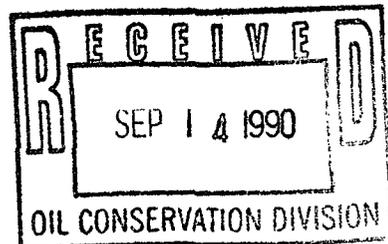


MERIDIAN OIL

*Verbal
from E. Bond
10/4/90*

September 11, 1990

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



Re: Meridian Oil Inc. Rosa Unit #261
1765' FSL, 655' FWL, Section 10, T-31-N, R-6-W
~~Rio Arriba~~ County, New Mexico

Dear Mr. ^{San Juan} LeMay:

Meridian Oil Inc. is applying for administrative approval of a non-standard location for the above location in the Fruitland Coal formation.

This application for the referenced location is due to the presence of San Juan River and archaeological concerns.

The following attachments are for your review:

1. Application for Permit to Drill.
2. Completed C-102 at referenced footages.
3. Offset operators/owners plat. All surrounding lands are within Rosa Unit boundaries - Meridian Oil Inc. operator.
4. 7.5 minute topographic map showing the orthodox windows for the west-half dedication, and enlargement of the map to define topographic features.
5. Archaeological report.
6. Letter from Bureau of Land Management dated June 29, 1990, concerning archaeological sites.
7. This well may be deemed economically unfeasible due to incremental directional drilling costs of \$68,000.00.

Please let me know if you require any other information.

Sincerely,

Peggy Bradfield
Regulatory Affairs

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL	5. LEASE NUMBER SF-078765	
1b. TYPE OF WELL GAS	6. IF INDIAN, ALL. OR TRIBE NAME	
2. OPERATOR MERIDIAN OIL INC.	7. UNIT AGREEMENT NAME ROSA UNIT	
3. ADDRESS & PHONE NO. OF OPERATOR P O BOX 4289 FARMINGTON, NM 87499	8. FARM OR LEASE NAME ROSA UNIT	
4. LOCATION OF WELL 1765'FSL 655'FWL	9. WELL NO. 261	
10. FIELD, POOL, OR WILDCAT BASIN FRUITLAND COAL	11. SEC. T. R. M OR BLK. SEC. 10 T31N R06W NMPM	
14. DISTANCE IN MILES FROM NEAREST TOWN 9 MILES S. OF ALLISON	12. COUNTY RIO ARRIBA San Juan	13. STATE NM
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE. 655'	16. ACRES IN LEASE 320.00	17. ACRES ASSIGNED TO WELL
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. 5000' COMPL., OR APPLIED FOR ON THIS LEASE.	19. PROPOSED DEPTH 3091'	20. ROTARY OR CABLE TOOLS ROTARY
21. ELEVATIONS (DF, FT, GR, ETC.) 6291'GL	22. APPROX. DATE WORK WILL START	

23. PROPOSED CASING AND CEMENTING PROGRAM

*SEE OPERATIONS PLAN

24. AUTHORIZED BY: *Eric Caldwell*
REG. DRILLING ENGR.

8/7/90
DATE

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-3.

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

State of New Mexico
 Energy, Minerals and Natural Resources Department

Form C-102
 Revised 1-1-89

OIL CONSERVATION DIVISION

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

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

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

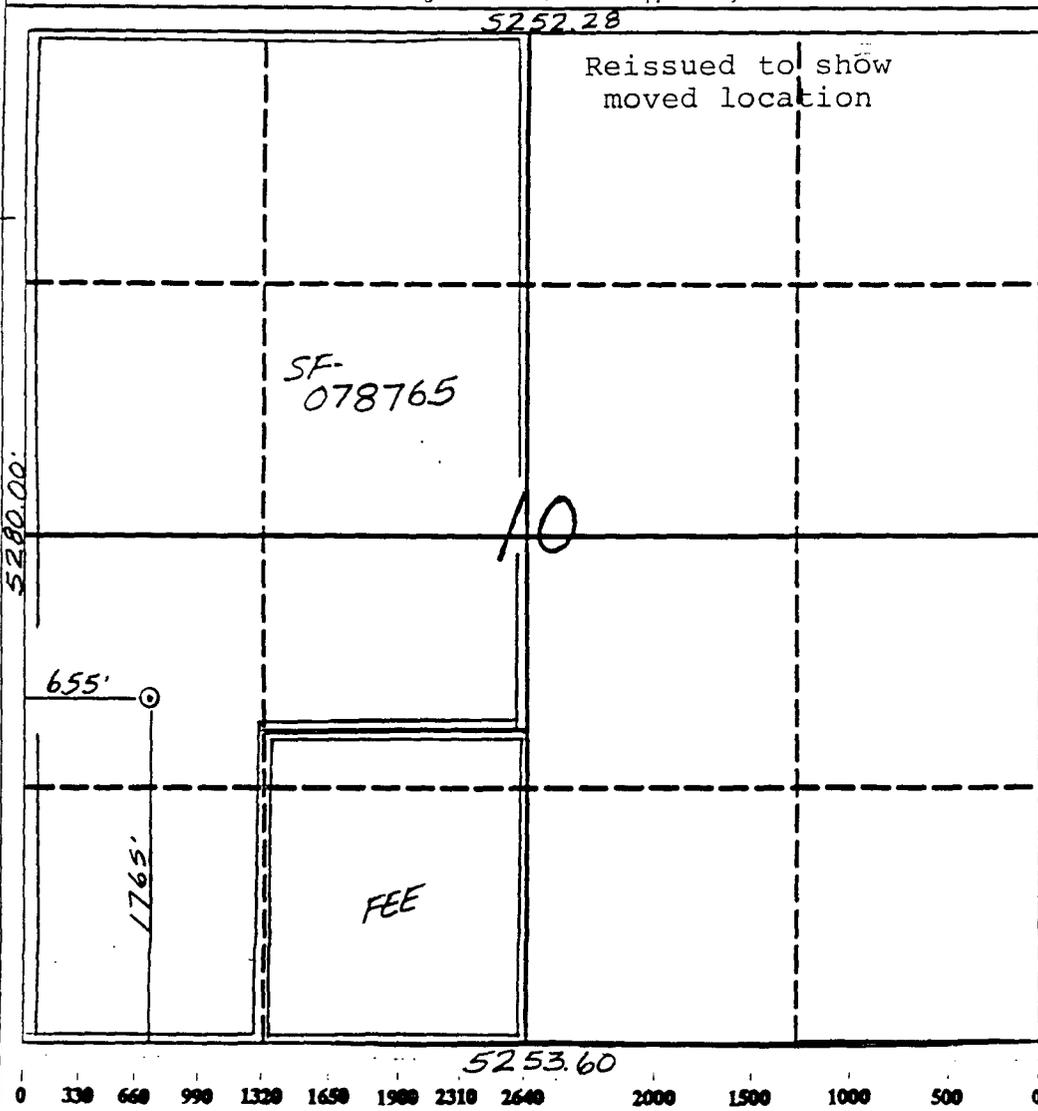
Operator Meridian Oil Inc.			Lease Rosa Unit (SF-078765)		Well No. 261
Unit Letter L	Section 10	Township 31 North	Range 6 West	Country San Juan <i>Rio Arriba</i>	
Actual Footage Location of Well: 1765 feet from the South line and 655 feet from the West line					
Ground level Elev. 6291'	Producing Formation Fruitland Coal		Pool Basin	Dedicated Acreage: 320 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 interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

Yes No If answer is "yes" type of consolidation unitization

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

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



OPERATOR CERTIFICATION

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

Peggy Bradfield
 Signature

Peggy Bradfield
 Printed Name

Regulatory Affairs
 Position

Meridian Oil Inc.
 Company

8-7-90
 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 my supervision, and that the same is true and correct to the best of my knowledge and belief.

7-25-90
 Date Surveyed

Neale C. Edwards
 Signature of Registered Professional Surveyor



Neale C. Edwards
 Certificate No.

Well Name: 261 ROSA UNIT
 Sec. 10 T31N R06W
 BASIN FRUITLAND COAL

1765'FSL 655'FWL
 RIO ARRIBA NEW MEXICO
 Elevation 6291'GL

Formation tops: Surface- SAN JOSE
 Ojo Alamo- 2320
 Kirtland- 2425
 Fruitland- 2915
 Fruitland Coal Top- 2925
 Fruitland Coal Base- 3090
 Pictured Cliffs- 3092

Intermediate TD- 2890
 Total Depth- 3091

Logging Program: Mud logs from intermediate to total depth.

Mud Program:	Interval	Type	Weight	Visc.	Fl. Loss
	0 - 200	Spud	8.4 - 8.9	40-50	no contro
	200 - 2890	Non-dispersed	8.4 - 9.1	30-60	no contro
	2890 - 3091	Formation Water	8.4		no contro

Casing Program:	Hole Size	Depth Interval	Csg. Size	Weight	Grade
	12 1/4"	0 - 200	9 5/8"	32.3#	H-40
	8 3/4"	0 - 2890	7"	20.0#	K-55
	6 1/4"	2840 - 3091	5 1/2"	15.5#	K-55
Tubing Program:		0 - 3091	2 7/8"	6.5#	J-55

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

7" intermediate casing - guide shoe and self-fill insert float valve. Three centralizers run every other joint above shoe. Run insert float one joint above the guide shoe. Two turbolizing type centralizers - one below and one into the base of the Ojo Alamo @ 2425'. Standard centralizers thereafter every fourth joint up to the base of the surface pipe.

