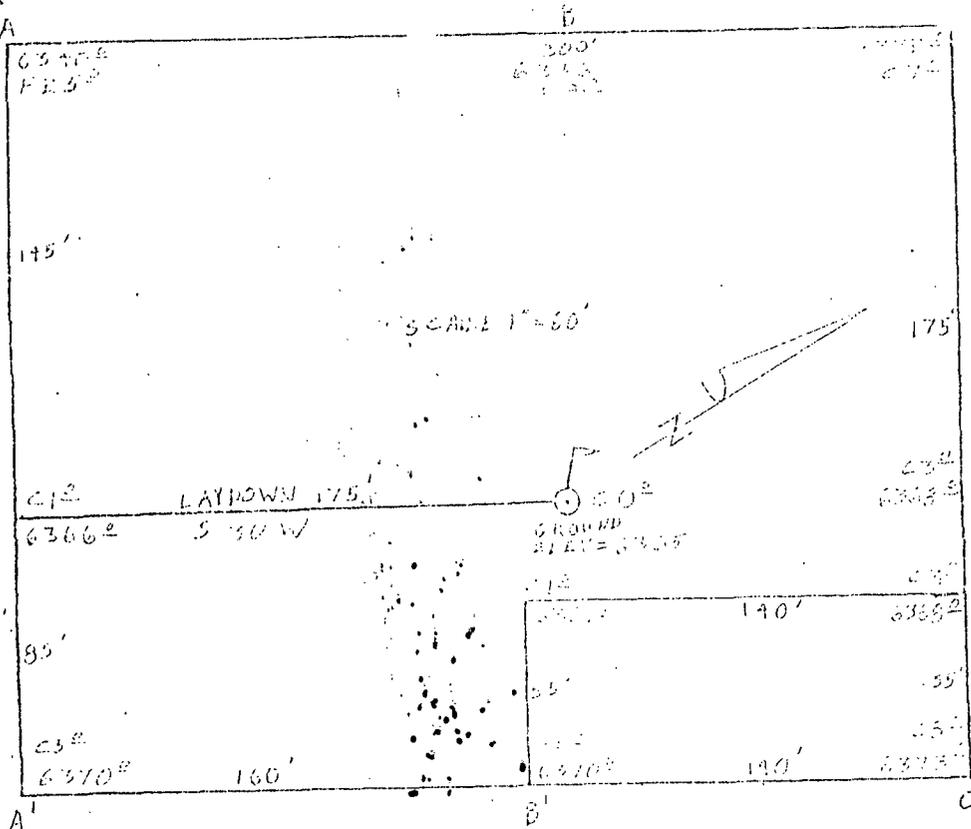
SEC. 14D, 15E

Rio Arriba, NM

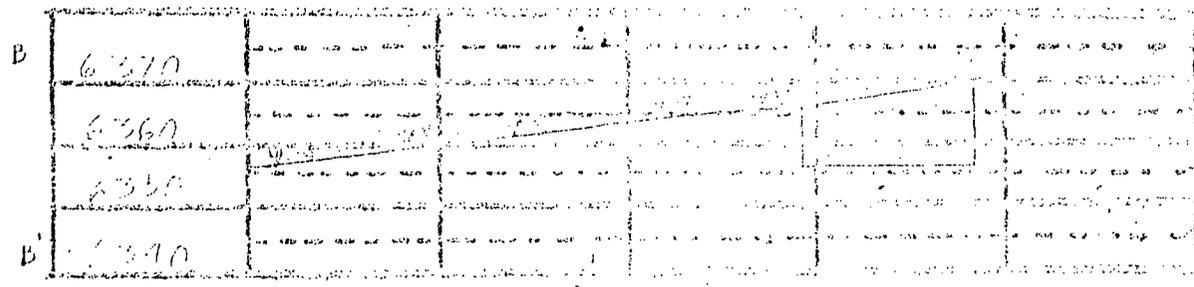
CONWAY

September 28, 1988

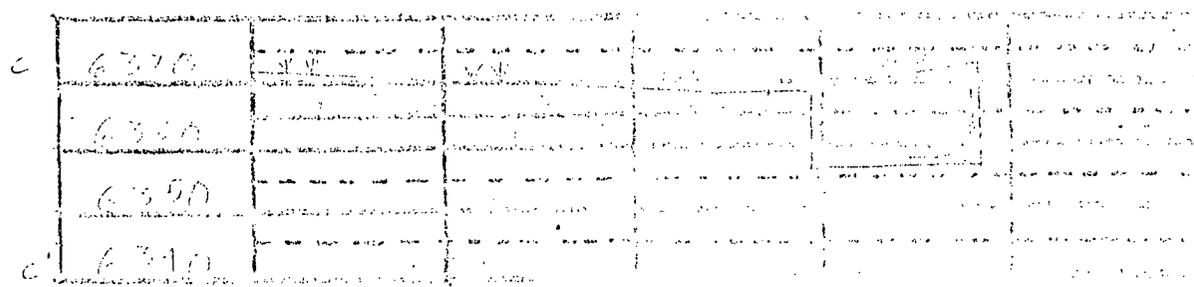
DATE



SCALES
 HORIZ = 1" = 60'
 VERT = 1" = 30'



FC 6365



FC 6365

NORTHWEST PIPELINE CORP.

ROSA UNIT 238

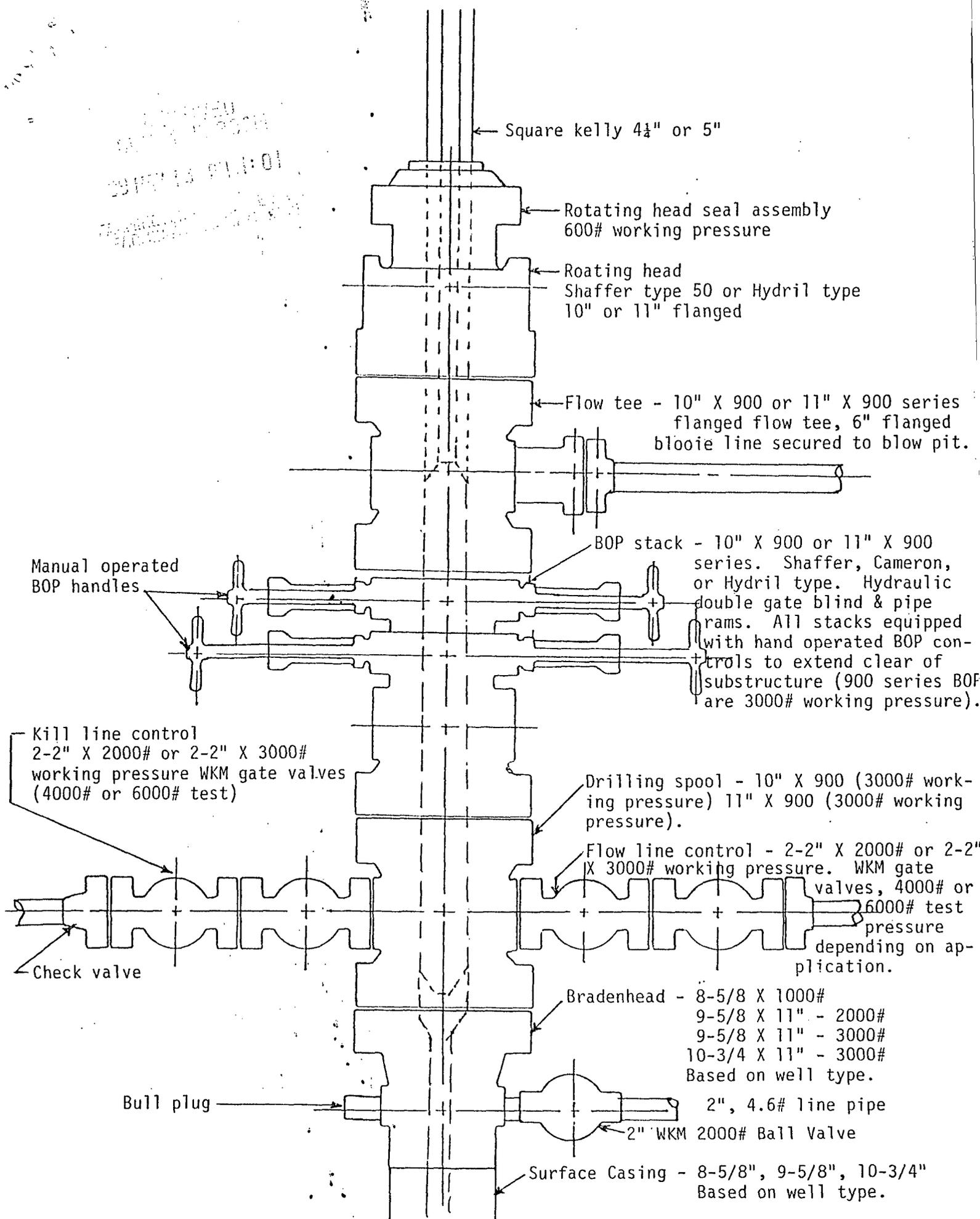
2270' F/SL 1840' F/EL

Sec. 3, T-31-N, R-6-W, NEPA

Rio Arriba County, New Mexico



2017/11/14 01:1:01
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← Square kelly 4½" or 5"

← Rotating head seal assembly
600# working pressure

← Rotating head
Shaffer type 50 or Hydril type
10" or 11" flanged

← Flow tee - 10" X 900 or 11" X 900 series
flanged flow tee, 6" flanged
blooie line secured to blow pit.

Manual operated
BOP handles

← BOP stack - 10" X 900 or 11" X 900
series. Shaffer, Cameron,
or Hydril type. Hydraulic
double gate blind & pipe
rams. All stacks equipped
with hand operated BOP con-
trols to extend clear of
substructure (900 series BOP
are 3000# working pressure).

Kill line control
2-2" X 2000# or 2-2" X 3000#
working pressure WKM gate valves
(4000# or 6000# test)

← Drilling spool - 10" X 900 (3000# work-
ing pressure) 11" X 900 (3000# work-
ing pressure).

← Flow line control - 2-2" X 2000# or 2-2"
X 3000# working pressure. WKM gate
valves, 4000# or
6000# test
pressure
depending on ap-
plication.

← Check valve

← Bradenhead - 8-5/8 X 1000#
9-5/8 X 11" - 2000#
9-5/8 X 11" - 3000#
10-3/4 X 11" - 3000#
Based on well type.

← Bull plug

2", 4.6# line pipe
← 2" WKM 2000# Ball Valve

← Surface Casing - 8-5/8", 9-5/8", 10-3/4"
Based on well type.



United States Department of the Interior

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



IN REPLY REFER TO:
3162.3-1 (019)

Northwest Pipeline Corporation
#238 Rosa Unit
Santa Fe 078772
NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 3, T. 31 N., R. 6 W.
Rio Arriba County, New Mexico

Above Data Required on Well Sign

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

Operations:

In addition to those requirements set forth in Onshore Oil and Gas Order No. 2, 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 12 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.

1. GENERAL

A. Full compliance with all applicable laws and regulations, 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 paper not less than 5 x 8 inches in size, and each page should identify the well by operator's name and number, and by well locations.

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 Area Manager is required for variance from the approved drilling program and before commencing plugging operations, plugback 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, 5 copies) within three business days.

G. All shows of fresh water and minerals will be reported and protected.

H. Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or Sundry Notice, (Form 3160-5), or orally to be followed by a letter or sundry notice, of the date on which such Production has begun or resumed."

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

Failure to comply with this requirement in the manner and time prescribed may result in civil penalties of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3163.

The following information is required on the production start-up notice:

1. Operator name.
2. Well name and number.
3. Well location (1/4 1/4, sec., T., R., P.M., County and State).
4. Date well was placed on production.
5. The nature of the well's production, i.e., crude oil, or crude oil and casinghead gas, or natural gas and entrained liquid hydrocarbons.
6. The Federal or Indian lease prefix and number on which the well is located. Otherwise the non-Federal or non-Indian land category, i.e., State or Private.
7. As appropriate, the unit agreement name, number and participating area name.

8. As appropriate, the communitization agreement number.

9. 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. The numeric prefixes are no longer used or recognized by the BLM in New Mexico.

I. Note Site Security Requirements of 43 CFR 3162.7-4(c).

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

2. CASING AND CEMENTING REQUIREMENTS

A. Surface casing is to be set at sufficient depth to protect fresh water zones and provide well control, with cement circulated to the surface.

B. Intermediate and production casing strings are to be set and cemented as necessary to effectively isolate and seal off all water, oil, gas, or coalbearing strata encountered, and all potable water zones are to be covered with cement. If cement fails to circulate to surface, a cement evaluation log is required to verify the cement top. Failure of cement to adequately cover critical zones may require remedial cementing procedures.

C. Prior to drilling the plug after cementing, all casing strings shall be pressure tested. Test pressure shall not be less than 600 psi for surface casing, and a minimum of 1,500 psi or 0.2 psi/ft., whichever is greater, for other casing strings. If the pressure declines more than 10 percent in 30 minutes, or if there is other indication of a leak, the casing shall be recemented, repaired, or an additional casing string run, and the casing shall be tested again in the same manner.

D. After cementing but before commencing any tests, the casing string shall stand cemented until the cement has reached a compressive strength of at least 500 psi at the shoe, except that in no case shall tests be initiated until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log.

E. The Area Office (Inspection and Enforcement Section), will be notified at least 24 hours in advance of doing the work so that a representative may witness cementing of all casing strings.

3. BLOWOUT PREVENTION

A. Blowout preventers and related equipment for well control shall be installed, tested, and maintained in such a manner necessary to maintain well control at all times. All wells, as a minimum shall be equipped with one blowout preventer rated to at least the anticipated formation pressure in accordance with API RP 53.

B. Blowout preventers shall be equipped with appropriate pressure control equipment for operations being performed. Appropriate size casing rams are required while running casing.

C. Pipe rams shall be activated to test proper functioning at least once each day. Blind rams shall be activated to test proper functioning once each trip. Annular type preventers shall be actuated on the drill pipe no less than once every 7 days.

D. Blowout preventers shall have handwheels installed and operable.

E. A remote kill line shall be properly installed and operable as specified by API recommendations. The kill line is not to be used as a fill up line. A choke line and choke manifold shall be properly installed and operable as specified by API recommendations.

F. The accumulator system shall have a pressure capacity to close all hydraulics on the blowout preventer stack under repeated operations, plus a 200 psi reserve above the recommended precharge pressure.

G. Drill string safety valves to fit all pipe in the drill string shall be maintained on the rig floor, in the open position, while drilling operations are in progress.

H. Blowout prevention drills shall be conducted at least once weekly to assure that equipment is operational and that each crew is properly trained to carry out emergency duties. All blowout prevention drills and tests shall be recorded in the driller's log.

I. The maximum pressure to be allowed on blowout preventers during well control operations shall be posted for each casing string.

J. The characteristics, use and testing of drilling mud shall be such as are necessary for well control. Quantities of mud materials sufficient to insure well control shall be maintained, readily accessible for use at all times.

K. 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.

4. REPORTS

A. The following reports shall be filed with the Resource Area Manager 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).

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.

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

5. 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 drill conducted.

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

5. How pipe was cemented, including amount of cement, type, whether cement circulated, 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.