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

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

Cementing:

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

7" intermediate casing - lead with 416 sacks of 65/35 class "B" poz with 6% gel, 2% calcium chloride and 1/2 cu ft. Perlite/sack (10.3 gallons of water/sack) tail with 100 sacks of class "B" with 2% calcium chloride. 922 cu ft. of slurry, 110% excess to circulate to surface. If hole conditions permit, a 600 ft spacer will be run ahead of the cement slurry to avoid mud contamination of the cement. WOC 12 hours. If cement does not circulate to surface, a temperature log will be run after 8 hours to determine TOC.

5 1/2" liner - do not cement.

BOP and Tests:

Surface to intermediate TD - 11" 2000 psi (minimum) double gate BOP stack (Reference Figure #1). Prior to drilling out surface casing, test rams to 600 psi for 30 minutes.

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

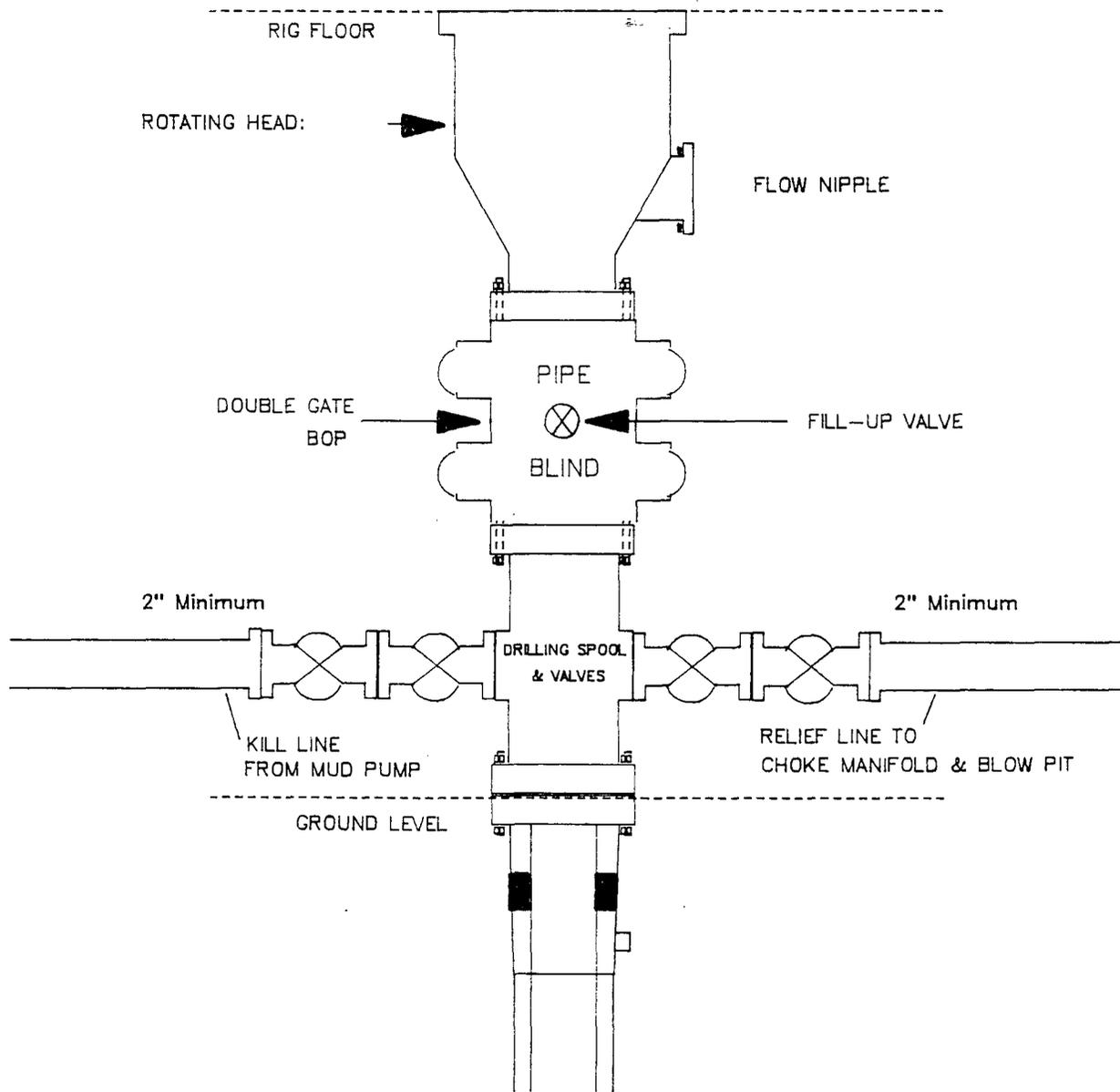
From surface to TD - choke manifold (Reference Figure #3).

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

Additional Information:

- * The Fruitland coal formation will be completed.
- * Anticipated Fruitland pore pressure is 1705 psi.
- * This gas is dedicated.
- * The W/2 of Section 10 is dedicated to this well.
- * New casing will be utilized.
- * Cementing Contractor will provide the BLM with a chronological log including the pump rate and pressure, and the slurry density and volume for all cement jobs.
- * Pipe movement (either rotation or reciprocation) will be done if hole conditions permit.

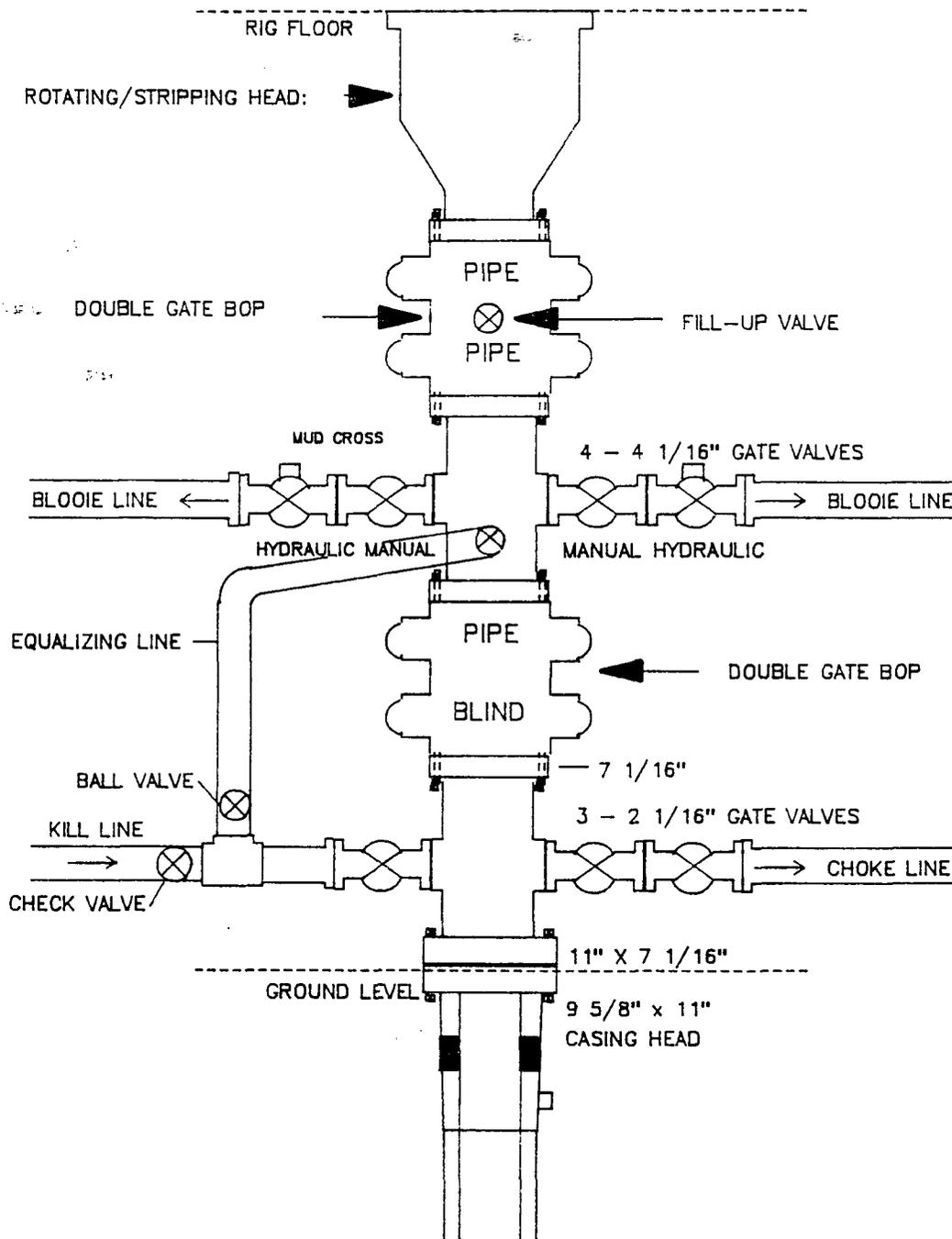
MERIDIAN OIL INC.
 Drilling Rig
 BOP Configuration