6. DRILLSTEM TESTS

A. Estimated amounts of oil and gas recovered and/or produced during drillstem tests are to be shown in the driller's log and reported in accordance with NTL-4A.

7. 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.

8. SAFETY

- A. All rig heating stoves are to be of the explosion-proof type.
- B. Drilling rig engines should have water-cooled exhausts.
- C. Rig safety lines are to be installed.
- D. Hard hats must be utilized.

9. SUBSEQUENT OR CHANGE OF PLANS

A. Any change of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require verbal approval of the Bureau of Land Management (Drilling and Production Section) and, within 48 hours of receiving verbal approval, submission of a Sundry Notice (Form 3160-5) five copies.

10. REMOVAL OF DRILLING RIG

A. 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 Bureau of Land Management (Drilling and Production Section).

11. ABANDONMENT

A. If the well is dry it is to be plugged in accord with 43 CFR 3162.3-4, and Onshore Oil and Gas Order No. 2. Approval of the proposed plugging program may be obtained orally; however, oral approval must be confirmed in writing within three business days by filing a Notice of Intention to Abandon on Form 3160-5, in quintuplicate with the Area Manager. 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.

B. Install a permanent regulation well marker in accordance with 43 CFR 3162.6(d).

C. Within 30 days after plugging the well, a Subsequent Report of Abandonment is to be filed on (Form 3160-5), in quintuplicate, 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 the date plugging was completed.

12. 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. In addition to the well-control equipment stipulated in Section 5, either an annular blowout preventer or a rotating head must be used while drilling below surface casing to _____.

C. Note attachments.

BLM ENVIRONMENTAL STIPULATIONS

Operator NORTHWEST PIPELINE CORP. Well Name 238 ROSA UNIT

Legal Location 2270'FSL/1840'FEL Sec. 3 T. 31 N. R. 6 W.

Lease Number SF-078772 Field Inspection Date 10/06/88

The following stipulations will apply to this well unless a particular Surface Managing Agency has supplied to the BLM and the operator a contradictory environmental stipulation. 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.

An agreement between the operator and fee land owner will take precedence over BLM surface stipulations unless 1) the 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 the 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).

* No construction or drilling activities shall be conducted between December 1 and March 31 because of deer/elk wintering habitat. Contact BLM Wildlife Biologist at 327-5344 with any questions.

* Pits will be lined with an impervious material at least 8 mils thick. *The pits on this well pad will be lined with 10 mil nylon reinforced plastic.*

* Diversion ditch(es) will be constructed on the NE side of the location above below (circle one) the cut slope, draining to the west.

* A culvert of sufficient size will be placed where the drainage crosses access road.

* The final cut slope shall not exceed a 3:1 ratio. The final fill slope shall not exceed a 3:1 ratio. Construction slopes can be much steeper, but will be contoured to the above final slopes upon pit reclamation. Hyrdo mulching or netting IS NOT required on the slopes.

* Paint color GREEN seed mix 1
Recommended Seed Mixtures. *Species to be planted in pounds pure-live-seed per acre: Pure Live Seed = Germination x Purity.

Seed Mix No. 1--BLM

Crested Wheatgrass	1
Smooth Brome	1/2
Fourwing Saltbush (dewinged)	1/2
Nomad Alfalfa	1
Indian Ricegrass	1/2
Western Wheatgrass	1

LOCATION AND ACCESS ROAD

A. Well area and lease premises will be maintained in a workman-like manner with due regard to safety, conservation and appearance. All 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. If burial on site is used, waste must be buried at least 2' deep and metal containers will be crushed prior to burial. Trash pit must be secured during drilling activities, so as to keep the trash from spreading outside of the pit. Trash pits for drilling operations will be covered once the drilling rig leaves the location.

B. Pinyon and juniper trees will be uprooted from road rights-of-way and well pad locations and distributed beside rights-of-way and well pads for fuelwood salvage. Care will be taken to keep the trees as undamaged as practically possible. Large vegetation such as sagebrush, juniper and pinyon will not be incorporated into pit walls. Sagebrush removed during clearing operations will be placed in drainages and "walked down" by a crawler - type tractor. If no drainages are nearby, sagebrush will be buried in the reserve pit when it is filled in. All uprooted vegetation not subsequently buried will be scattered so it does not detract from the natural appearance of the area and does not accelerate erosion.

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. The bottom of the reserve pit shall not be in fill material. Pits are not to be located in natural drainages. Any plastic material used to line pits must be removed to below-ground level before pits are covered. Pit walls are to be "walked down" by a crawler-type tractor following construction and prior to usage.

E. All unguarded pits containing liquids will be fenced. Drilling pits will be fenced on three sides and once the rig leaves the location, the fourth side will be fenced. Fencing must be a legal fence in accordance with New Mexico 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.

F. Unless otherwise approved, the driving surface on all access roads must be limited to _____ feet in width, and total disturbance will be limited to 35 feet excluding turnouts.

G. 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.

H. Water bars will be constructed on the access road to the well location and conform to surface management specifications. The maximum slope distance between water bars will be:

<u>% Slope</u>	<u>Slope Distance</u>
Less than 1%	400 feet
1% - 5%	300 feet
5% - 15%	200 feet
15% - 25%	100 feet
Greater than 25%	50 feet

When the access road is graded, water bars will be left in the road or replaced immediately upon completion of grading.

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

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

M. A proposed use of pesticide, herbicide or other possible hazardous chemical on Bureau of Land Management land shall be cleared for use prior to application.

CULTURAL RESOURCES (ARCHAEOLOGY)

A. The lessee will not commence construction on the lease until the cultural resource inventory has been approved by BLM (per 36 CFR 800).

B. Surface disturbance activities shall be kept 100' away from any archaeological site(s) located off the well pad, unless approved otherwise by the Area Manager.

C. If, in its operations, the APD grantee discovers any historic or prehistoric ruin, monument or site, or any object of antiquity subject to the Antiquities Act of 1906, The Archaeological Resources Protection 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 APD grantee will obtain at his expense, a qualified archaeologist to carry out the specific instructions of the 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 the reserve pit has been filled in and/or location abandoned.

B. Compacted areas of the well pad will be plowed or ripped to a depth of 12" before reseeding. 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 the 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, using twice the recommended seed per acre. Seed will then be covered to a depth described above by whatever means is practical.

C. If, in the opinion of the surface management agency, the seeding is unsuccessful, the lessee/operator may be required to make subsequent seedings.

D. 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 as stated in 23.H. 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).

Operator's Representative _____

BLM Representative Don Ellsworth

Note: If the land is privately owned, these requirements may be varied to comply with the operator - landowner agreement.



United States Department of the Interior
BUREAU OF RECLAMATION

UPPER COLORADO REGION
DURANGO PROJECTS OFFICE MINERALS BRANCH
P.O. BOX 640
DURANGO, COLORADO 81302-0640

RECEIVED
SOLID WASTE ROOM

-3 AM 11:58
RESOURCE AREA
FARMINGTON, NEW MEXICO

IN REPLY
REFER TO:

DUR-452
773.
LND-6.00

MAR 31 1989

BRANCH CHIEF	_____
SOLIDS	_____
FLUIDS D&P	_____
FLUIDS I&E	_____
FSM	_____ / _____
I & E-E	_____
I & E-W	_____
ALL SUPV	_____
FILES	_____

Memorandum

To: Area Manager, Bureau of Land Management, Farmington Resource Area,
1235 La Plata Highway, Farmington, NM 87401

From: Acting Projects Manager *Errol G Jensen*

Subject: Report on the Application For Permit To Drill (APD) by Northwest Pipeline, for the Rosa Unit, Well No. 238, Navajo Unit, Colorado River Storage Project, New Mexico (Oil & Gas)

My staff has reviewed the APD for the Rosa Unit, Well No. 238 and offers no objections provided the following stipulations are made a part of the permit:

1. The reserve pit shall be lined with a geotextile fiber and 10 mill nylon reinforced plastic liner. Also, the pit shall be pulled within 48 hours after the down-hole completion by the completion drilling rig.
2. Tank batteries shall be bermed in accordance with federal and state regulations.
3. Trash baskets shall be used in lieu of trash pits. Trash shall not be buried or burned, but will be hauled off location.
4. Portable chemical toilets shall be placed on location for all phases of drilling and surface facilities completion.
5. The Bureau of Reclamation shall conduct an on-site inspection for compliance, within 72 hours after the well location is rehabilitated.
6. The access road shall not be graveled.
7. There shall be no stock ponds constructed on lands under the jurisdiction of the Bureau of Reclamation.
8. Water hauled from Navajo Reservoir shall come from a legal diversion point issued by the New Mexico State Engineer's Office.

If you have any questions concerning this memorandum, please contact Steve Sacks at FTS 323-6574.

175

PROJECT: NWP: Rosa 238 Access Road.

X 1. If, in its operations, the NWY Co as APD grantee discovers any historic or prehistoric ruin, monument or site, or any object of antiquity subject to the Antiquities Act of 1906, the Archeological Resources Protection 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 APD grantee will obtain, at his expense, a qualified archeologist to carry out the specific instructions of the BLM.

~~2. Monitoring is required for all surface disturbing activity.
1. A copy of these stipulations will be supplied to the archeological monitor at least two working days prior to the start of construction activities. No construction activities, including vegetation removal, may begin before the arrival of the monitor. 3. The monitor will assist in the selection of the barrier fence location.~~

X 3. Avoid site by following reroute. The reroute is about 90ft to the west of the original route.

X 4. Special stipulations: If in its operations, the NWP Co 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 43 CFR Part 3, then the APD & ROW grantee will prepare and implement a data recovery plan at his expense. The APD & ROW grantee will obtain at his expense, a qualified archeologist to carry out the specific instructions of the BLM.

December 11, 1987

BLM ~~Serial~~ Number SF-078772
Company Reference Northwest Pipeline
Rosa Unit # 238

STANDARD STIPULATIONS FOR ROADS IN THE
ALBUQUERQUE DISTRICT, BLM

Grantee/permittee agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

A. GENERAL

1. The grantee/permittee shall minimize disturbance to existing fences and other improvements on public land. The grantee/permittee is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The grantee/permittee will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence.

B. ROAD GRADE AND WIDTH

1. The road will have a driving surface of 14 feet (all roads shall have a minimum driving surface of 14 feet, unless local conditions dictate a different width). The maximum grade is 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 10% for more than 300 feet shall be designed by a professional engineer.

C. CROWNING AND DITCHING

1. Crowning and ditching is required. The road cross section will conform to the cross section diagrams in figure 1. The crown shall have a grade of approximately 2 percent (i.e., 2" crown on a 14' wide road).

D. DRAINAGE

1. 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.

a. Unless otherwise approved in writing by the Authorized Officer, drainage dip location for grades over 2 percent shall be determined by the formula:

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

Example: For a road with a 4 percent slope.

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

b. Unless otherwise approved in writing by the Authorized Officer, all turnout ditches shall be graded to drain water with a one percent minimum to 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 %):

SPACING INTERVAL FOR TURNOUT DITCHES

Percent Slope	Spacing interval
0 - 4%	150' - 350'
4 - 6%	125' - 250'
6 - 8%	100' - 200'
8 - 10%	75' - 150'

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.

2. 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. Their location is also flagged on the ground. (Further details can be obtained from the Albuquerque District Office or the appropriate Resource Area Office.)

E. TURNOUTS

1. 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 figure 1.

F. SURFACING

All weather access is desired and surfacing material (_____) is economically available, therefore the road will 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.

Surfacing is not required because all weather access is not desired, or all weather access is desired but surfacing materials are not economically available or the soil has the capacity to bear loads when dry as well as when they are wet. Therefore surfacing is not required. The road shall not be used when it is not easily passable with a two wheel pickup, without tire chains, due to wet/mud/snow conditions.

A gate capable of being locked and () a four wire fence must be installed at _____

G. CATTLEGUARDS

1. All cattleguard grid and foundation designs and construction shall meet the American Association of State Highway and Transportation Officials (AASHTO) load Rating H-20, although AASHTO U-80 rated grids shall be required where heavy loads, (exceeding H-20 loading) are anticipated. (See BLM standard drawings for cattleguards). Cattleguard grid lengths shall not be less than 8 feet and width of not less than 14 feet. A wire gate (16-foot minimum) will be provided on one side of the cattleguard.

A cattleguard(s) is required at the location(s) shown on the attached map.

H. MAINTENANCE

1. 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.

2. 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 entered into.

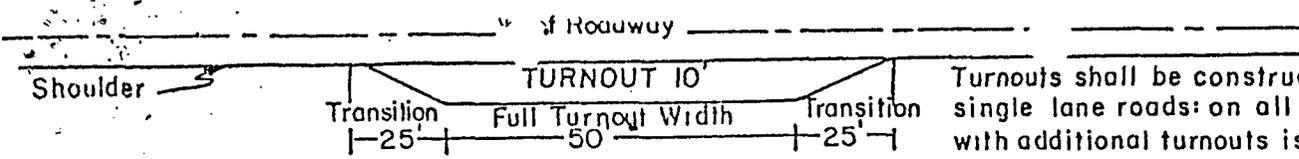
I. PUBLIC ACCESS

1. 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.

J. SPECIAL STIPULATIONS

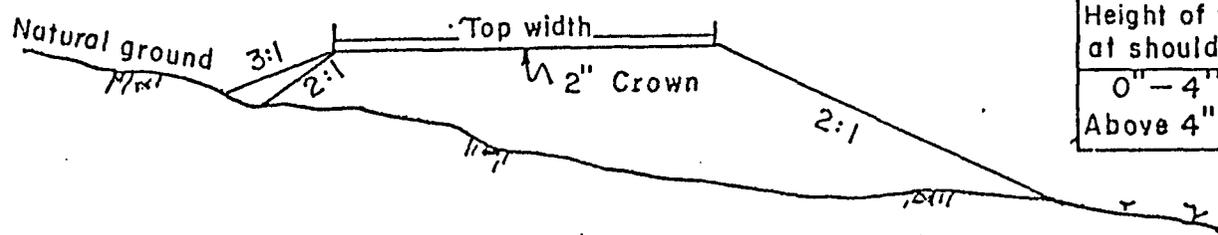
By Don Ellworth

Date 10/18/88



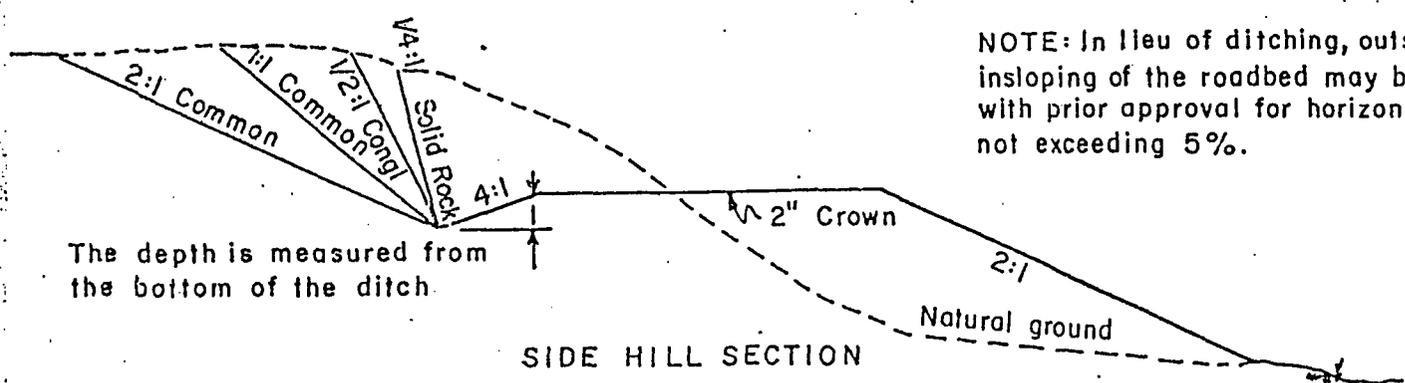
Turnouts shall be constructed on all single lane roads; on all blind curves with additional turnouts is needed to keep spacing below 2000 feet.