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

Figure #1

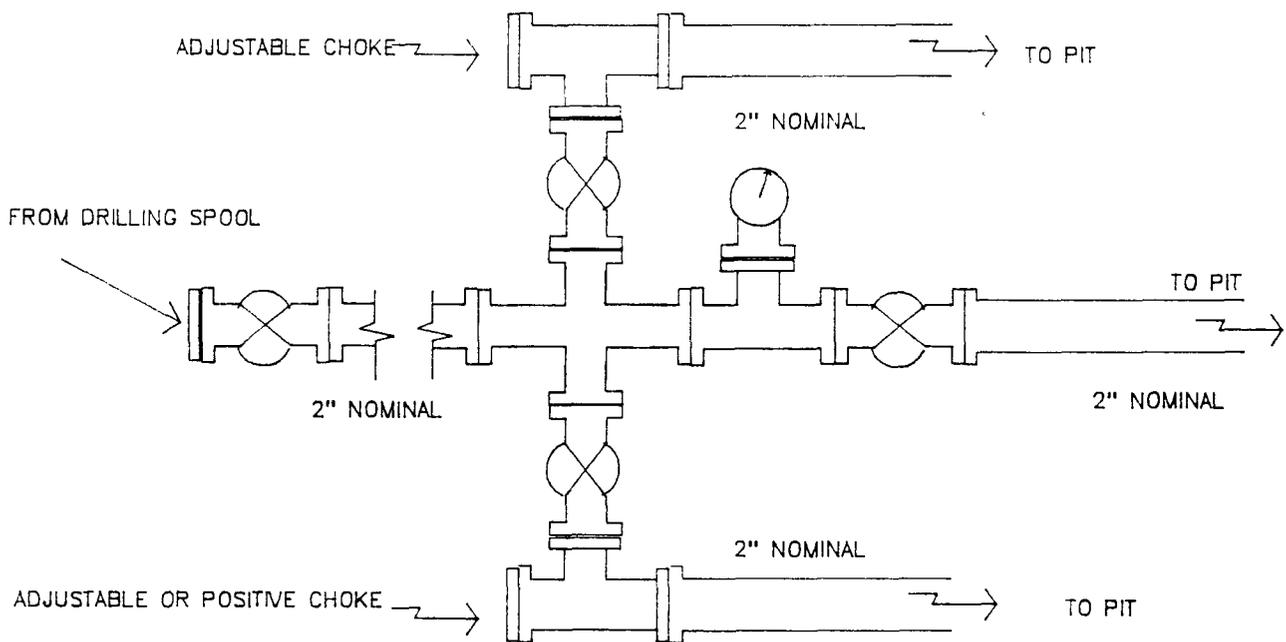
MERIDIAN OIL INC.
 Completion Rig
 BOP Configuration



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

Figure #2

MERIDIAN OIL INC.
Typical Fruitland Coal Well
Choke Manifold Configuration



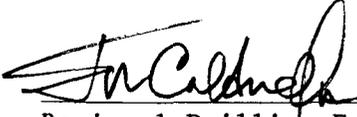
Minimum choke manifold installation for a typical Fruitland Coal well from surface to Total Depth. 2", 2000psi working pressure equipment with two chokes.

Figure #3

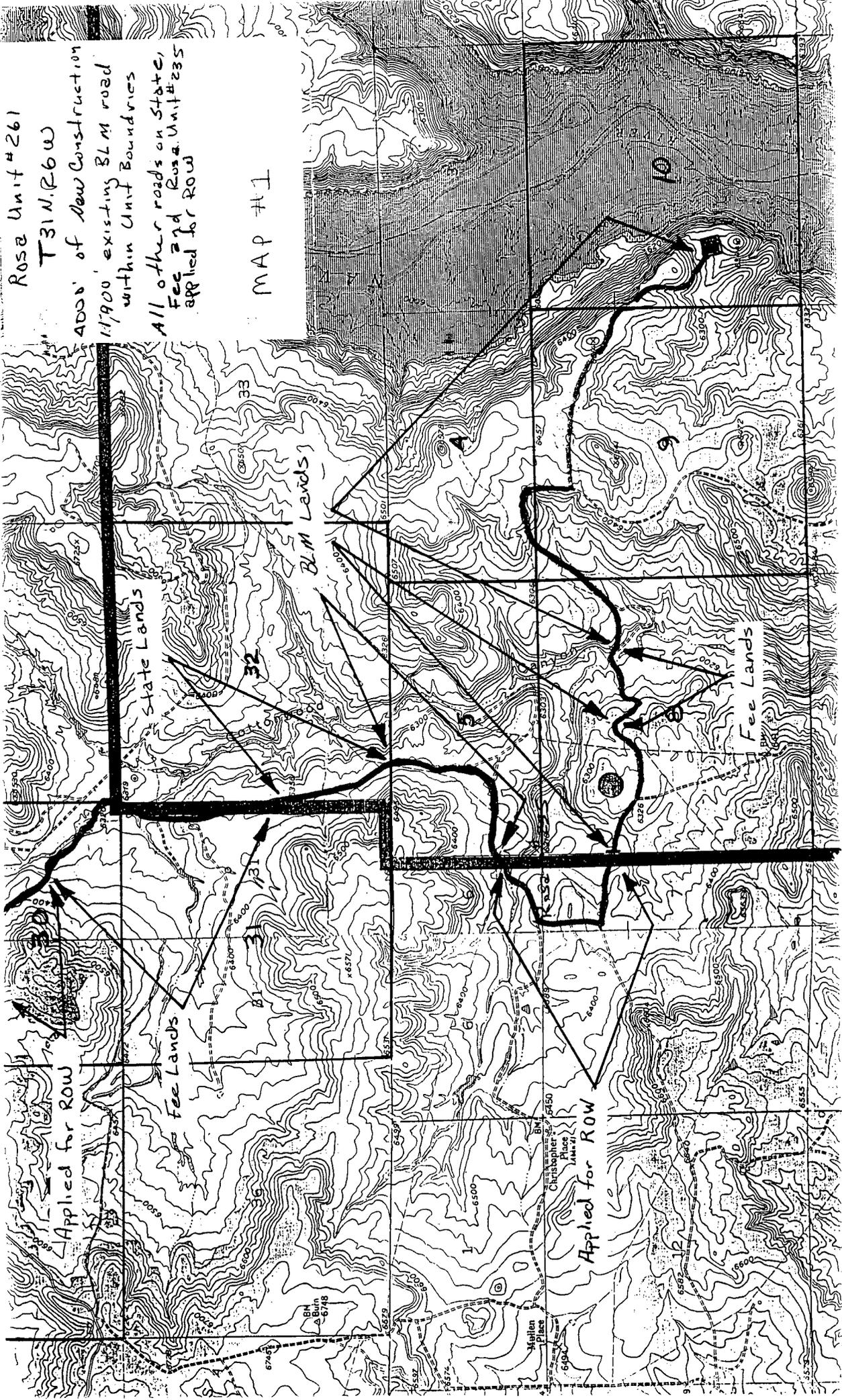
Multi-Point Surface Use Plan
Meridian Oil Inc.
Rosa Unit #261

1. Existing Roads - Refer to Map No. 1. Existing roads used to access the proposed location will be properly maintained for the duration of the project. Bureau of Land Management right-of-way has been applied for as shown on Map No. 1.
2. Planned Access Road - Refer to Map No. 1. The required new access road is shown on Map No. 1. The gradient, shoulder, crowning and other design elements will meet or exceed those specified by the responsible government agency. The new access road surface will not exceed twenty feet (20') in width. No additional turnarounds or turnouts will be required. Upon completion of the project, the access road will be adequately drained to control soil erosion. Approximately 4000' of access road will be constructed. Pipelines are indicated on Map No. 1A.
3. Location of Existing Wells - Refer to Map No. 1A.
4. Location of Existing and/or Proposed Facilities if Well is Productive -
 - a. On the Well Pad - Refer to Plat No. 1, anticipated production facilities plat.
 - b. Off the Well Pad - Anticipated facilities off the well pad will be applied for as required.
5. Location and Type of Water Supply - Water will be hauled by truck for the proposed project and will be obtained from Faverino Ditch located in NE/4 Section 12, T-32-N, R-07-W, Colorado.
6. Source of Construction Materials - If construction materials are required for the proposed project, such materials will be obtained from a commercial quarry.
7. Methods of Handling Waste Materials - All garbage and trash materials will be removed from the site for proper disposal. A portable toilet will be provided for human waste and serviced in a proper manner. If liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time as the reserve pit can be properly covered over to prevent run-off from carrying waste materials into the watershed. All earthen pits will be so constructed as to prevent leakage from occurring; no earthen pit will be located on natural drainage. Hazardous waste will be disposed of in accordance with Federal Regulations.
8. Ancillary Facilities - None anticipated.
9. Wellsite Layout - Refer to the location diagram (Plat No. 2) and to the wellsite cut and fill diagram (Plat No. 2A). The Blow Pit will be constructed with a 2'/160' grade to allow positive drainage to the Reserve Pit and prevent standing liquids in the Blow Pit.