TYPICAL TURNOUT PLAN



Height of fill at shoulder	Embankment slope
0" - 4"	3:1
Above 4"	2:1

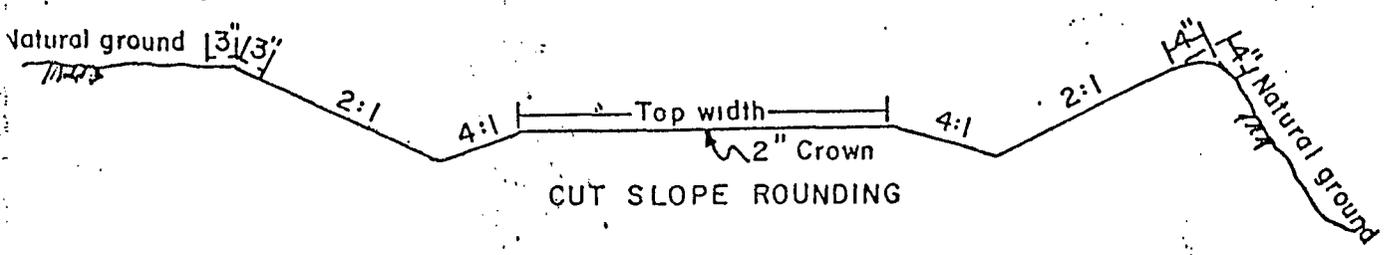
EMBANKMENT SECTION



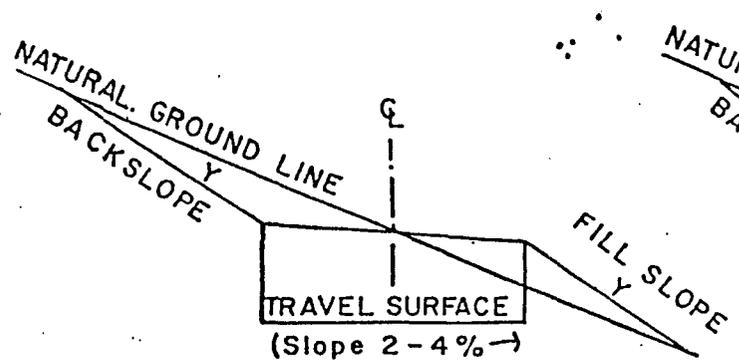
NOTE: In lieu of ditching, outsloping or insloping of the roadbed may be allowed with prior approval for horizontal grade not exceeding 5%.

The depth is measured from the bottom of the ditch.

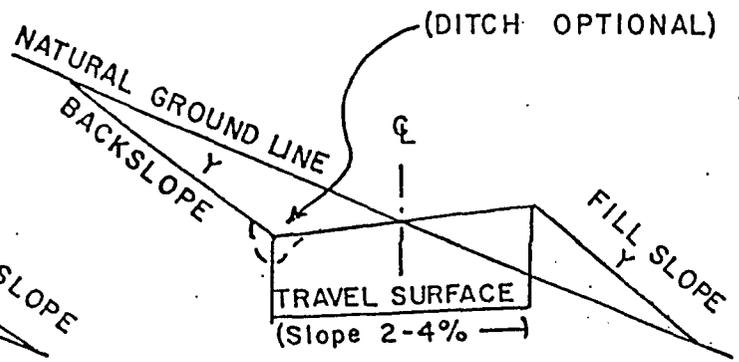
SIDE HILL SECTION



CUT SLOPE ROUNDING



TYPICAL OUTSLOPED SECTION



TYPICAL INSLOPED SECTION

WILDLIFE MITIGATION

Well Name/Number Rosa Unit 238

T. 31N, R. 6W, Sec. 3 NWNE

Fence, Gate, and Sign

Fence: 200 ft.

Gate: 16 ft.

Sign: See attached.

Dirt Tank and Sign

See attached.

Herbicide Treatment

Size: 20 acres

Chemical: 2 bag/bags

Other

LESSEE HAS 90 DAYS TO COMPLETE MITIGATION FOLLOWING WELL COMPLETION.

WILDLIFE MITIGATION

Well Name/Number Rose Unit 238
T. 31N, R. 6W, Sec. 3 NWNE

Herbicide Treatment

This type of project is required for one of two reasons. The well and road may impact a BLM wildlife project or a planned project. A herbicide treatment would replace the value of the affected BLM project.

The other reason for a herbicide treatment would be to improve marginal habitat. The area may not be ideal for big game because of man-made factors or because there is a missing habitat component. A herbicide treatment to provide grass and forbs (little flowering plants) would improve the general quality of the area impacted by the well and road.

SIZE: 20
CHEMICAL: SPIKE 2-P, Amount: 2 bags, Source: General Supply
Cost: 125/bag

SIGN: "The BLM in cooperation with _____ has treated sagebrush on this site to provide forage for big game."

LOCATION

LESSEE HAS 90 DAYS TO PROVIDE CHEMICALS AND SIGNING FOLLOWING WELL COMPLETION.

WILDLIFE MITIGATION

Well Name/Number Box Unit 238
T. 31N, R. 6W, Sec. 3 NWNE

Fence, Gate, and Sign Location: to be determined

Marked or Flagged with:

SIGN: "SENSITIVE WILDLIFE AREA BLM and _____ are cooperating to manage wildlife habitat in this area. In order to minimize disturbance this road is closed to unauthorized vehicles. Travel by foot or horseback is permitted. Your cooperation is appreciated."

LESSEE HAS 90 DAYS TO COMPLETE MITIGATION FOLLOWING WELL COMPLETION.

WILDLIFE MITIGATION

Well Name/Number Rosa Unit 238

T. 31N, R. 6W, Sec. 3 NWNE

Dirt Tank and Sign Location: to be determined

Marked or Flagged with:

SIGN: " WILDLIFE WATER The BLM and _____ have cooperated to provide this water source for wildlife. No Camping is allowed within 300 yards of this project."

BLM will do cultural clearance

LESSEE HAS 90 DAYS TO COMPLETE MITIGATION FOLLOWING WELL COMPLETION.

Submit to Appropriate
District Office
State Leases - 4 copies
Fee Leases - 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, Artesia, NM 88210

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

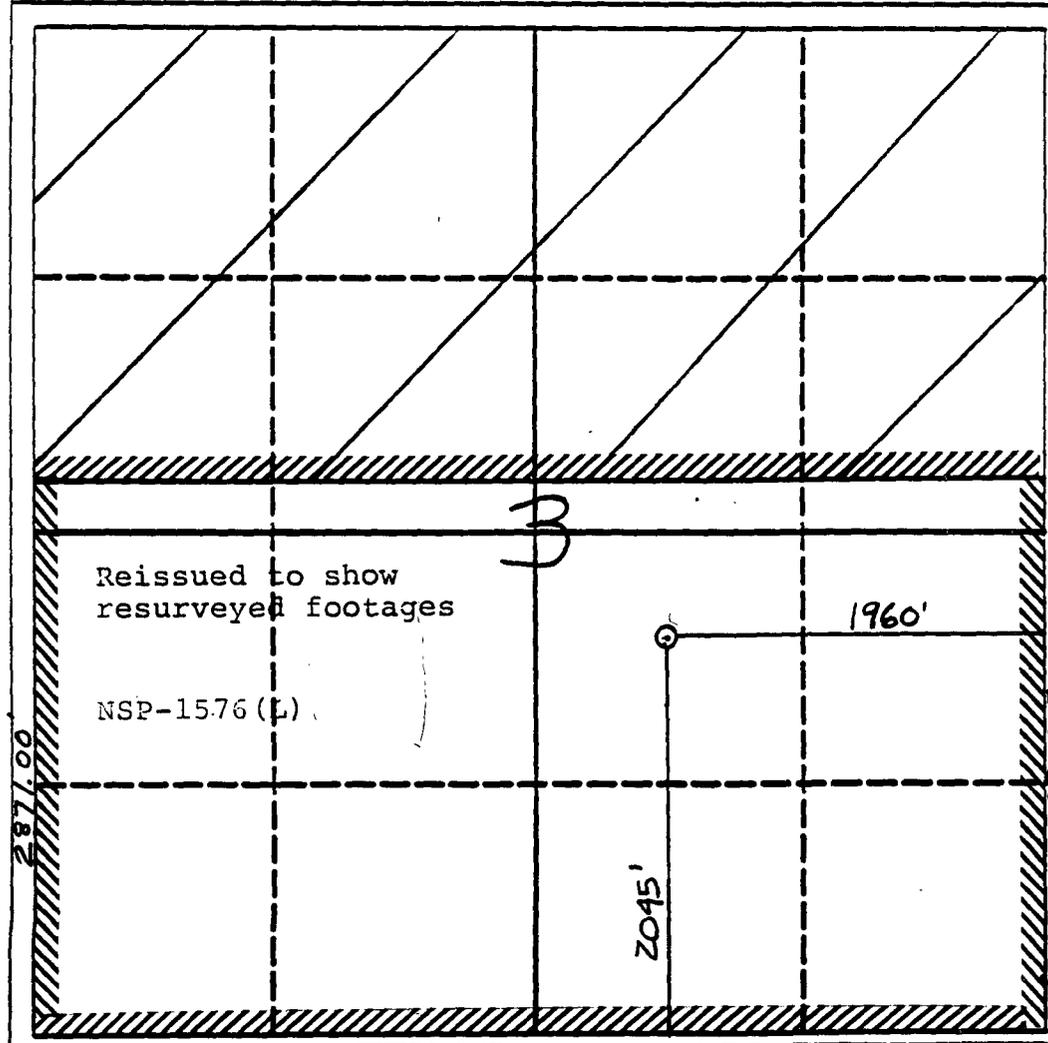
All Distances must be from the outer boundaries of the section

Operator Meridian Oil Inc.			Lease Rosa Unit (SF-078772)		Well No. 238
Unit Letter J	Section 3	Township 31 North	Range 6 West	County NMPM Rio Arriba	
Actual Footage Location of Well: 2045 feet from the South line and 1960 feet from the East line					
Ground level Elev. 6365'	Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 352.87 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or black ink 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.



Reissued to show
resurveyed footages
NSP-1576 (L)

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

Meridian Oil Inc.
Company

2-9-90
Date

SURVEYOR CERTIFICATION

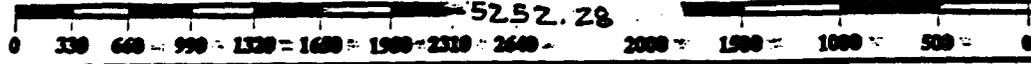
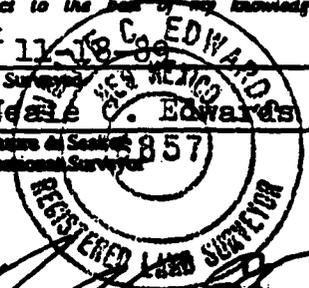
I hereby certify that the well location shown on this plat was plotted from field notes and actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

11-18-89
Date Surveyed

Neal E. Edwards
Signature of Surveyor

6857
Professional Surveyor

6857
Certificate No.



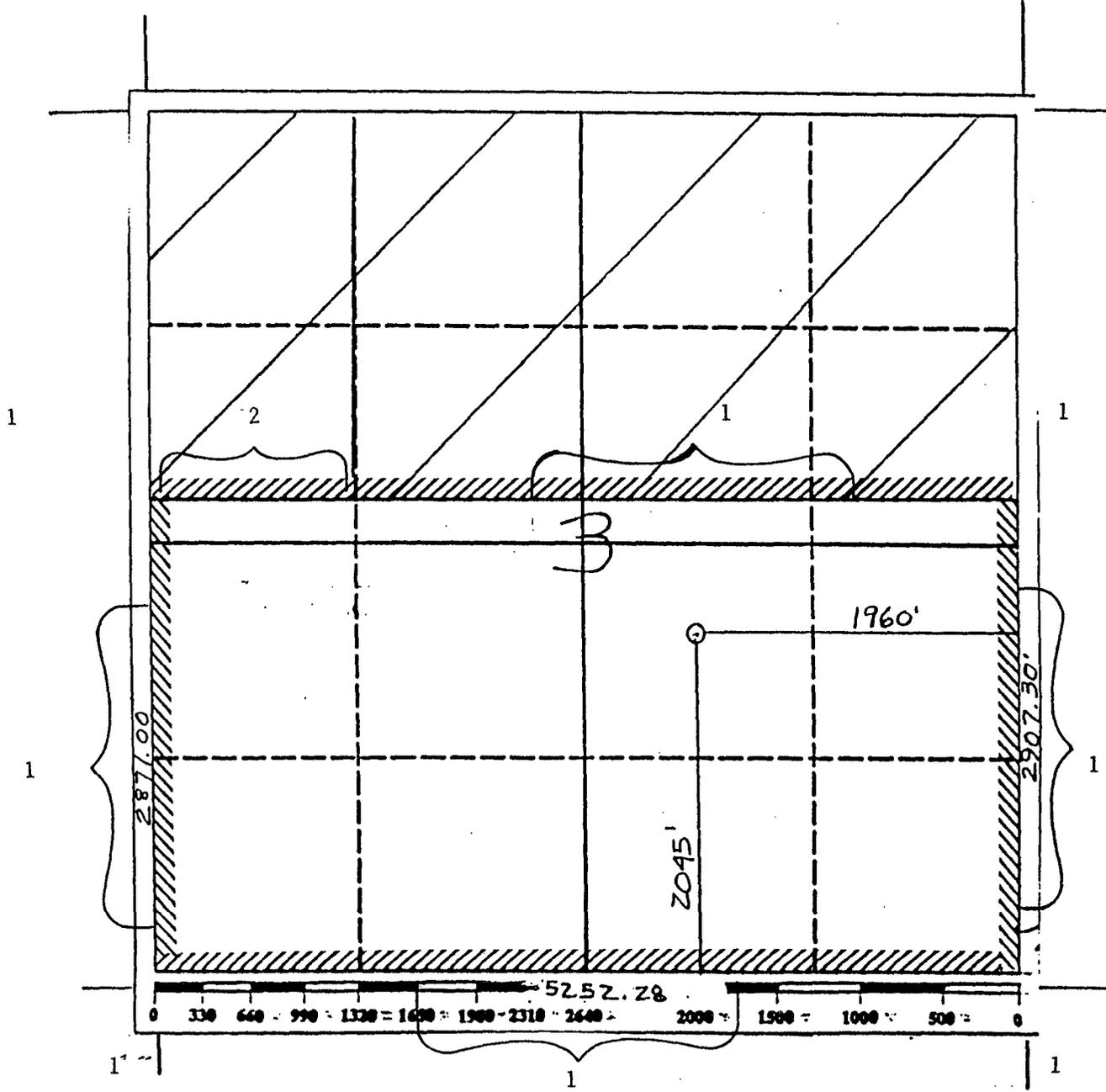
MERIDIAN OIL INC.

Well Name Rosa Unit Com #238, Basin Fruitland Coal

Footage----- 2045' FSL, 1960' FEL

APPLICATION FOR NON-STANDARD LOCATION

County Rio Arriba State New Mexico Section 3 Township 31N Range 6W



REMARKS:

(1) Meridian Oil Inc. - Rosa Unit Designated Operator of Fruitland Coal

(2) McElvain Oil & Gas

Jerome P. McHugh

James M. Raymond, Ind. & as Trustee

Jim Fullerton

T. H. McElvain Oil & Gas Properties
Attention: Mr. T.H. McElvain Jr,
Catherine B. Harvey, George B. Broome,
Post Office Box 2148
Santa Fe, New Mexico 987501

James M. Raymond, Individually and
as Trustee for Corinne Miller Gay
and Maydell Miller Mast Trusts
Post Office Box 1445
Kerrville, Texas 78028

Jerome P. McHugh
650 S. Cherry Street, Suite 1225
Denver, Colorado 80222

Mr. James B. Fullerton
Post Office Box 2368
Denver, Colorado 80201

MERIDIAN OIL

Rosa Unit #238
2045'S, 1960'E Section 3, T-31-N, R-6-W
Rio Arriba County, New Mexico

I hereby certify that the following offset operators/owners have been mailed notification of our application for non-standard location to drill the subject well.

McElvain Oil & Gas
PO Box 2148
Santa Fe, New Mexico 87501

James R. Raymond, Ind. & as Trustee
PO Box 1445
Kerrville, TX 78028

Jerome P. McHugh
650 S. Cherry St.
Suite 1225, Denver, CO 80222

James B. Fullerton
PO Box 2368
Denver, CO 80201

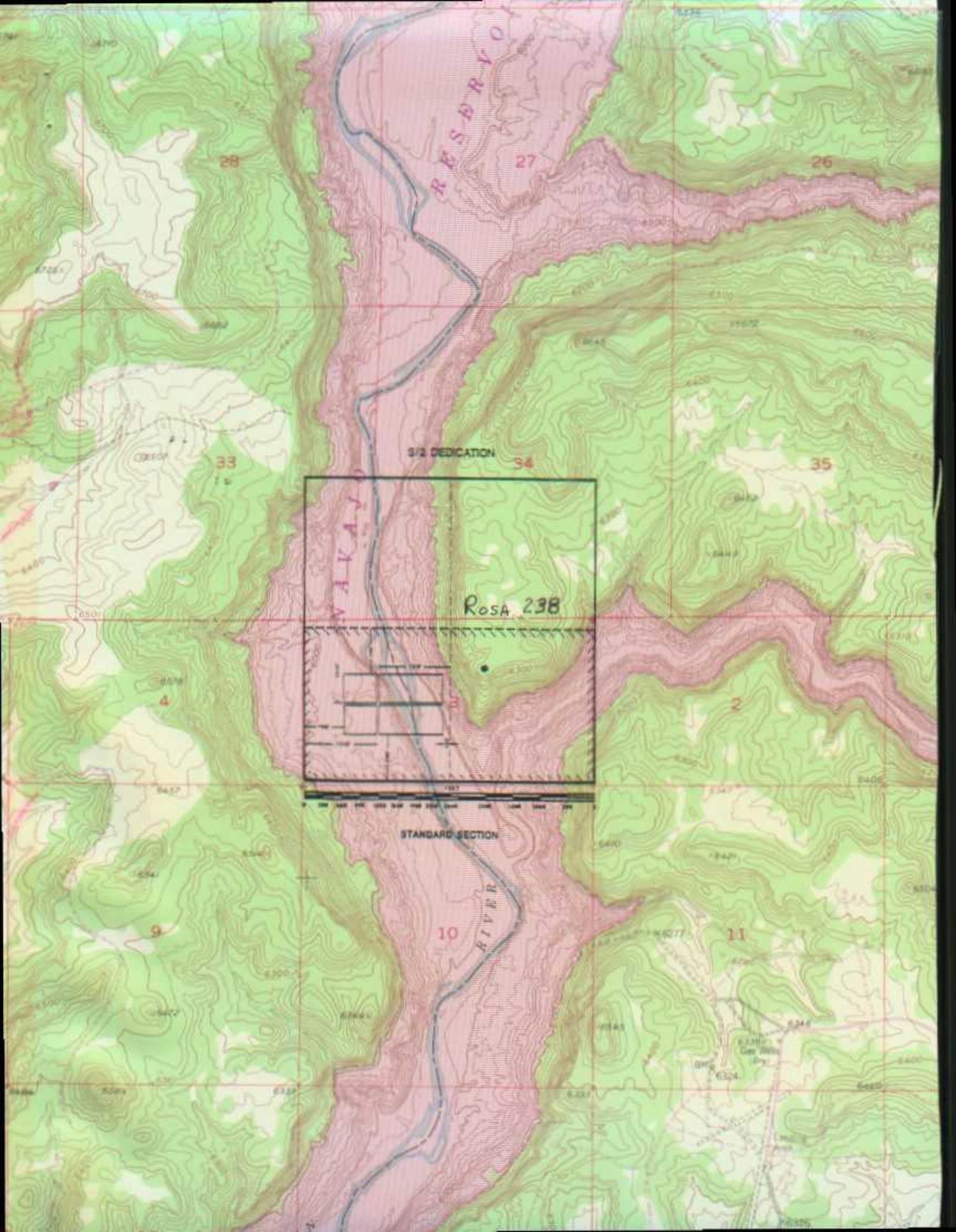


Peggy A. Bradfield

San Juan County
State of New Mexico

September 13, 1990

My commission expires August 17, 1992



RESERVOIR

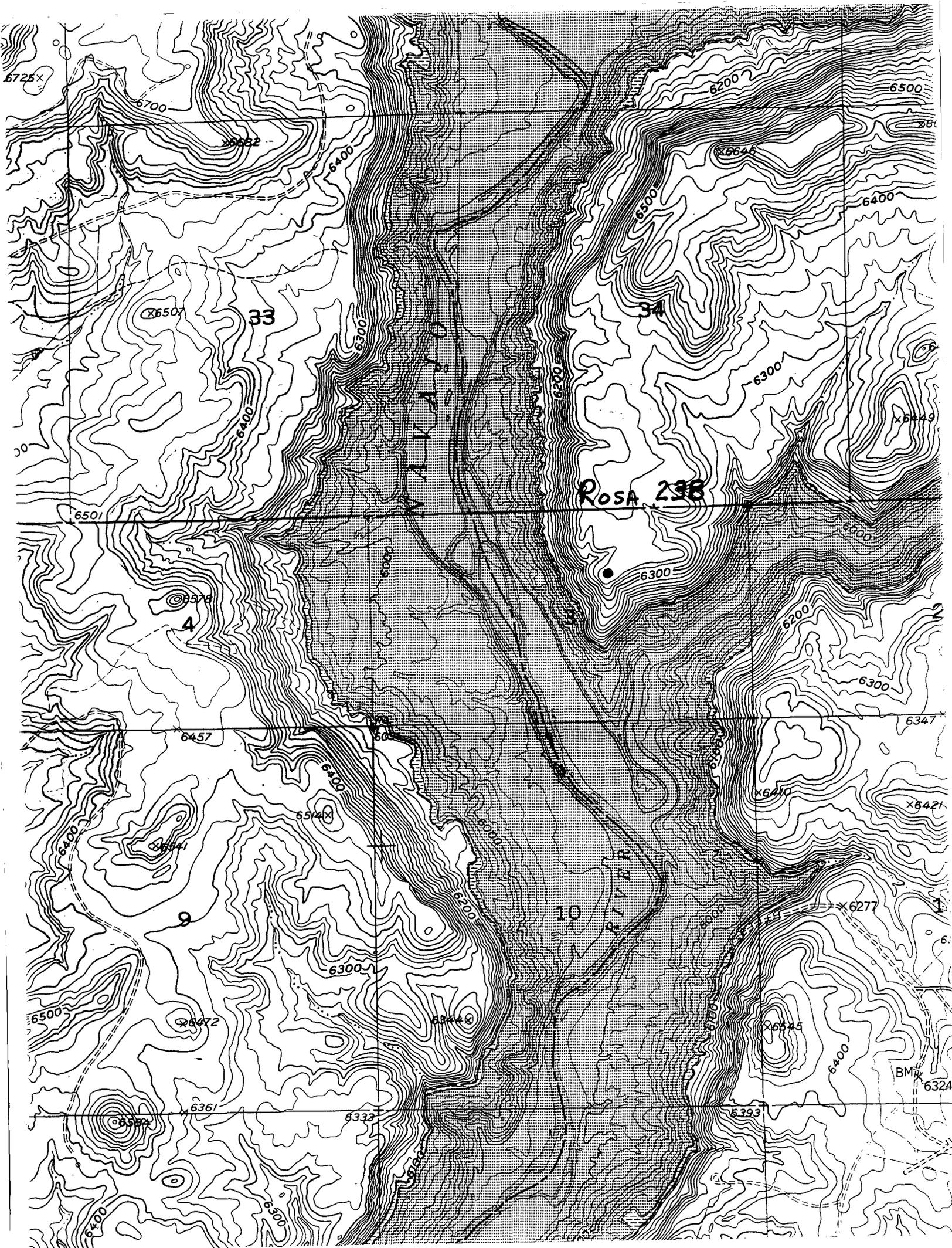
3/2 DEDICATION

Rosa 238

STANDARD SECTION

10 RIVER





**ARCHAEOLOGICAL SURVEY OF
MERIDIAN OIL INCORPORATED'S
ROSA UNIT 238 WELL PAD AND ACCESS ROAD
T31N, R6W, SECTION 3, 2045 FSL, 1960 FEL
RIO ARRIBA COUNTY, NEW MEXICO**

LAC REPORT 89149

by

Maureen C. Cavanaugh

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

New Mexico Cultural Resource Use Permit No. 19-2920-89-F
New Mexico Blanket Survey Permit 89-030

February 2, 1990

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

Mr. Charles Werner
Meridian Oil Company
P.O. Box 4289
Farmington, New Mexico 87499-4289

February 10, 1990

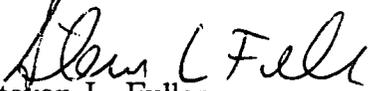
Mr. Werner:

Please find enclosed two copies of the archaeological survey report for the Rosa Unit 238 well location and access road (T31N, R6W, Section 3, 2045 FSL, 1960 FEL). I have submitted all of the required paperwork to the BLM and have recommended archaeological clearance for this project.

An invoice is attached. I realize that this seems like an excessive amount for a single well pad, but our actual field time included 10 person days instead of the five that I charged. I guess that this was because of the complexity of the survey, the length of the access road, some confusion over the alignment of the access road, the remoteness of the area, and the high site density.

Also note that there is a site within 100 feet of the well pad. I don't recall if we discussed this with you or Neal, but there were no apparent options for movement. The BLM has relaxed their 100 foot rule (see attached memo) and have been approving wells where topographic, well spacing, or other factors preclude relocation.

Thank you,


Steven L. Fuller

Attachments



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)

FEB 5 1990

Dear Archeological Contractor:

Our November 27, 1989 letter concerning the preferred minimum distance between archeological sites and surface disturbing projects contains an omission which is clarified in the following revisions.

The preferred minimal distance between archeological sites and surface disturbing projects is one hundred (100) feet. However, the BLM's multiple use mandate requires that we use a combination of factors to make determinations for approval of projects, with avoidance being one of them. In many cases, topography, existing disturbance, visual and wildlife concerns are factors which the BLM also considers when determining whether the locations for a surface disturbing action should remain in place or be relocated. Exceptions to the 100 foot minimum distance may be considered by the BLM on a case-by-case basis.

In addition, the FRA has RMP planning decisions for Special Management Areas (SMA) and Areas of Critical Environmental Concern (ACEC) in place which specify that surface disturbing activities are to be minimized. In those areas, minimum distance from sites may be less than 100 feet but prior to relocations or adjustments to avoid archeological sites, BLM must be contacted to make final determinations on location of projects.

Sincerely,



Ron Fellows
Area Manager

INTRODUCTION

An archaeological survey of Meridian Oil's Rosa Unit 238 well pad and access road was conducted by personnel of La Plata Archaeological Consultants between December 2 and 13, 1989. The field work was conducted by Maureen Cavanaugh, Rich Fleming, Robert Wagner and Dana Robinson. Maureen Cavanaugh supervised the field work and Steve Fuller acted as administrator for the project. The survey was conducted at the request of Mr. Charles Werner of Meridian Oil.

The project is located partially on lands administered by the Farmington Resource Area of the Bureau of Land Management's Albuquerque District and is within Rio Arriba County, New Mexico (Figure 1). Work on Federal lands was conducted under the authority of Cultural Resource Permit No. 19-2920-89-F issued to La Plata Archaeological Consultants. The well pad and south end of the access road are on lands administered by the Bureau of Reclamation, Durango Projects Office. Approximately 0.75 mile of access road cross New Mexico State Trust Lands and that work was conducted under the authority of New Mexico Blanket Survey Permit 89-030, also issued to La Plata.

The area was surveyed for one well pad and 16,900 feet (3.2 miles) of access road. Six new archaeological sites were encountered during the survey. Site LA75744 can be protected during construction by placing protective barrier fences between the site and the construction zone. Access was routed 100 feet or further from sites LA75739, LA75740, LA75741, LA75742, and LA75743. Also encountered were five isolated occurrences which were fully recorded in the field.