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

 8/10/90
Regional Drilling Engineer

JWC/adw



Rose Unit #261
T31N,R6W
4000' of New Construction
11,900' existing BLM road
within Unit Boundaries
All other roads on State,
Fee and Rose Unit #235
applied for ROW

MAP #1

Applied for ROW

Applied for ROW

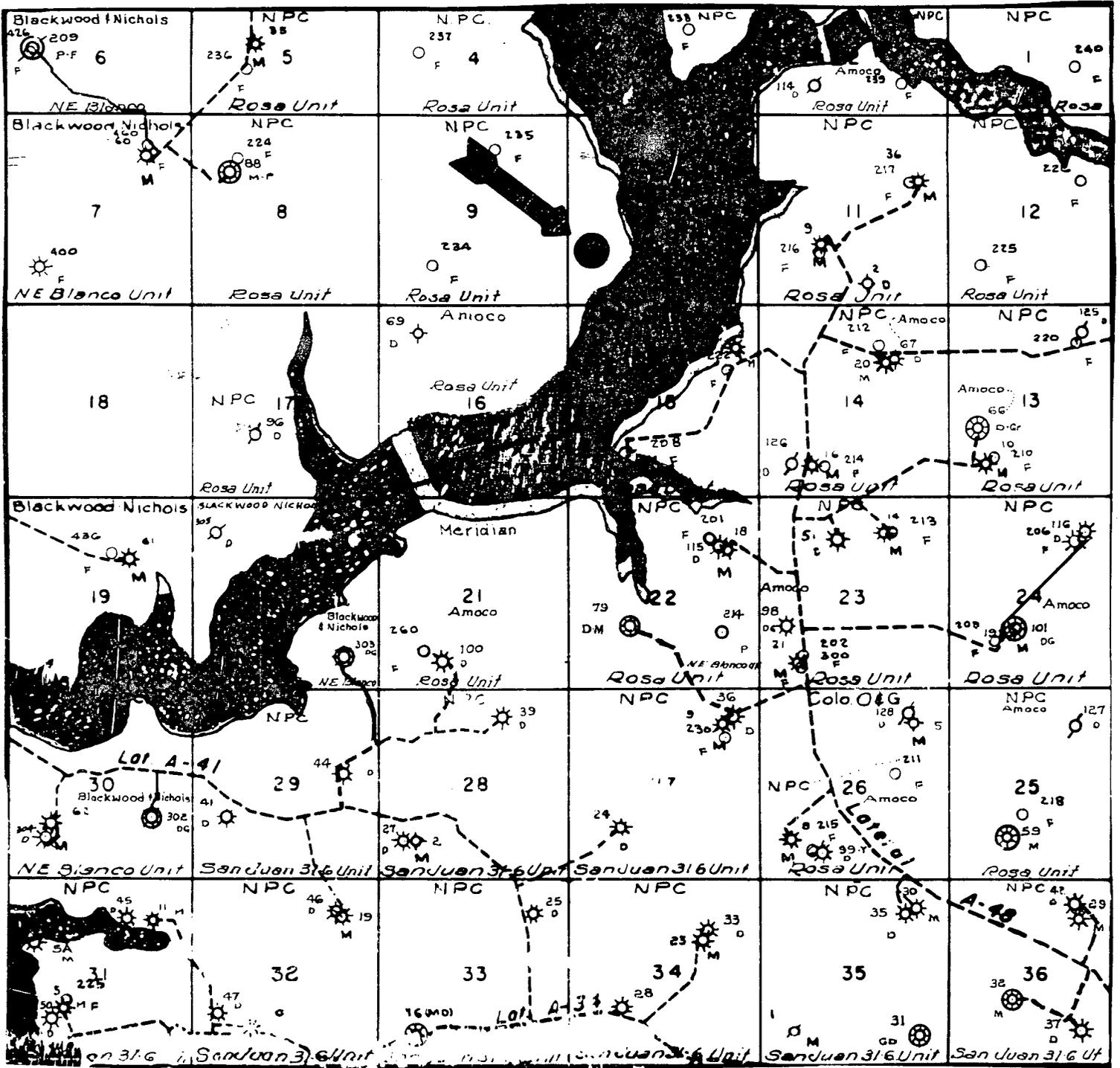
State Lands

BLM Lands

Fee Lands

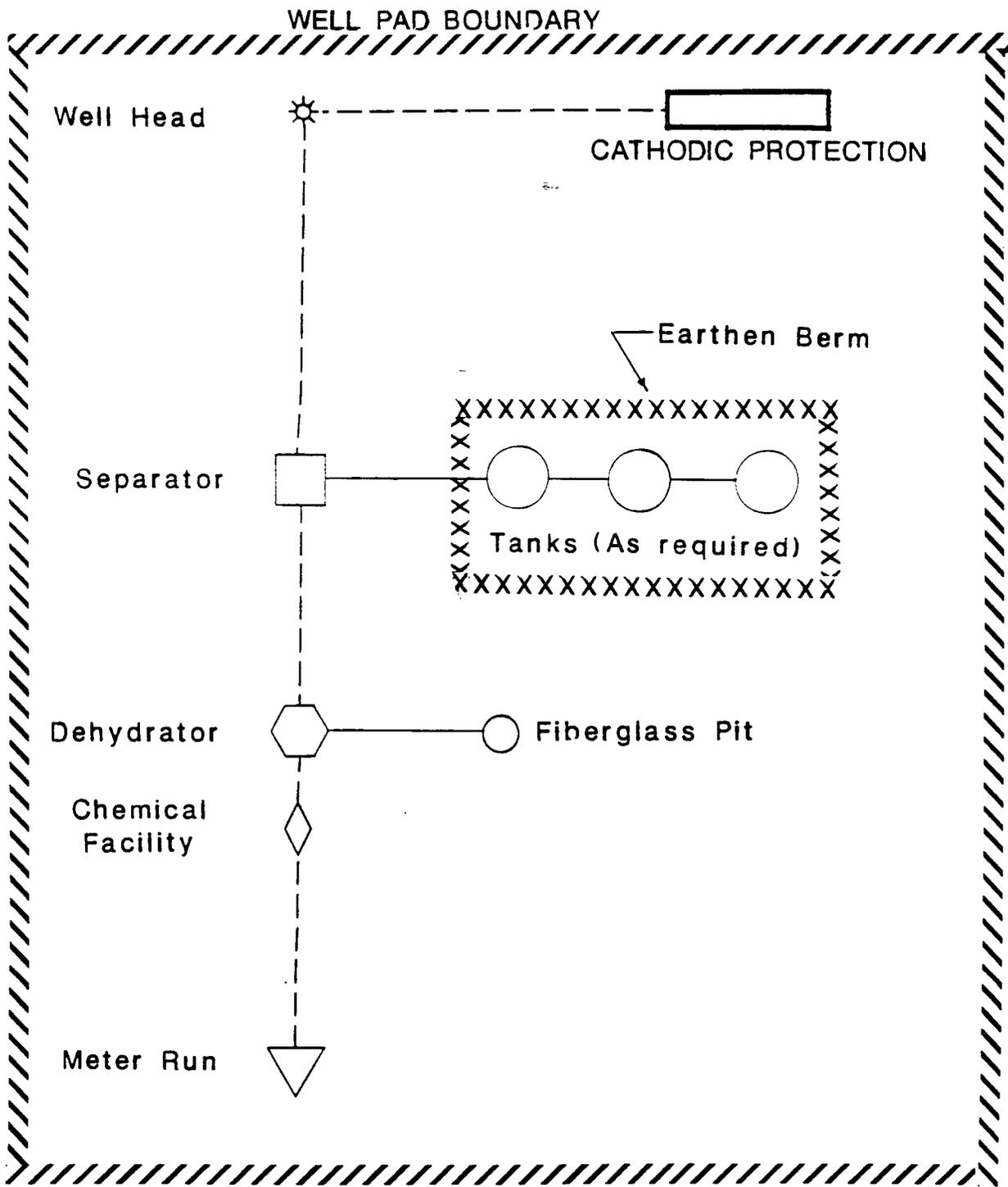
Chickasha Place
Bldg
Area 2

Kellen Place



MERIDIAN OIL INC.
 Pipeline Map
 T-31-N, R-06-W
 San Juan and Rio Arriba Counties, New Mexico