PREFIELD RECORD SEARCH

On November 30, 1989, the records located in the Farmington Resource Area Office were reviewed. Extensive survey work was done west of the project area in the San Juan River canyon, prior to inundation by Navajo Reservoir. A total of 28 sites were recorded in the canyon bottom within one mile of the project area. In contrast, the mesa top area between Eul Canyon and Canon Bancos has had only minimal reconnaissance of cultural resources and only five sites have been recorded within one mile of the well pad and access road (Figure 1a, included only with the BLM copy of this report). It is possible that the well pad and short segments of the access road may have been surveyed in 1988 by personnel of Archaeological Consultants (Karlson 1989). One site, BLM35420, was recorded along that original access road alignment by AC. Three of the previously recorded sites are within 100 feet of the edge of the survey area for the Rosa Unit 238 access road, but will not be affected by this action and were not rerecorded. The 33 total previously recorded sites within a one mile radius are described as follows:

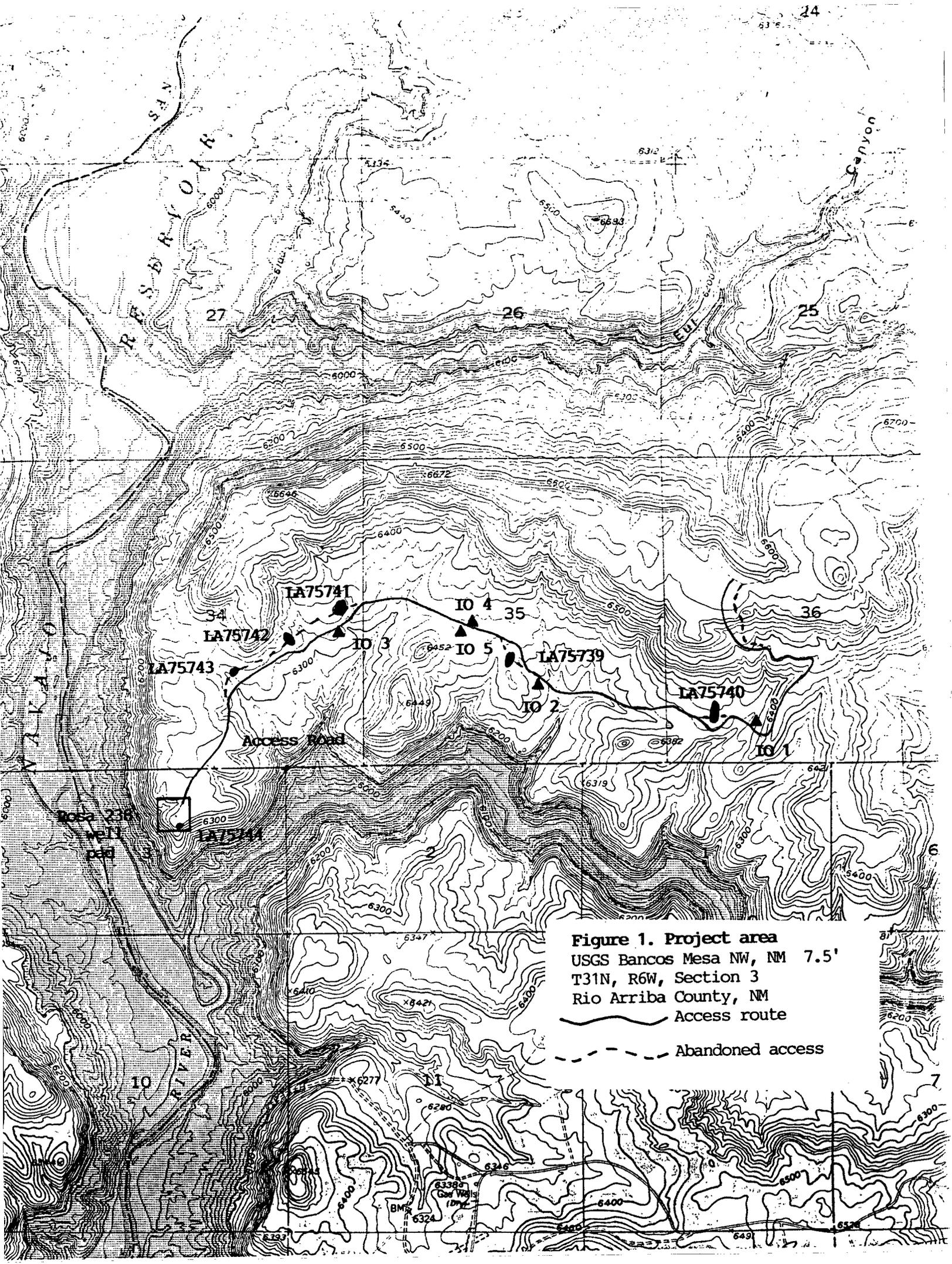


Figure 1. Project area
USGS Bancos Mesa NW, NM 7.5'
T31N, R6W, Section 3
Rio Arriba County, NM
— Access route
- - - Abandoned access

LA #	Site type
3047	Navajo Gobernador Phase rock shelter with pictograph and lithic scatter
4339	Anasazi Pueblo I Rosa Phase possible masonry structure with lithic and ceramic scatter.
4340	Anasazi Pueblo I Rosa Phase lithic and ceramic scatter.
4341	Anasazi Pueblo I Rosa Phase pithouse, isolated masonry room, and burial.
4342	Anasazi Pueblo I Rosa Phase isolated jacal room with hearth and lithic/ceramic scatter.
4343	Anasazi Pueblo I Rosa Phase lithic and ceramic scatter.
4344	Anasazi Pueblo I Rosa Phase pithouse, isolated jacal room, and ground stone.
4345	Anasazi Pueblo I Rosa Phase possible masonry structure with ceramic and lithic scatter.
4346	Anasazi Pueblo I Rosa Phase pithouse and isolated masonry room.
4347	Anasazi Pueblo I Rosa Phase isolated jacal room and hearth.
4348	Anasazi Pueblo I Rosa Phase isolated jacal room and lithic scatter.
4349	Anasazi Pueblo I Rosa Phase masonry roomblock and hearth.
4378	Anasazi Pueblo I Rosa Phase pithouse village.
4380	Anasazi Pueblo I-II Piedra Phase pithouse village, kiva, and isolated jacal room.
4381	Navajo Gobernador possible masonry structure and lithic and ceramic structure.
4382	Anasazi Pueblo I Rosa Phase pithouse and lithic/ceramic scatter.
4383	Anasazi Pueblo I Rosa Phase lithic and ceramic scatter.
4384	Anasazi Pueblo I pithouse, hearth, and cairn.
4385	Anasazi Pueblo I Rosa Phase pithouse and lithic/ceramic scatter.
4386	Anasazi Pueblo I Rosa Phase jacal roomblock and lithic and ceramic scatter.
4387	Anasazi Pueblo I Rosa Phase pithouse, isolated masonry room, and lithic/ceramic scatter.
4388	Anasazi Pueblo I Rosa Phase pithouse, isolated jacal room, and lithic/ceramic scatter.
4389	Anasazi Pueblo I Rosa Phase pithouse, possible masonry structure, and lithic/ceramic scatter.
4390	Anasazi Pueblo I Rosa Phase lithic/ceramic scatter.
4391	Anasazi Pueblo I Rosa Phase rockshelter with lithic/ceramic scatter.
4392	Navajo historic hogan.
4393	Lithic scatter.
6524	Anasazi Pueblo II cairn circle with ceramics.
30765	Navajo pre-Gobernador hogan, bin, and lithic/ceramic scatter.
50829	Anasazi Pueblo III Arboles Phase petroglyph and lithic/ceramic scatter.

50830	Anasazi Pueblo III Arboles Phase possible masonry structure with lithics and ceramics.
54339	Anasazi Pueblo II Piedra Phase possible subterranean structure, possible jacal structure, and lithic/ceramic scatter.
BLM35420	Anasazi sherd and lithic scatter

FIELD METHODS

Prior to the survey, the proposed well pad was staked at the center and the four corners. Off pad construction areas were not delimited, but were described as consisting only of a topsoil stockpile area which could not extend further than 50 feet from the pad. A 7.3 acre block (530 by 600 feet) was surveyed centered on the well pad center stake, which was sufficient to cover the well pad, 50 foot construction zone, and a 100 foot buffer for cultural resources. The 7.3 acre block was surveyed by pedestrian transects which were no further than 15 m or 50 feet apart. A total of 16,900 feet (3.2 mi) of access road was also required. Approximately 10,400 feet was on an existing two track road, and the remainder was along a flagged route. Along the entire 16,900 feet a 150 foot wide corridor (75 feet on both sides of the centerline) was surveyed by pedestrian transects which were no further than 15 m or 50 feet apart. A total of 58 acres was surveyed during archaeological examination of the access route. A combined total of 65.3 acres was inventoried for cultural resources during survey of the well pad and access road. The extent of the 7.3 acre block and the access road are illustrated on Figure 1.

When cultural materials were encountered during the survey they were flagged and the immediate area was intensively inspected for other materials. The six new archaeological sites were recorded on Laboratory of Anthropology site forms, photographed, and mapped. The five isolated occurrences were described and plotted on a topographic map.

ENVIRONMENT

The project area topography is defined by a narrow east-west oriented ridge system situated immediately east of Navajo Reservoir, between Eul Canyon and Canon Bancos. The proposed well pad is situated at the terminus of the ridge system, on a point 200 feet above the confluence of Canon Bancos and Navajo Reservoir. The access road drops off the ridge down to a very wide (up to 2000 feet wide) south aspect bench above Canon Bancos.

The vegetation in the project area is primarily a pinyon-juniper woodland with some open sage meadows. Some areas on the highest part of the ridge had been chained, as well as most of the area on the south aspect bench. The chained areas contained primarily sagebrush, with a second growth of small pinyons and junipers. Broom

snakeweed, narrow leaf yucca, mountain mahogany, Gambel Oak, Mormon tea, as well as various forbes and grasses were also noted. Soils varied from shallow and rocky along the ridge margins and steep slopes and narrow benches to a deep reddish brown eolian sandy loam on the wide bench above Canon Bancos, as well on the ridge top. Sandstone outcrops in cliffs and ledges on the ridge slopes. Extensive cobble deposits were also observed in the area of the proposed well pad. The nearest natural source of water is the San Juan River, now inundated by Navajo Reservoir.

PROJECT LOCATION AND DESCRIPTION

Rosa Unit 238 Well Pad and Access Road

Legal Description: T31N, R6W, Section 3, N 1/2 NW 1/4 NE 1/4, Rio Arriba County, New Mexico; 2045' FSL, 1960' FEL (See Figure 2, well pad plat). The access road crosses through T32N, R6W, Sections 34, 35, and 36 and T31N, R6W, Section 3.

Elevation: 6365 feet

Map Reference: USGS Bancos Mesa N.W., New Mexico 7.5' (1982)

Land Jurisdiction: Bureau of Land Management, Farmington Resource Area; New Mexico State Trust; Bureau of Reclamation

Project Area: Well pad will measure 230 by 300 feet. An access road measuring 16,900 feet in length will be required.

Surveyed Area: 530 by 600 foot block (7.3 acres) surrounding the well center stake which covered the pad, 50 foot construction zone, and 100 foot buffer zone; Also 58 acres for the access road (150 foot right-of-way for 16,900 feet). Total surveyed area covered 65.3 acres.

Results: Six new archaeological sites and five Isolated Occurrences were encountered. Site LA75744 is within the 10 acre block, but outside the well pad construction zone. Five sites were recorded during survey of the access road. The access route was rerouted at least 100 feet away from sites LA75739, LA75740, LA75741, LA75742, and LA75743.

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

DISTRICT I
P.O. Box 190, Hobbs, NM 88240

DISTRICT II
P.O. Drawer 60, Aztec, NM 88210

DISTRICT III
1000 Alameda St., Aztec, NM 87418

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

Operator Meridian Oil Inc.	Lease Rosa Unit	Well No. 238
Unit Letter J	Section 3	Township 31 North
Range 6 West	County McMurry	County Rio Arriba
Actual Surface Location of Well: 2045 feet from the South line and 1960 feet from the East line		
Closest road elev. 6365'	Producing Formation	Estimated Acreage

1. Outline the acreage dedicated to the subject well by section point or section corner 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 interest of all persons been established by communication, partition, lease-purchase, etc.?
 Yes No If answer is "yes" type of communication _____

If answer is "no" list the correct and best descriptions which have actually been communicated. (Use correct date of this form if necessary.)

No alternate well be assigned to the well and all interests have been communicated (by communication, partition, lease-purchase, or otherwise) or said a non-located well, obtaining such interest, has been approved by the Division.

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

Signature _____
Printed Name _____
Position _____
Company _____
Date _____

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

Date Surveyed _____
Signature of Surveyor **857**
Professional Surveyor
Certificate No. **6857**

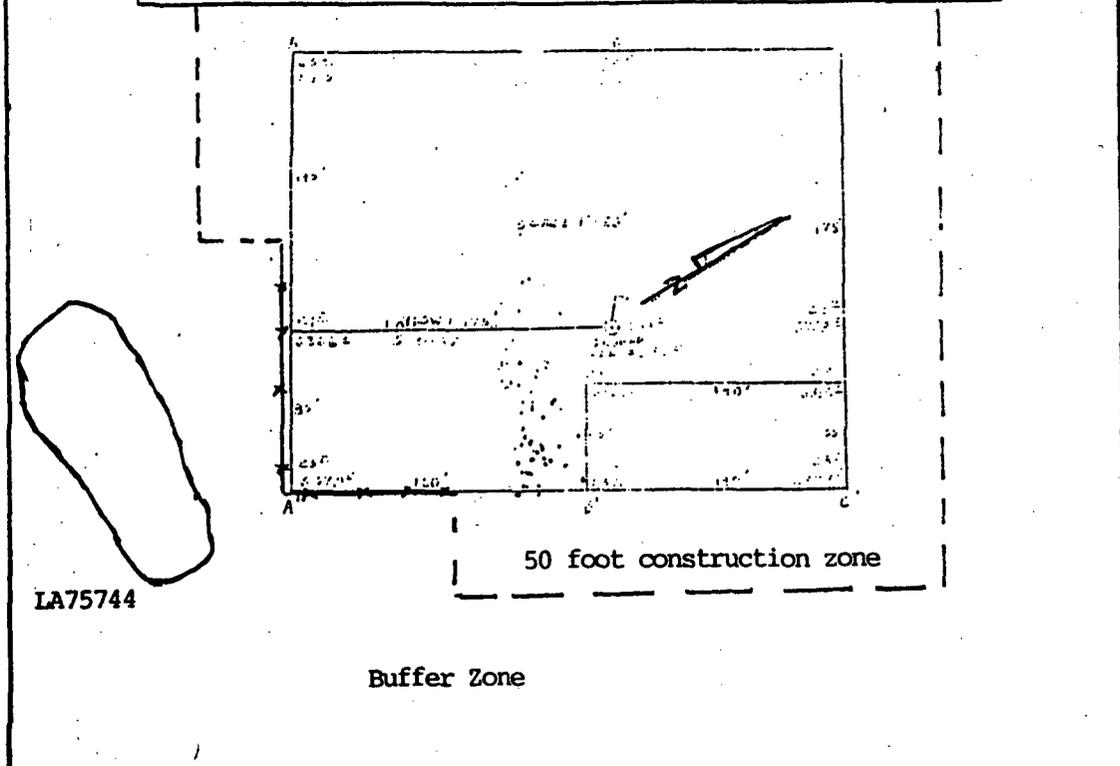


Figure 2. Well plat

CULTURAL RESOURCES

Six archaeological sites and five Isolated Occurrences were encountered during the survey for this well pad and access road (Figure 1). These sites and IO's are described as follows:

Site Number: LA75739

Description: Activity Locus 1 (Concentration 1) is a dense 30 m x 20 m concentration of flaked lithics, groundstone, fire-cracked sandstone fragments, and patches of ashy soil (Figure 3). Quartzite, chert, and siltstone debitage was observed as well as three fragments of one-hand bifacially utilized river cobble manos, and two fragments of one-hand bifacially utilized manos of fine grained sandstone. A possible upright slab alignment measuring 0.80 m N-S x 1.5 m E-W was noted. Chaining in the site area has created some disturbance so it could not be ascertained if this was a cultural or natural feature. Twelve meters east of Activity Locus 1 is Feature 1 (Concentration 2), a concentration of fire cracked sandstone (7 m x 4 m) with 5+ chert interior flakes and 1 bifacially utilized one-hand mano of fine grained sandstone. The remainder of the site area is defined by a diffuse scatter of lithic debitage. This site probably represents a limited activity area or campsite of unknown cultural or temporal affiliation and should be considered a Category 2 site due to the presence of possibly buried features.