MAP #1A
 ROSA UNIT #261



PLAT #1

MERIDIAN OIL

**ANTICIPATED
PRODUCTION FACILITIES
FOR A
FRUITLAND WELL**

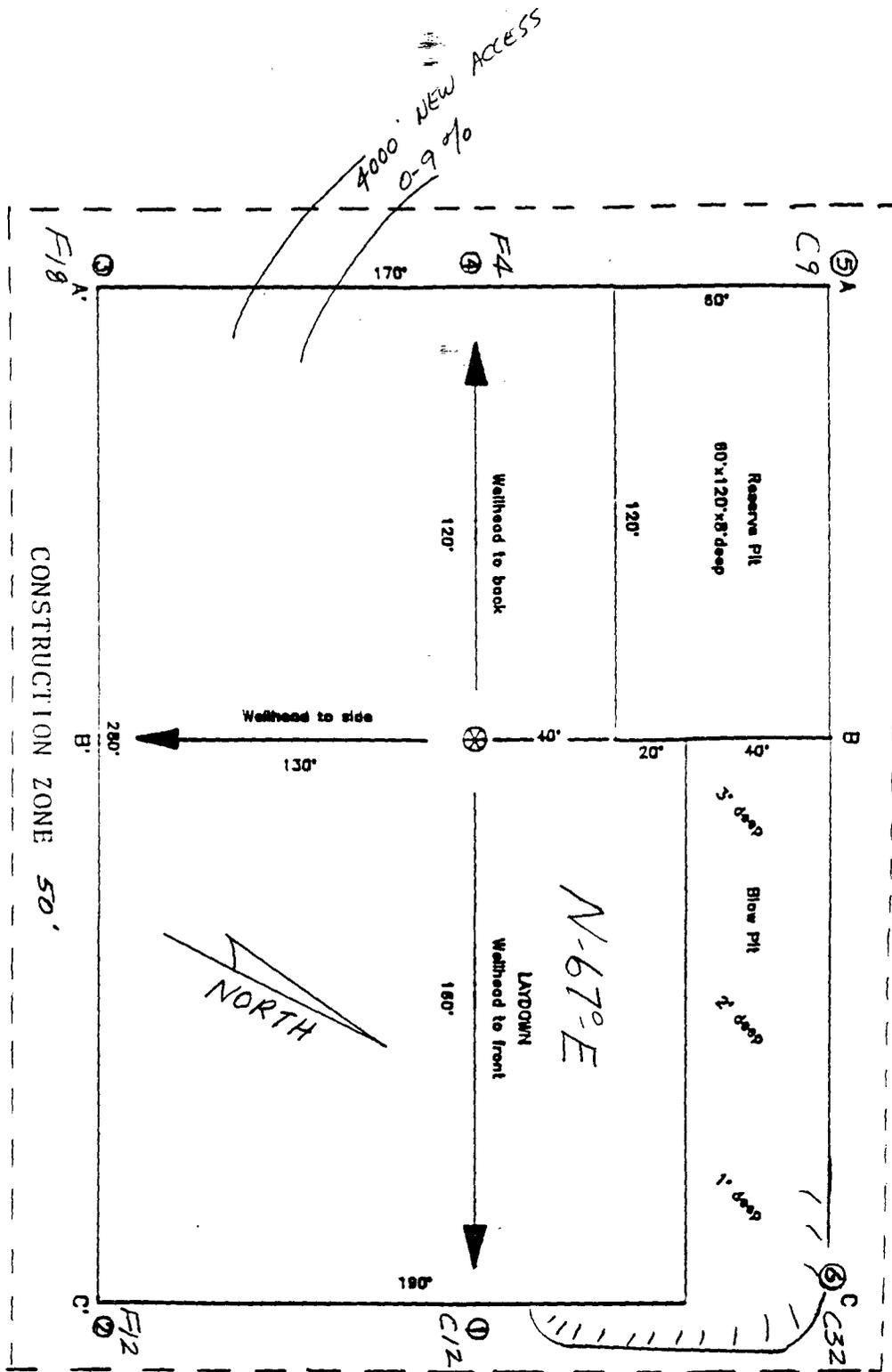
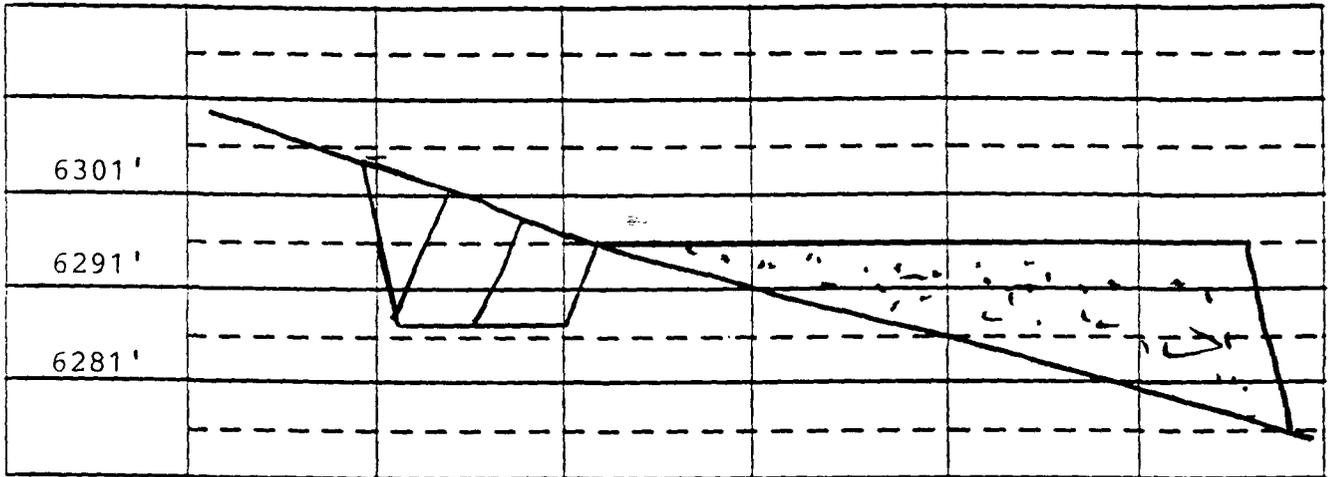


EXHIBIT: <u>PLAT 2</u>	
Name:	<u>MOI Rosa Unit # 261</u>
Footage:	<u>1765' FSL, 655' FWL,</u>
Sec <u>10</u> T- <u>31</u> -N, R- <u>6</u> -W NMPM	
Co. <u>San Juan</u>	St. <u>N.M.</u>
Elevation: <u>6291'</u>	Date: <u>7-25-90</u>

Plat 2
2/3/90

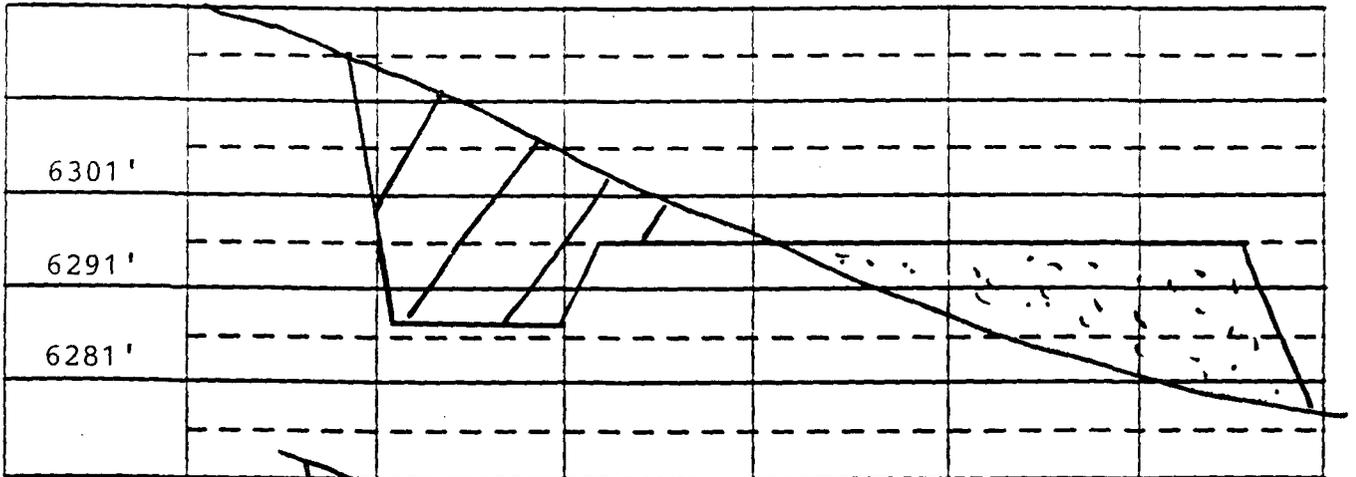
A - A' Vert.:1" = 20' Horiz.:1" = 50'

C/L



B - B'

C/L



C - C'

C/L

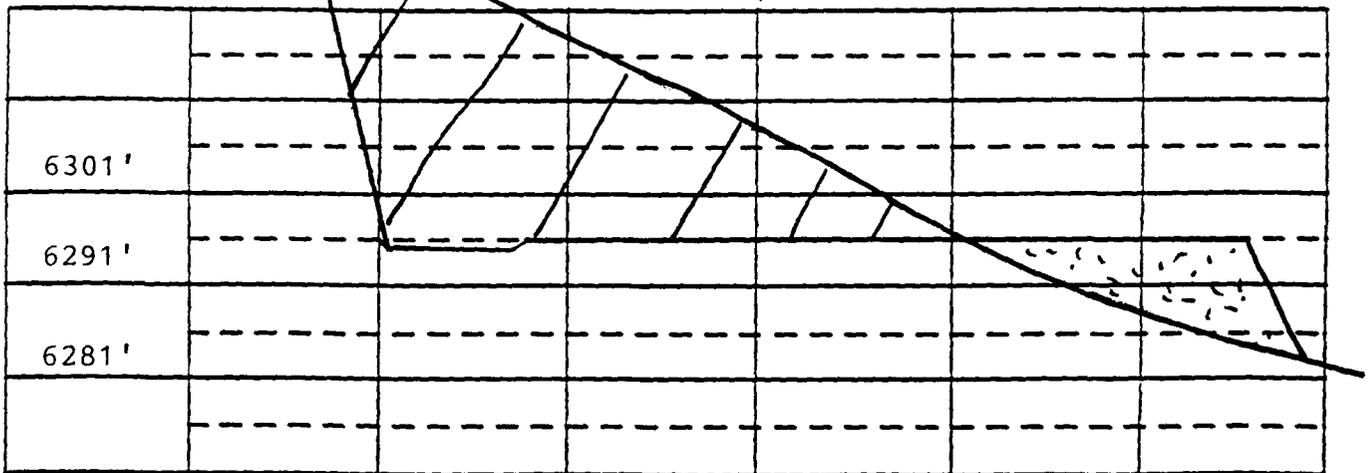


EXHIBIT: PLAT 2A

Name: MOI Rosa Unit # 261

Footage: 1765' FSL, 655' FWL,

Sec 10 T- 31 -N,R- 6 -W NMPM

Co. San Juan St. N.M.

Elevation: 6291' Date: 7-25-90

Plot XC
2/4/90

Project No. 161-90-C

Cultural Resource Use Permit
7-2920-90-U (NM BLM)

An Archaeological Survey of
the Proposed Rosa Unit No. 261 Well Pad
T31N, R6W, Section 10 (1825' F/SL, 800' F/WL)

for

Meridian Oil, Inc.

MERIDIAN OIL

JUN 7 - 1990

FARMINGTON, NEW MEXICO
Construction Supervisor

by

Patricia Hancock
Supervisory Archaeologist

Dawn Snell
Staff Archaeologist

Linda McCargo
Staff Archaeologist

Submitted by

Byron P. Johnson
Director

DIVISION OF CONSERVATION ARCHAEOLOGY

Technical Report No. 2033
San Juan County Archaeological Research Center and Library

June 1, 1990



DIVISION OF CONSERVATION ARCHAEOLOGY

San Juan County
Museum Association

June 1, 1990

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

Dear Mr. Werner:

Our report on the archaeological survey of the proposed and abandoned Rosa No. 261 well pad and associated access road near Allison, Colorado is enclosed. Three archaeological sites and 12 isolated loci were found. The sites and isolates are located on both the proposed access road and the well pad location.

We have recommended archaeological clearance for the project with stipulations that are presented in the abstract and body of the report.

The Bureau of Reclamation and Bureau of Land Management will review this report and make the final decision on archaeological clearance for your project.

An invoice for our services has been sent directly to your accounts payable department. Please contact us if you have any questions concerning the report or invoice.

Sincerely,

Patricia Hancock
Supervisory Archaeologist

cc: Resource Area Manager, BLM, Farmington (2)
Bureau of Reclamation, Durango

ABSTRACT

On April 2, April 23, May 4, and May 15, 1990, the Division of Conservation Archaeology of the San Juan County Museum Association conducted an archaeological survey of the proposed Rosa Unit No. 261 well pad and associated access road for Meridian Oil, Inc. The survey area is located near Allison, Colorado in San Juan County, New Mexico and is under the jurisdiction of the Bureau of Land Management and the Bureau of Reclamation. Approximately 22.72 acres were intensively inventoried.

Three archaeological sites and 12 isolated loci were found on the proposed well pad and access road.

The documentation of the isolates in the field has exhausted their research potential. Archaeological clearance is recommended with the following stipulations: a no construction zone should be established along the north edge of DCA-90-187 and a site avoidance fence should be erected along the south edge of the well pad. The access road was rerouted to avoid DCA-90-188; therefore, construction activity should have no impact on this site. A site avoidance fence should also be erected along the northeast corner of the construction zone for DCA-90-189. An archaeological monitor should be present during all construction activity.

INTRODUCTION

On April 2, April 23, May 4, and May 15, 1990, the Division of Conservation Archaeology (DCA) of the San Juan County Museum Association conducted an archaeological survey for Meridian Oil, Inc. of Farmington, New Mexico. Charles Werner requested the survey in March, 1990 and administered the project for Meridian Oil, Inc. Byron P. Johnson administered the project for DCA.

In recognition of the limited, nonrenewable nature of archaeological remains, the federal government has enacted legislation that is designed to conserve and protect these resources. The principal legislation includes the Antiquities Act of 1906 (PL 52-209), the Historic Preservation Act of 1966 (PL 89-665) and as amended (PL 96-515), the National Environmental Act of 1969 (PL 91-852), the 1971 Executive Order No. 11593, the Archaeological and Historical Conservation Act of 1974 (PL 93-291), and the Archaeological Resources Protection Act of 1979 (PL 96-95). In addition, the Navajo Nation and the states of Arizona, New Mexico, Utah, and Colorado have enacted laws to ensure compliance with federal legislation and to protect archaeological resources within their jurisdiction. Work undertaken in the course of this project is intended to comply with these statutes and is governed by the stipulations of Cultural Resource Use Permit 7-2920-90-U (NM BLM).

Dawn Snell, Peter Arena, Merry Lynn Brabant, Scott Wilcox, Linda McCargo, Summer McKean, and supervisor Patricia Hancock, DCA archaeologists, surveyed the project area for cultural remains. Wally Bergstrom of Meridian Oil, Inc. accompanied the archaeologists during the fieldwork on April 2 and May 4, 1990.

METHODS

The area was surveyed by walking a series of straight line transects spaced 8 to 12 m apart across the well pad. The access road was surveyed by walking four zigzag transects, two on each side of the flagged access road, also spaced 8 to 12 m apart. A 50 ft construction zone was added to each side of the staked well pad. A 100 ft wide archaeological buffer zone was added to each side of the construction zone. A 50 ft buffer was added to each side of the flagged access road. The archaeologists recorded all cultural remains. Those whose information potential exceeded what could be extracted during the survey phase were assigned site status. Other cultural remains were documented as isolated loci (IL). Pertinent environmental data were also recorded.

In addition to field inspection, the archaeologists conducted a search of the records at the Bureau of Land Management (BLM) Farmington Resource Area office and at DCA to determine if any sites had been recorded in the project area. Site and project records required by the BLM and the New Mexico Historic Preservation Division were completed.

PREVIOUSLY RECORDED SITES

The records check revealed 49 previously recorded sites within one mile of the proposed project area. Those sites are shown on Supplement 1A which is provided to the BLM only. Five of the sites are within 1000 ft of the project and are detailed in Table 1.

Table 1. Sites Within 1000 ft of the Project Area

<u>Site</u>	<u>Description</u>
LA 4379	Pueblo I, Rosa phase Anasazi ceramic and lithic scatter
DCA-90-010	Pueblo I - Pueblo II Piedra phase Anasazi ceramic and lithic scatter
DCA-90-011	Pueblo I - Pueblo II Piedra phase Anasazi camp site
DCA-90-012	Pueblo I - Pueblo II Piedra phase Anasazi activity area and a seventeenth to eighteenth century Navajo habitation
LA 6525	Pueblo I Rosa phase Anasazi rockshelter and ceramic and lithic scatter

LA 4379 is now inundated by Navajo Reservoir and will not be affected by this project. DCA-90-010, DCA-90-011, and DCA-90-012 were relocated during the survey and are over 500 ft from the proposed access road which should cause no adverse effect to them. LA 6525 was not re-discovered during this project and is presumed to be clear of any adverse effects.

PROJECT DESCRIPTION

Abandoned and Proposed Rosa Unit No. 261 Well Pad and Access Road
(Figures 1, 2, 3, 4, 4A, 5, and 6)

Legal Description:

*T31N, R6W, Section 10, 1705' F/SL, 1170' F/WL
 SE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ (abandoned well pad)
 W $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ " " "
 NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ " " "
 NW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ " " "

T31N, R6W, Section 10, 1825' F/SL, 800' F/WL
 NW $\frac{1}{4}$ SW $\frac{1}{4}$ (proposed well pad)
 SW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ (access road)
 NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ " "
 SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ " "

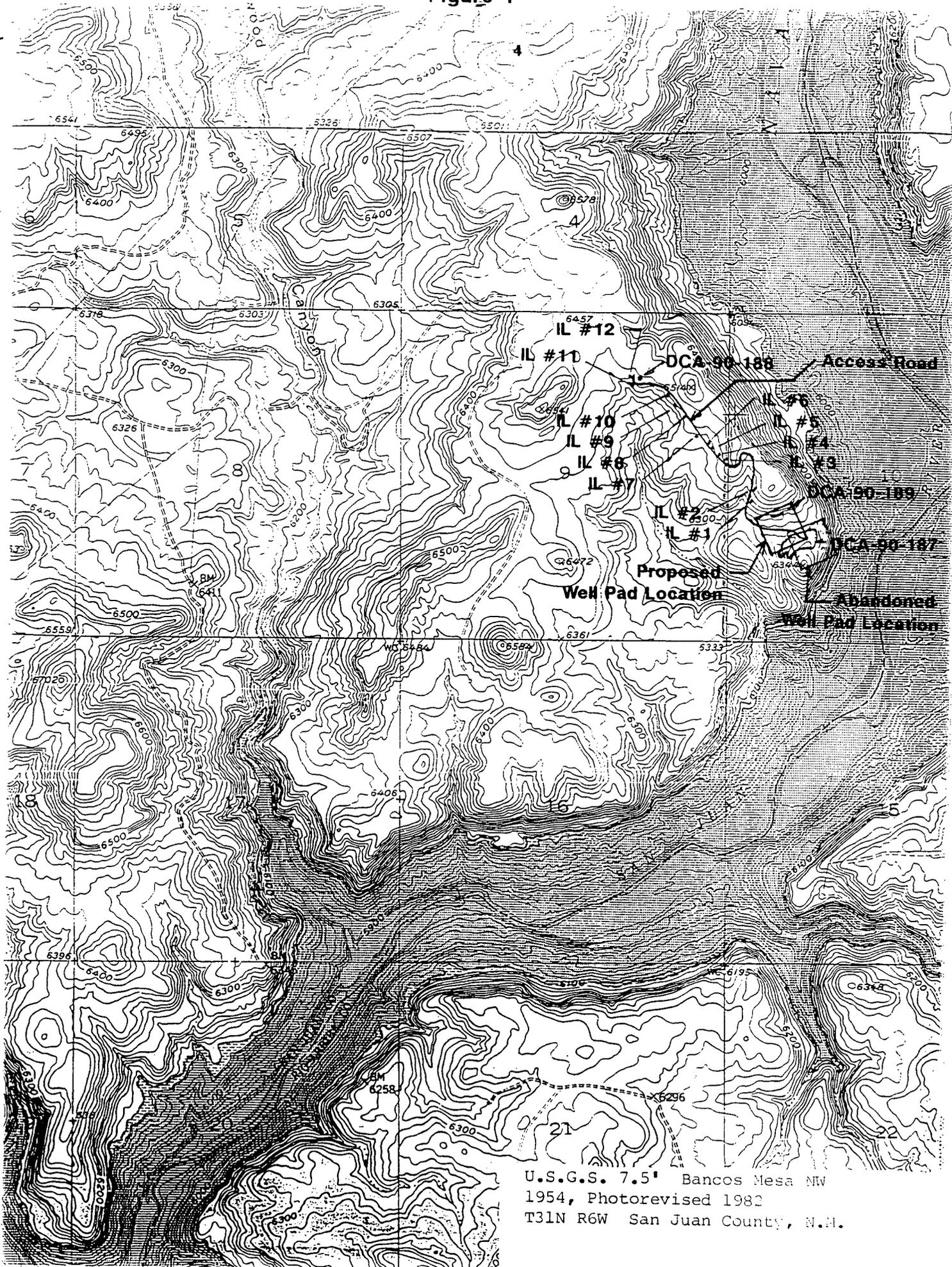
T31N, R6W, Section 9, E $\frac{1}{2}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ " "
 NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ " "
 SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ " "
 SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ " "

N.M.P.M., San Juan County, New Mexico

*template on the southwest corner

Map Source: U.S.G.S. 7.5' Bancos Mesa NW, New Mexico - 1954,
photorevised 1982Land Jurisdiction: BLM
Bureau of ReclamationProject Area: 380' x 330' (abandoned well pad and construction zone)
380' x 330' (proposed well pad and construction zone)
3000' x 25' (access road)Surveyed Area: 580' x 530' (abandoned well pad and construction zone with buffer)
580' x 530' (proposed well pad and construction zone with buffer)
3000' x 125' (access road with buffer)
22.72 AcresDescription: The proposed Rosa Unit No. 261 well pad and access road are located on a mesa and cobble-covered bench adjacent to Navajo Reservoir. Sandstone outcrops are present as exposed bedrock as well as boulders on talus slopes. Both the proposed access road, which extends beyond an existing access road to the Rosa Unit No. 234 well pad, and the proposed Rosa Unit No. 261 well pad are situated in a dense pinyon (Pinus edulis) and juniper (Juniperus sp.) woodland. Due to topographic restrictions this is the last orthodox placement possible for the proposed Rosa Unit No. 261 well pad.

Figure 1



U.S.G.S. 7.5' Bancos Mesa NW
1954, Photorevised 1982
T31N R6W San Juan County, N.M.

5
Figure 2
Proposed

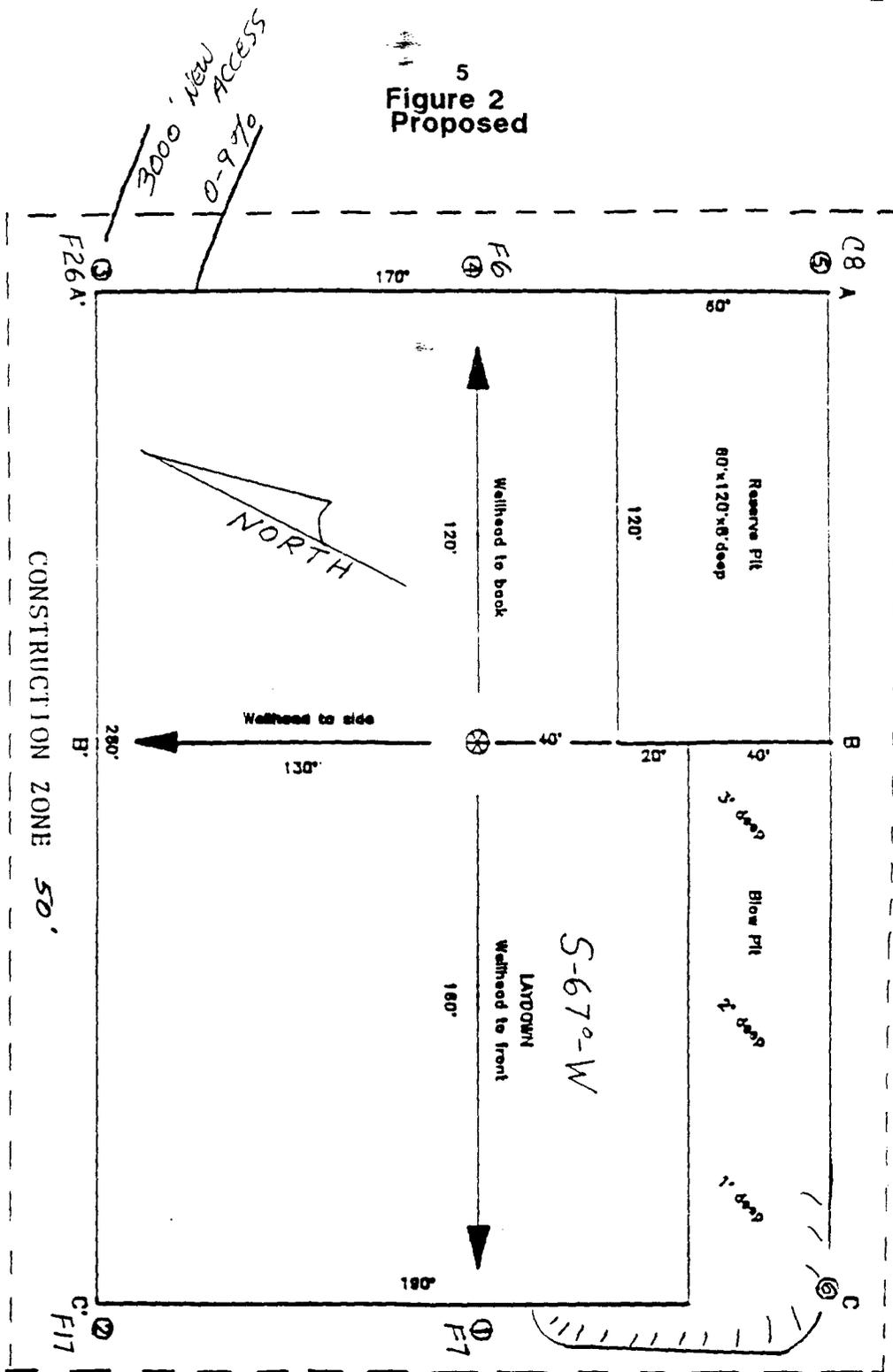


EXHIBIT: _____	
Name: <u>MOI ROSA UNIT #261</u>	
Footage: <u>1825 FSL 800 FWL</u>	
Sec <u>10</u> T- <u>31</u> -N, R- <u>6</u> -W NMPM	
Co. <u>SAN JUAN</u>	St. <u>N.M.</u>
Elevation: <u>6302'</u>	Date: <u>5-4-90</u>