Site Number: LA75740

Description: The site is located on a large south aspect bench and is north and east of the head of short tributary canyon to Canon Bancos. The area has been chained with subsequent damage and disturbance to cultural features. The main site feature (Concentration 1) possibly represents the remains of a possible room block (Figure 4). This is an area 11 m E-W x 7 m N-S with a dense concentration of fire reddened sandstone fragments, ash stained soil, ceramics (Piedra Gray, Piedra Black-on-white), and lithics. Concentration 2, 12 m to the south, is similar in appearance and content although with a lesser amount of materials. Two mano fragments, and 3 metate fragments were also noted in this area. The area in front of Concentration 2 slopes down to the south, but it could not be determined if this was part of a pitstructure depression, or a natural topographic feature. Concentration 3, 20 m southwest of concentration 2, is a 5 m x 3 m area with fire-cracked sandstone, flakes, grayware sherds, and ashy soil. Concentration 4, 50 m north of Concentration 1, is a 4 m x 3

LA 75739

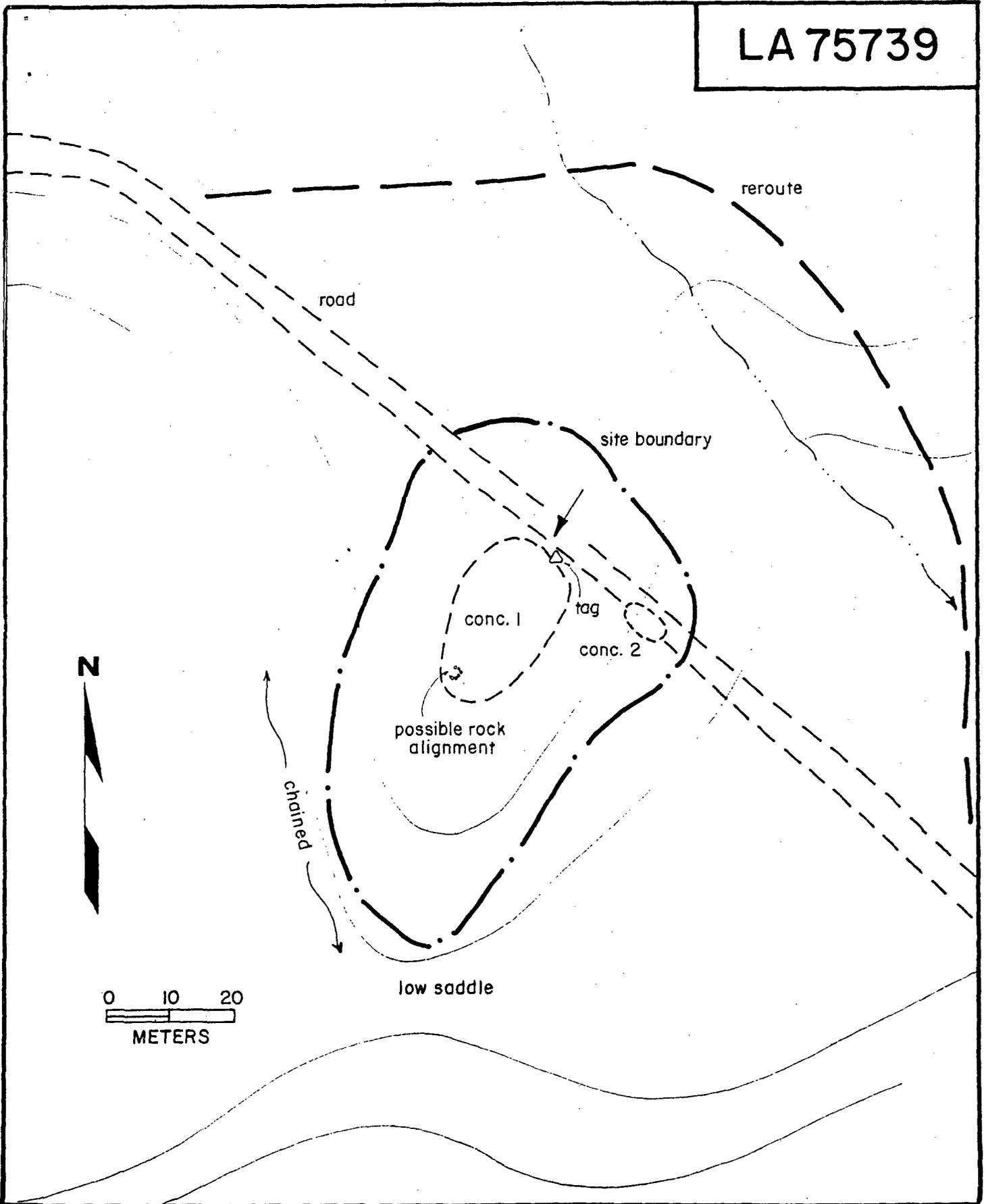


Figure 3.

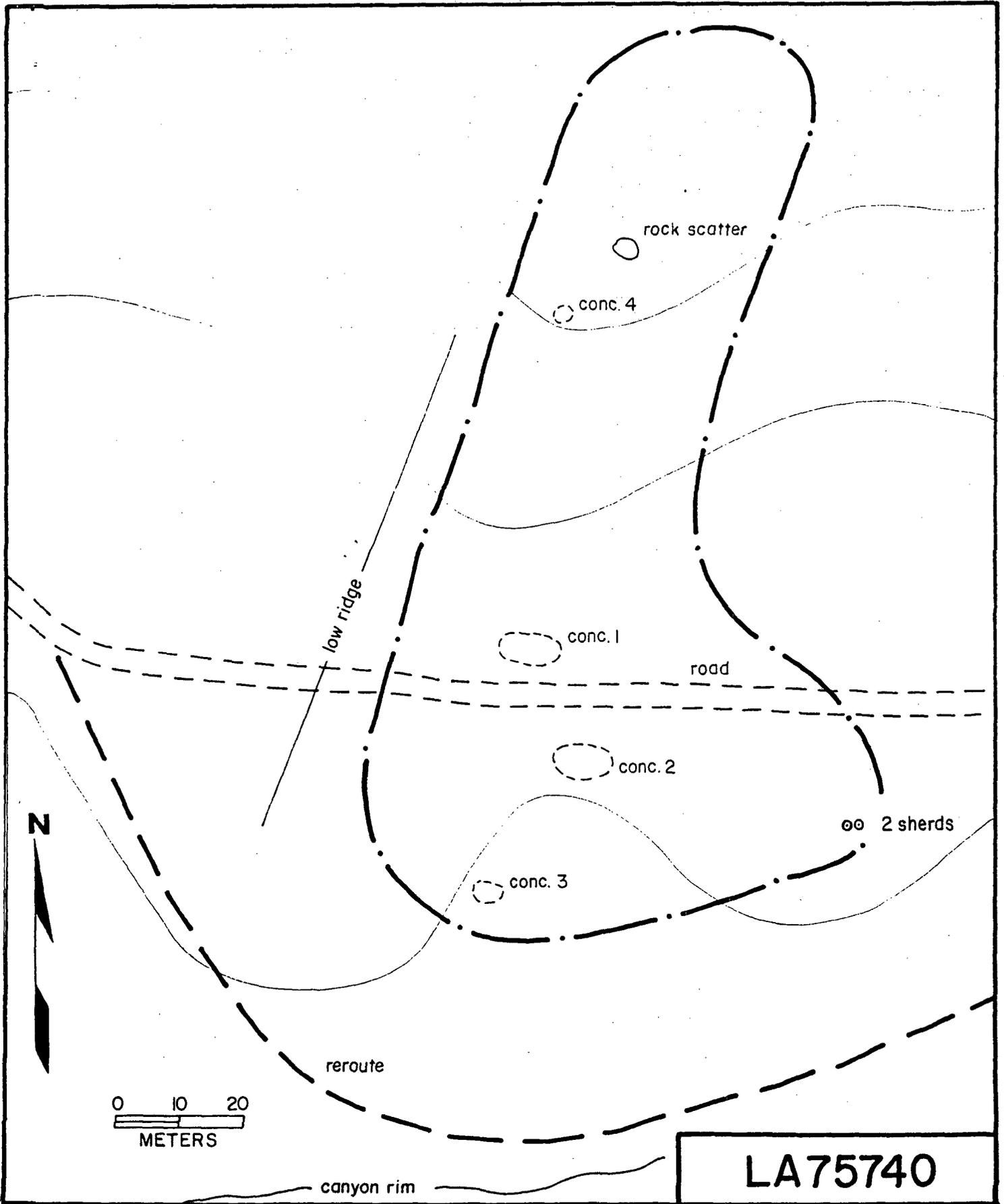


Figure 4.

m deflated area, probably caused by chaining, with 1 Piedra Black-on-white bowl rim sherd, several white ware sherds, 2 cobble decortication flakes, and 5+ fire cracked sandstone fragments. Five slab fragments were noted 4 m east. Thirteen m northeast is a scatter of sandstone rocks (6 m x 3 m) with a 1 m concentration of smaller pieces of sandstone in the middle. The area immediately north of this scatter appears to be a slight depression. However, the paucity of artifacts and lack of a definable roomblock tends to corroborate an interpretation of this as a topographic, rather than cultural feature. In the remainder of the site area is a diffuse, very low density scatter of grayware sherds. The site appears to be the remains of an Anasazi Pueblo I habitation which dates to the Piedra Phase. The chaining has disturbed the site surface moderately and makes interpretation of site features difficult. The site is highly likely to contain intact structures and data important to prehistory and this should be considered a Category 2 site.

Site Number: LA75741

Description: This site is located on a southeast trending bench above Canon Bancos to the south (Figure 5). Aspect of the site area is southeasterly, subsequently the pinon-juniper and sagebrush vegetated site is bisected by small ephemeral south trending drainages. The context of the site appears to be that of habitation. Although no structure is visible, a small midden to the northwest indicates occupation greater than that of a temporary use camp. This midden area is situated on the west edge of a dunal ridge between two arroyos. The midden is an area 5 m x 3 m with ashy soil, a scatter of fire cracked sandstone fragments, and a cluster of 8+ sherds with a Gobernador-like exterior slip and a heavy glaze design on the interior; also within the midden are several Dinetah Gray sherds. Approximately 25 m to the west, in the bottom of the arroyo, is a disarticulated slab feature with ashy soil (Feature 1). Artifacts located in the general site area include, one mano, one chert biface, 30-40 flakes of basalt and chert, and approximately 20 Dinetah Gray sherds. The site possibly represents a short term habitation dating to the Gobernador Period and should be considered a Category 2 site due to the presence of a probable midden.

Site Number: LA75742

Description: The site is situated on a south-southeast aspect slope dissected by shallow erosional features (Figure 6). Twenty meters northwest of the site is a sandstone outcrop, which is the termination of a steeper slope leading to the base of a large ridge. The site is manifested by a

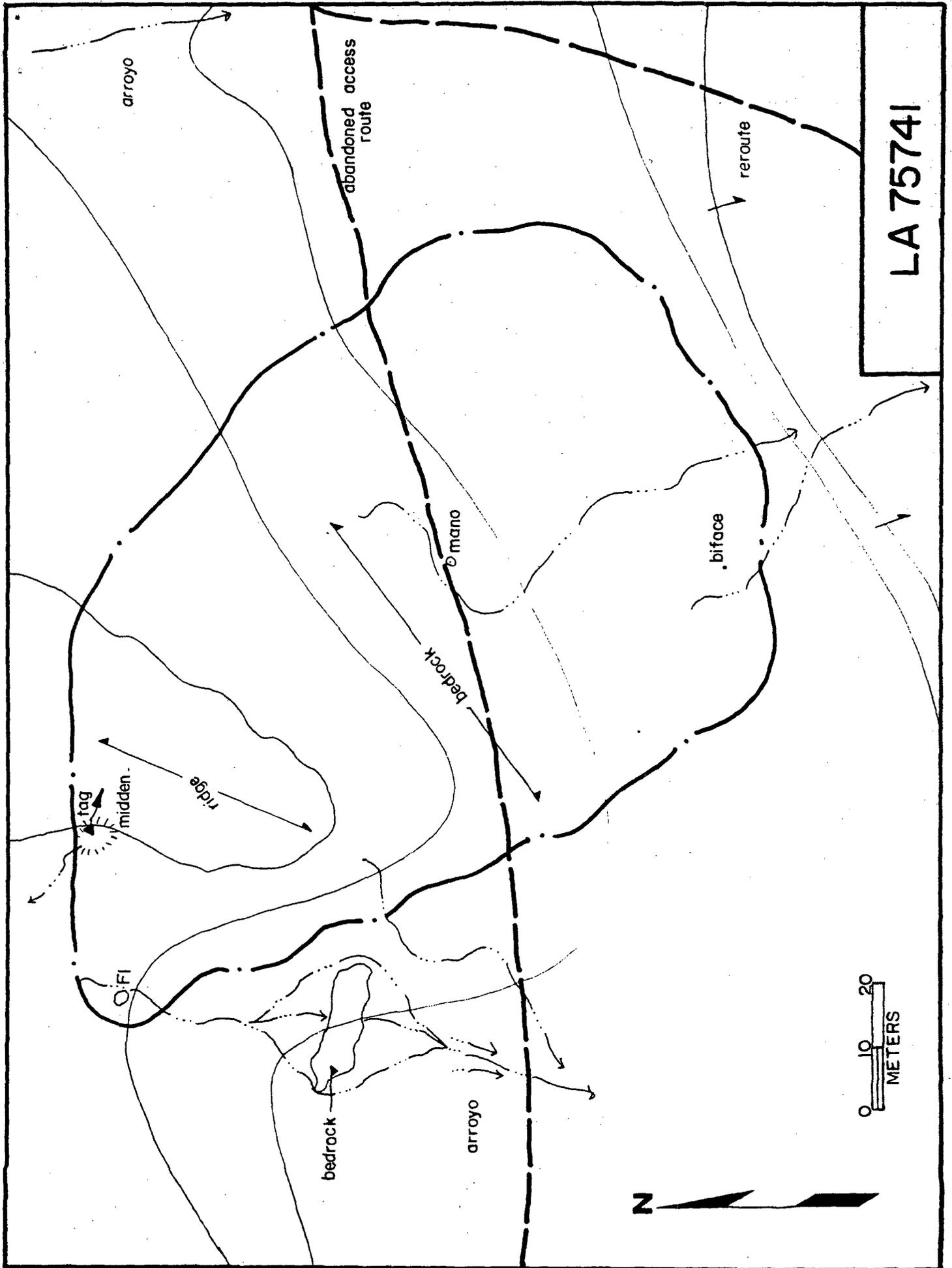


Figure 5.

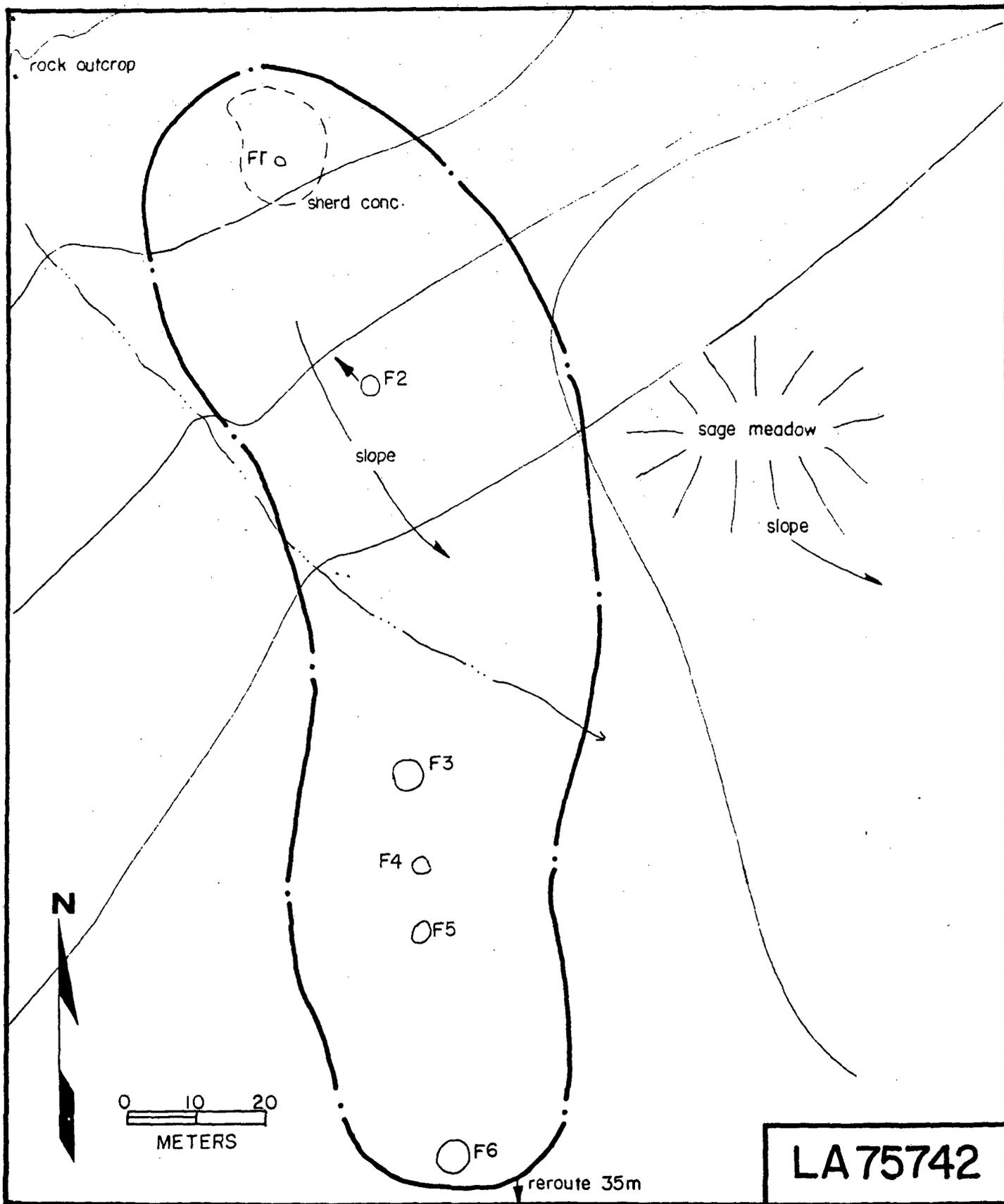


Figure 6.

scatter of 50+ Dinetah Gray sherds in a 20 m x 15 m area at the north edge of the site. A partially buried irregular ash stain 1.5 m across (Feature 1) was also noted in this area. One rectangular cobble (30 cm x 25 cm x 4 cm) with ground margins was also present as well as a sandstone unifacially utilized cobble. A second cluster (Feature 2) of 6+ Dinetah Gray sherds, siltstone flakes and several fragments of fire cracked sandstone was noted 35 m southeast of F1. A second area of cultural features was noted south of an arroyo which flows southeast towards a sage meadow. Feature 3 is a debitage concentration 6 m in diameter with 20+ items, primarily secondary and interior green to gray quartzite flakes, situated on a slight south aspect slope covered by very small angular sandstone gravels. Thirteen m to the south are the remains of an upright slab hearth, 60 cm in diameter (Feature 4). One flaked river cobble sits on top of the ashy fill within the feature, and five fire reddened sandstone fragments are scattered downslope to the south of the feature. Feature 5 is 8 m to the south and is manifested by a 7 m x 8 m concentration of fire cracked sandstone, and 30+ decortication, secondary, and interior flakes from river cobbles. Feature 6 is an additional 40 m south, and consists of a 4 m x 5 m concentration of dark ashy soil, 50+ fragments of fire cracked sandstone, and several interior flakes of quartzite and chalcedony. This site probably represents a Navajo limited activity locus dating to the Gobernador or Dinetah Period and should be considered a Category 2 site due to the presence of numerous features that are likely to contain further data.

Site Number:

LA75743

Description:

The site is situated on a gentle south aspect slope on a bench. To the north is the base of a ridge; to the south the topography slopes more steeply down towards a drainage. Two similar main features are present on the site (Figure 7): Feature 1 is a 3 m x 2 m concentration of fire cracked sandstone fragments averaging 10 cm x 15 cm x 4 cm in size, occurring at a maximum density of 15 items per square meter. This feature is situated on a shallow erosional drainage. Black ashy fill is associated with the feature, as well as a two hand mano of an extremely fine grained white sandstone, and a secondary flake from an igneous river cobble. Three meters downslope to the south is more fire cracked sandstone, probably washed down from Feature 1. Feature 2 is to the north and is a 5m by 5m area of fire cracked sandstone fragments and slab fragments, ashy patches, two large cobbles, 1 pecked mano fragment (sandstone), several interior flakes, 1 early Pueblo Gray body sherd, several white chert flakes, a 1 grooved small sandstone cobble, and 1 metate fragment of coarse

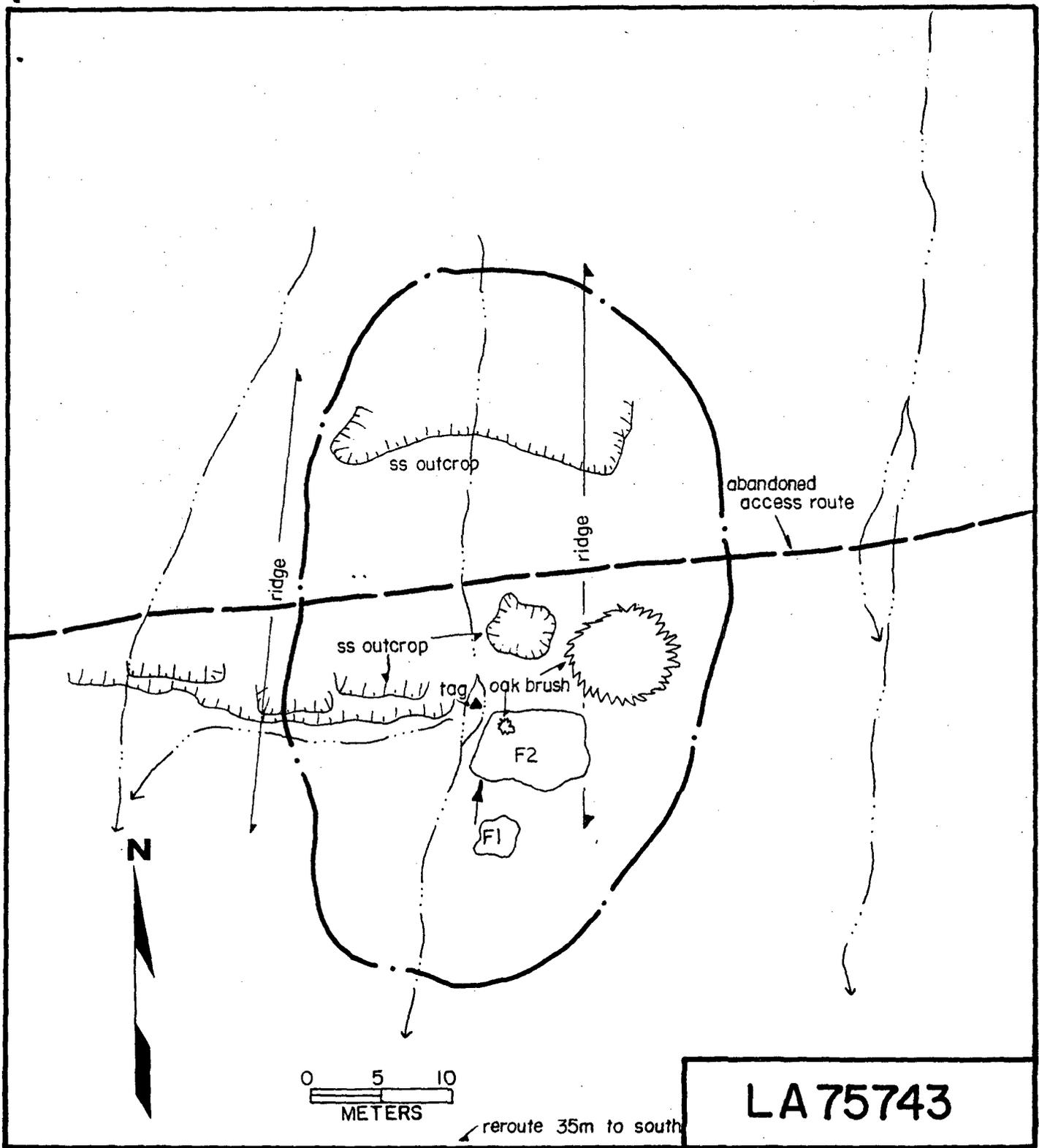


Figure 7.

grained sandstone. Based on the presence of an early Pueblo Gray sherd, this site is thought to represent a limited activity locus dating to the Pueblo I Period and should be considered a Category 2 site pending further evaluation.

Site Number: LA75744

Description: The site is situated on the tip of a point above the confluence of the San Juan River and Canon Bancos, now inundated by Navajo Reservoir (Figure 8). On the south edge of the site, the topography drops sharply 300 feet in a series of steep gravel covered slopes and sandstone cliffs down to the edge of Navajo Reservoir. Natural gravel outcrops also occur in the site area. The site itself is on a gentle south aspect slope, with large deflated sections or "blow-outs" in the southeast portion. A scatter of groundstone items and flaked lithics were observed in this area. The flaked lithics consist primarily of flaked cobbles and secondary and interior flakes from river cobbles. The ground stone items consist of locally available cobbles with a naturally flat surface or surfaces of the cobble exhibiting a distinctive ground facet, indicative of use. These items are generally in the one-hand mano size range. Ten+ items of this type were noted. One Piedra Gray sherd was also noted in the site area. The site appears to represent a food processing area, with the expedient use of locally available materials for grinding tools and should be considered a Category 2 site until further examination determines that further data are not preserved.

IO Number: 1

Description: This IO is a cluster of six Piedra Gray body sherds in a 50 cm x 75 cm area. The sherds are all from a jar and probably represent portions of one vessel. The IO should be considered a partial "pot drop". The IO is on a steel west facing slope overlooking a tributary canyon that flows south into Canon Bancos, within an area of chained pinyon-juniper. The depositional context is sandstone bedrock and rocky colluvium.

IO Number: 2

Description: IO 5 consists of a scatter of three manos in 15 m x 20 m area: 1) Rectangular one hand river cobble mano (15 cm x 14 cm x 3 cm); 2) one hand bifacially utilized biscuit-type mano of fine grained sandstone; 3) Igneous river cobble (14 cm x 11 cm x 6 cm) with battered ends, bifacially ground, with an indentation on each side for a finger grip, and a 2 cm diameter x .05 cm deep indentation pecked

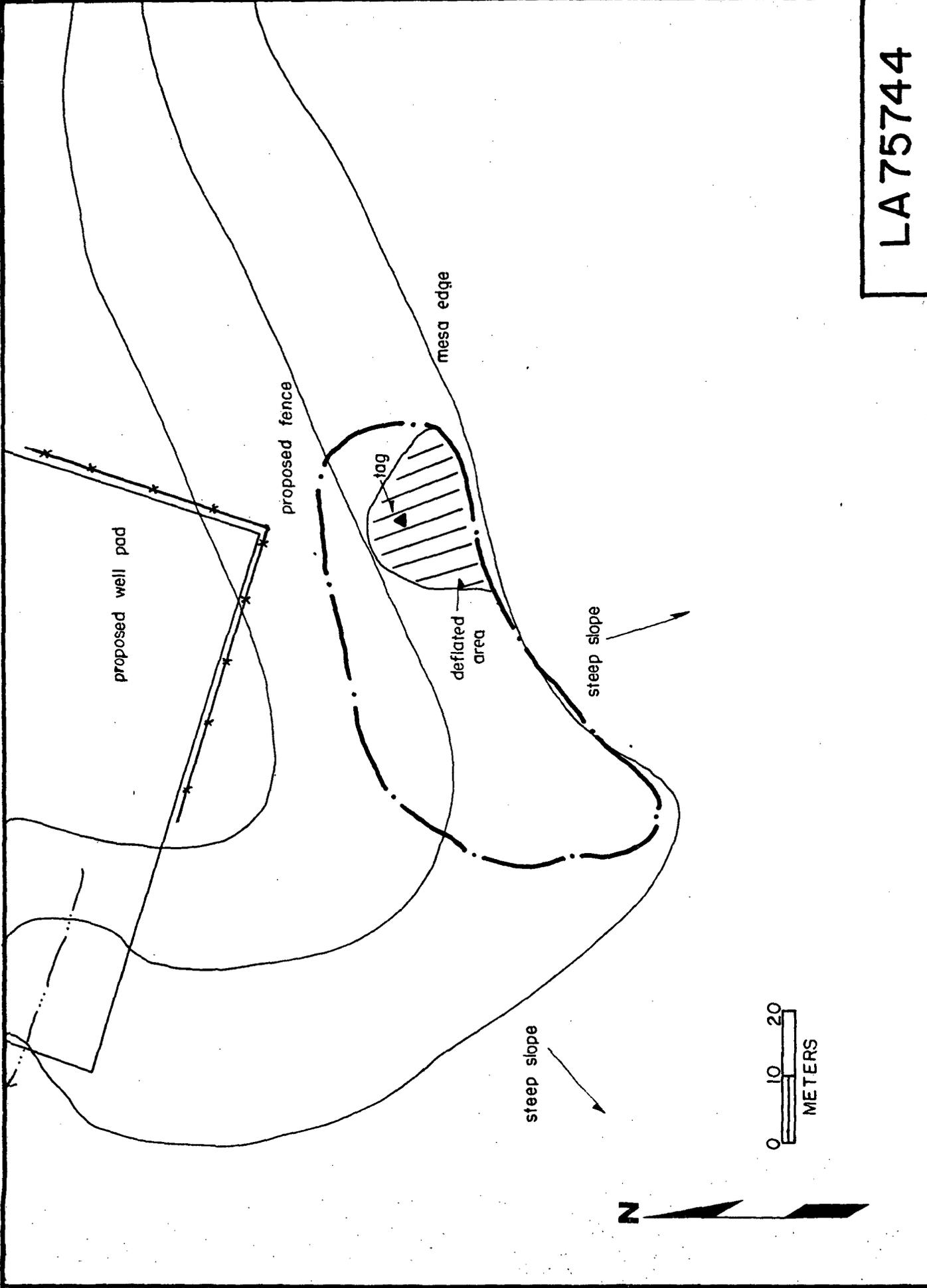


Figure 8.

in the center of each ground surface. These items are on a slope on the south edge of the surveyed right-of-way, and will not be impacted during road construction. The area is an east-facing slope on a bench between Canon bancos to the south and a high mesa to the north. A tributary to Canon bancos heads up to the east of the IO. The vegetation is chained pinyon-juniper.

IO Number: 3

Description: IO 3 consists of two small unifacial one hand manos of fine grained sandstone. The two manos are complete and are located 8 m apart on a south facing slope located on a bench between Canon Bancos to the south and a high mesa to the north. The manos are both 12 to 14 cm in length and are subrectangular in shape. No evidence for features or other cultural phenomena were noted close by. The area is covered by a fairly shallow deposit of sandy loam loess with rocky outcrops and colluvial slopes throughout the vicinity. The vegetation is chained pinyon-juniper.

IO Number: 4

Description: Scatter of six Piedra Gray body sherds in a 20 by 20 m area is difficult to interpret. The six sherds appear to represent a single jar, although are widely spread out. The IO may be a partial "pot drop" or perhaps represent another very limited use of this locale. IO 4 is on a broad south-facing bench between Canon Bancos to the south and a high mesa to the north. The area has been chained and is covered with a moderate deposit of sandy loam loess. No evidence for features was observed.

IO Number: 5

Description: Scatter of 8 Piedra Gray body sherds in a 20 m x 25 m area, about 150 feet southwest of IO 4. The sherds may represent a partial vessel but this could not be determined with certainty. The area is a broad bench to the north of Canon Bancos and to the south of a high mesa, within an open chained area. No sign of features or cultural deposits was observed.

RECOMMENDATIONS

Six archaeological sites and five Isolated Occurrences have been recorded during this survey. Management recommendations for the six sites are described as follows:

- LA75739: This site was encountered along the original access road and has been avoided by approximately 100 feet as indicated by the reroute shown on Figure 3. No further protection is recommended.
- LA75740: This site was encountered along the original access route and has been avoided by a reroute around the south end as indicated on Figure 4. No further protection is recommended.
- LA75741: This site was bisected by the original access route and has been avoided by rerouting the access to the south as indicated on Figure 5.
- LA75742: This site was located to the north of the access route and a reroute has placed the final access alignment over 100 feet south of the site (Figure 6).
- LA75743: This site was bisected by the original access route which has been moved more than 100 feet south and southeast (Figure 7).
- LA75744: This site is within the 7.3 acre well pad survey area, and between 30 to 75 feet south of the well pad construction zone. Site 75744 can be protected during construction and operation by the placement of a permanent barrier fence, as indicated in Figure 8. The site cannot be avoided by a full 100 feet due to topographic constraints, as indicated on Figure 1, and due to well spacing requirements which prohibit movement of the well pad further to the north. Eliminating the construction zone from around the southeast corner of the well pad, as indicated on Figure 2, along with placement of a permanent fence should adequately protect the site. Also recommended is an archaeological monitor during construction of the well pad area.

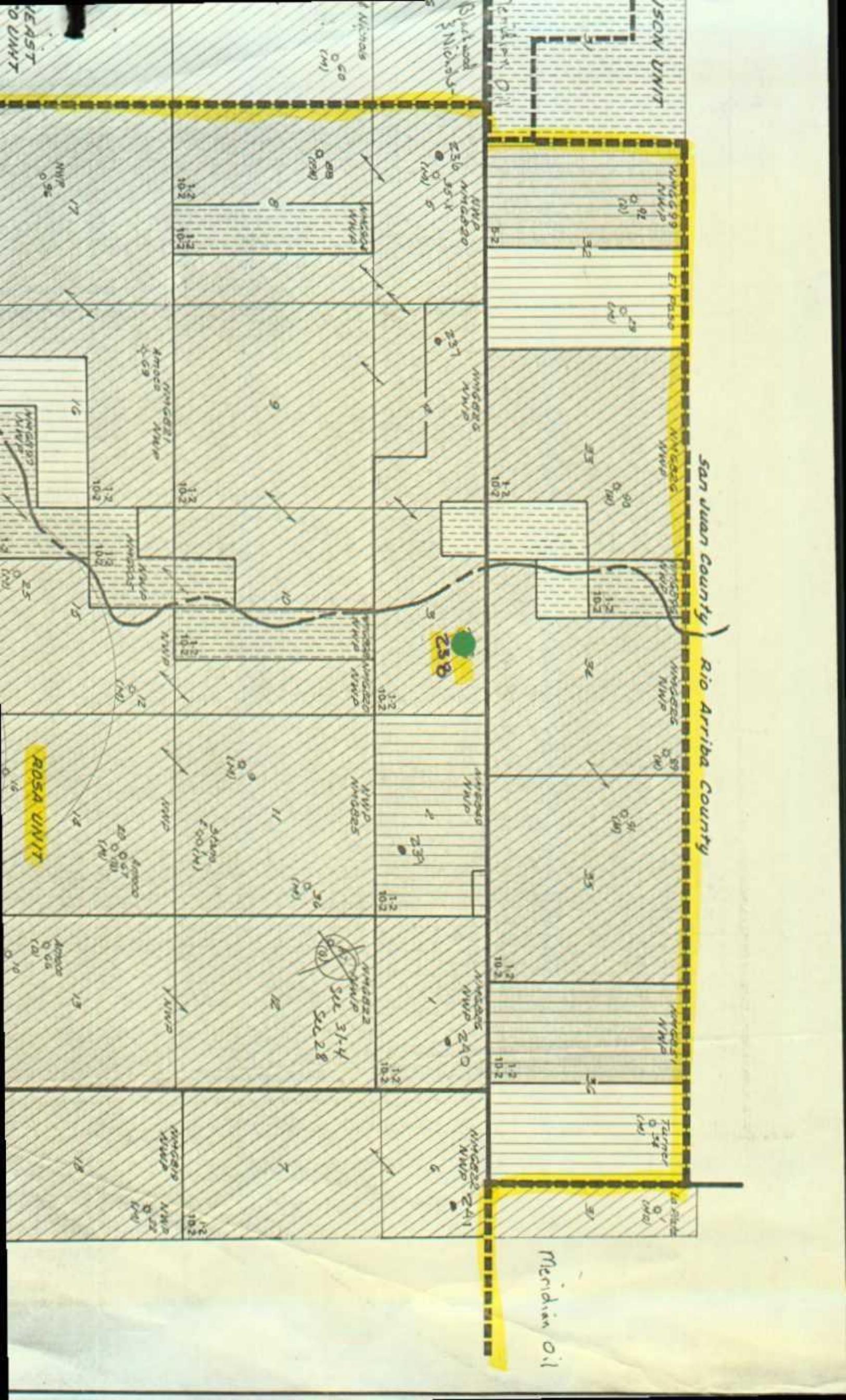
The five isolated occurrences are within the access route survey corridor and all pertinent data have been retrieved.

Given the protective stipulations discussed above, archaeological clearance is recommended for Meridian Oil Incorporated's Rosa Unit 238 well pad and access road.

REFERENCES

Karlson, Jamie A.

1989 Survey of cultural resources for 39 proposed Northwest Pipeline Corporation Rosa Unit well sites and access roads. AC Project Report 634. Durango.



150N UNIT

San Juan County

Rio Arriba County

Meridian Oil

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SE 1/4 92

NW 1/4 90

SE 1/4 90

NW 1/4 91

SE 1/4 91

NW 1/4 92

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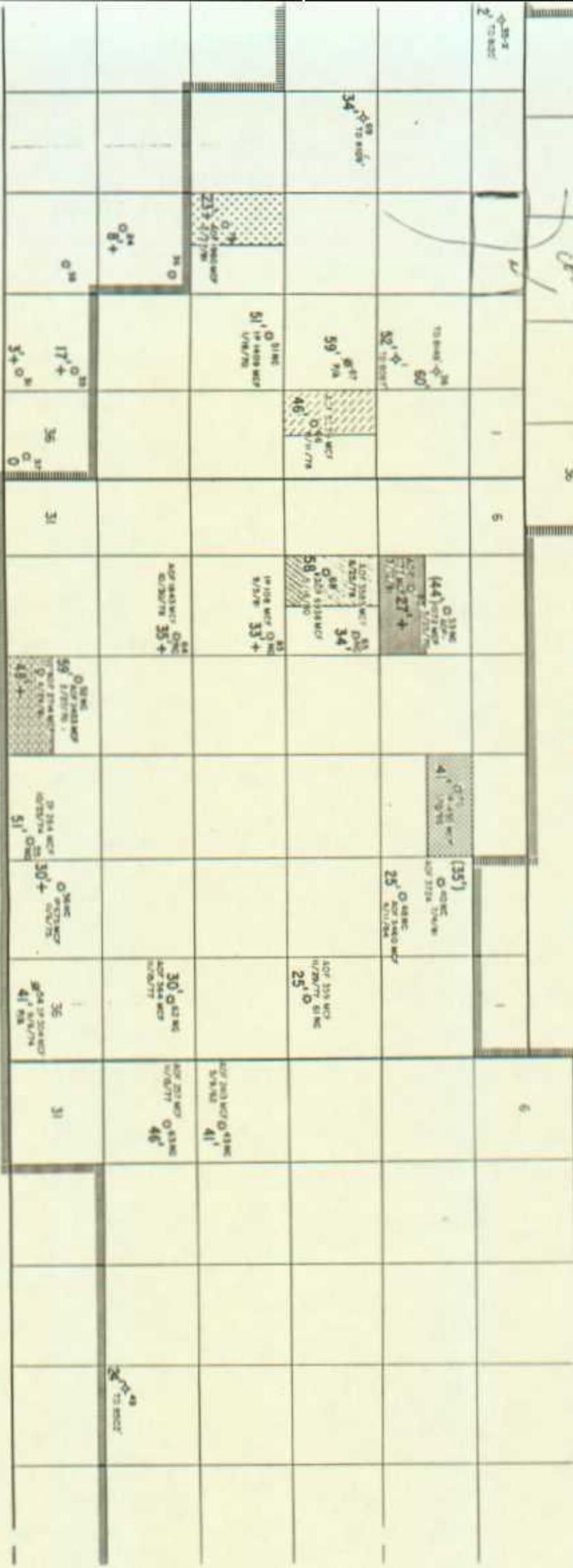
SE 1/4 207

NW 1/4 2

Case No. 9133

DAKOTA-ROSA UNIT

Security House



*No Well Based on file
No other wells in that*

Initial Dakota Participating Area, Effective 1-1-66

First Expansion of the Dakota Participating Area, Effective Date 9-1-78

Second Expansion of the Dakota Participating Area, Effective Date 6-1-80

Third Expansion of the Dakota Participating Area, Effective Date 3-1-81

Fourth Expansion of the Dakota Participating Area, Effective Date 4-1-81

Fifth Expansion of the Dakota Participating Area, Effective Date 5-1-81

NO

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GROSS

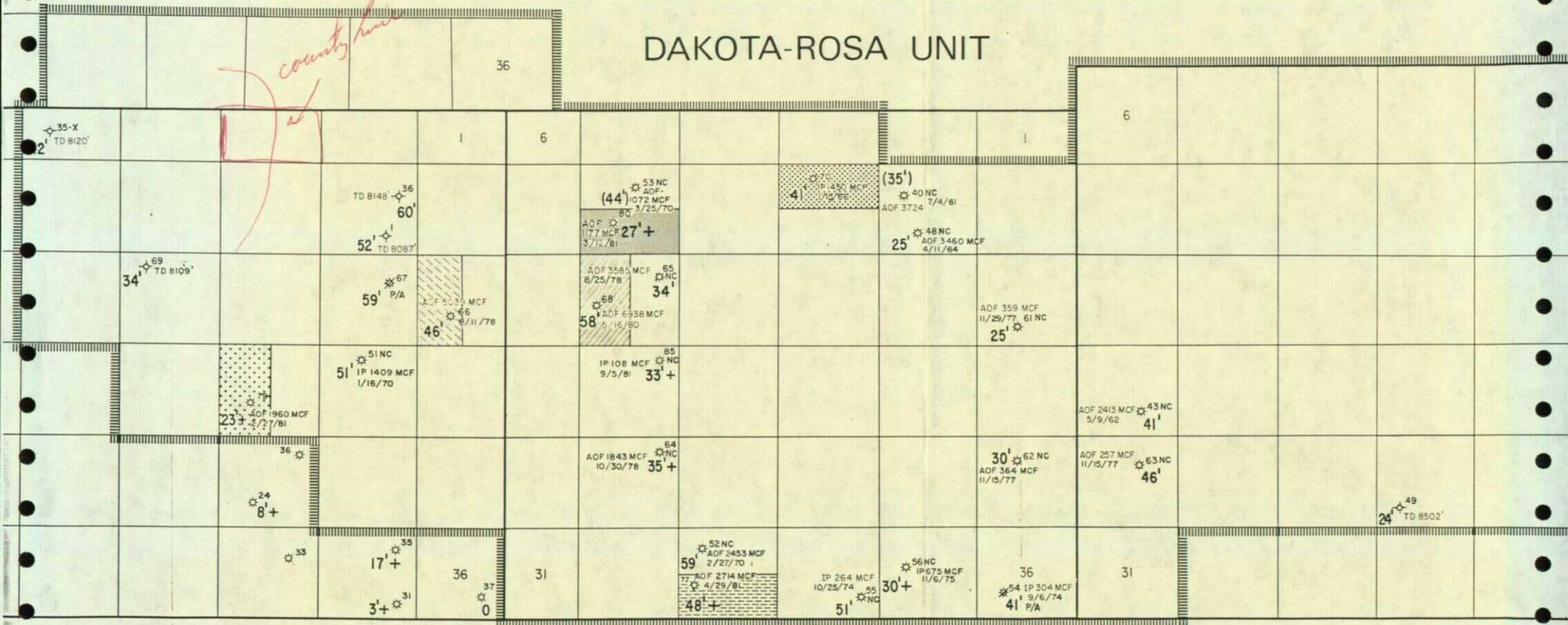
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Production
Iron Wells
bonded

Case File #133

DAKOTA-ROSA UNIT

county line



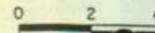
R 6 W

R 5 W

R 4 W

*- No Well Record on file
- No other wells in Unit*

-  Initial Dakota Participating Area Effective 1-10-66
-  First Expansion of the Dakota Participating Area; Effective Date 9-1-78
-  Second Expansion of the Dakota Participating Area; Effective Date 6-1-80
-  Third Expansion of the Dakota Participating Area; Effective Date 3-1-81
-  Fourth Expansion of the Dakota Participating Area; Effective Date 4-1-81
-  Fifth Expansion of the Dakota Participating Area; Effective Date 5-1-81



Commercial Production
Formation Wells

and Abandoned

DAKOTA
SAN JUAN
GROSS
M

Compiled: K.C. Bowman/
Drafting: M.B. [unclear]

San Juan Cty.

Rio Arriba
Cty.

No. I-SEC. No. 587