**Figure 3
Abandoned**

6

Elev 6291' Date 2-6-90

Name: MOI ROSA UNIT #261

Footage: 1705' FSL 1170' FWL

Sec 10 T- 31 -N, R- 6 -W NMPM

Co. SAN JUAN St. NM

Part 2
11/1/89

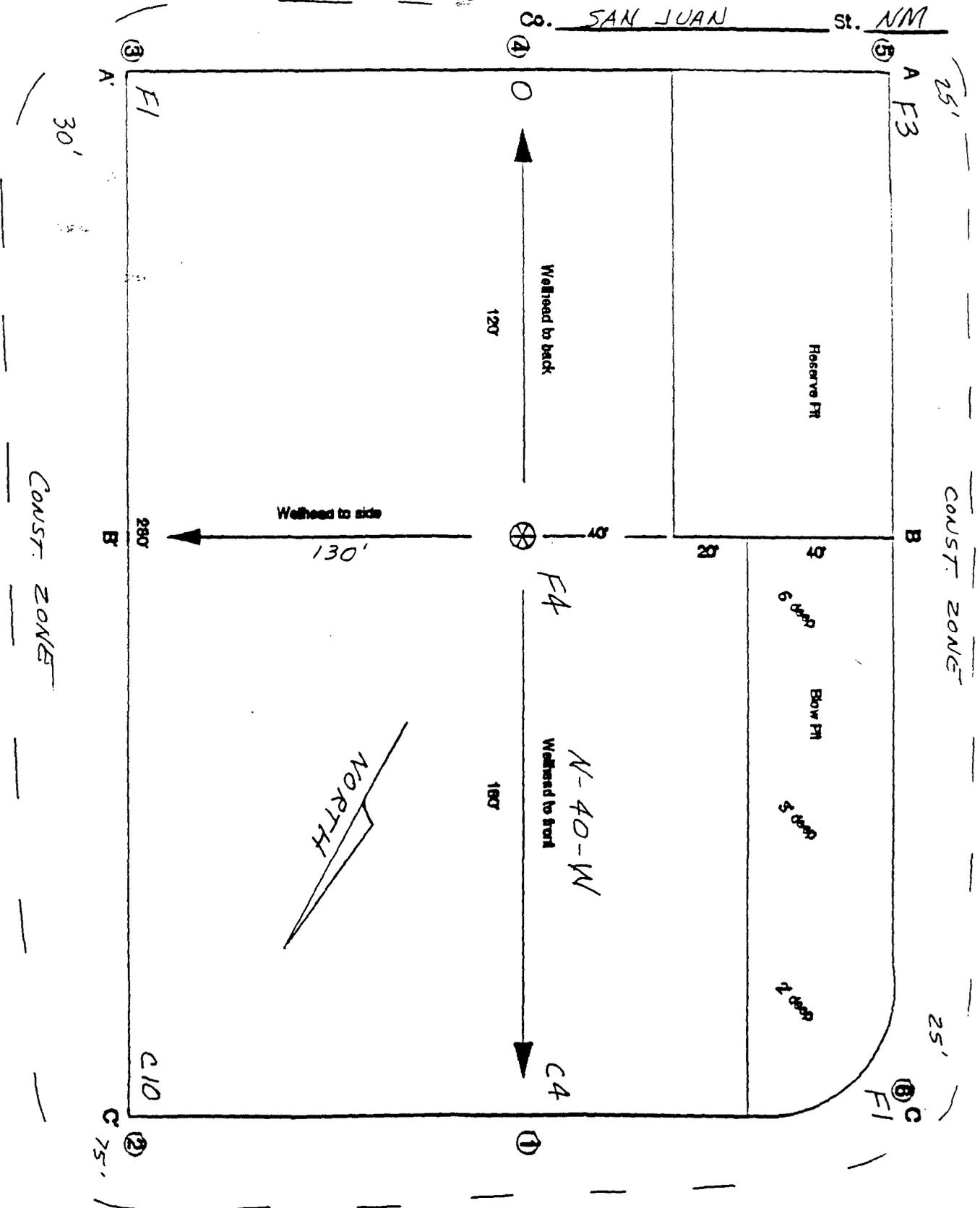
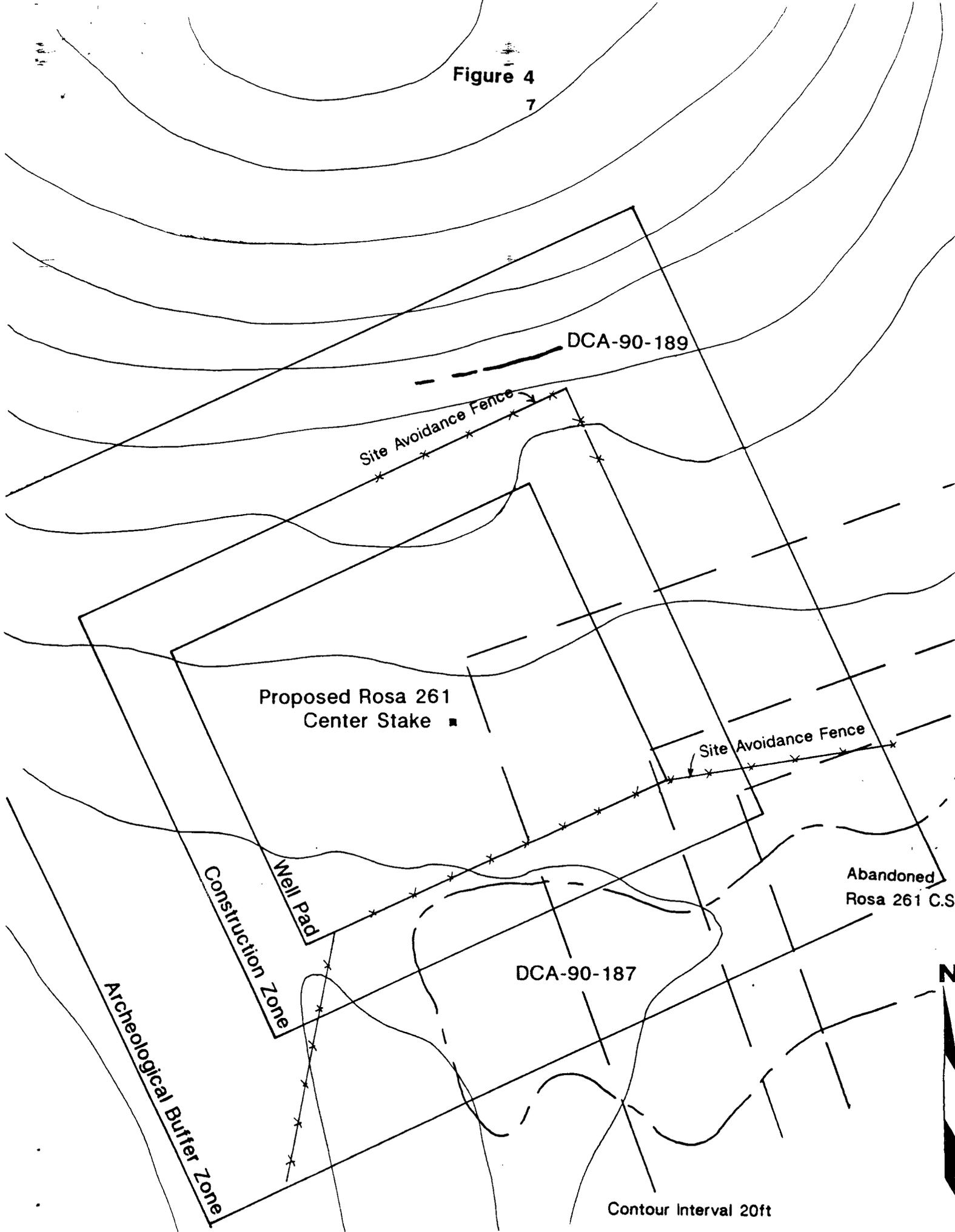


Figure 4

7



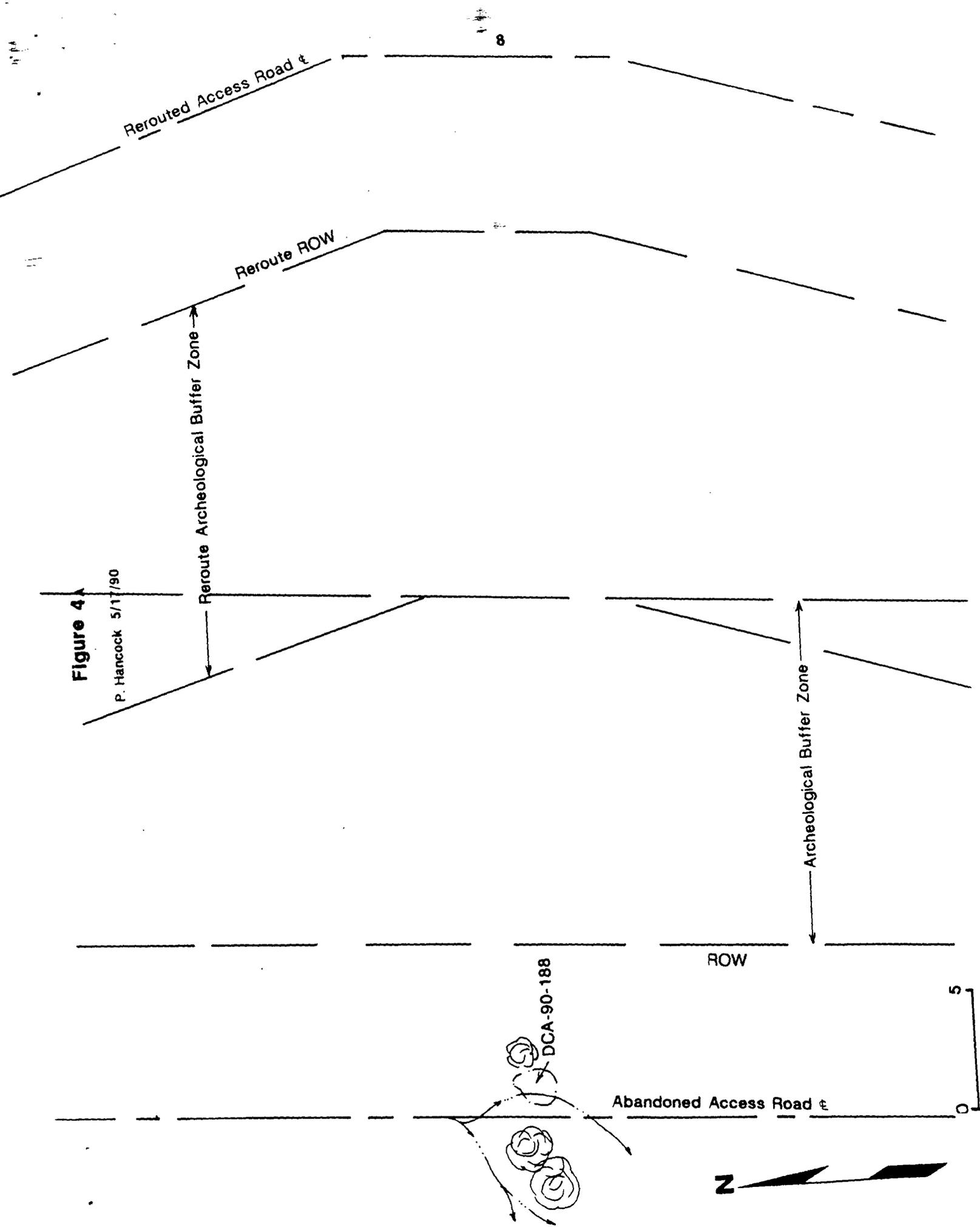


Figure 4A

P. Hancock 5/17/90

Reroute Archeological Buffer Zone

Reroute ROW

Rerouted Access Road

Archeological Buffer Zone

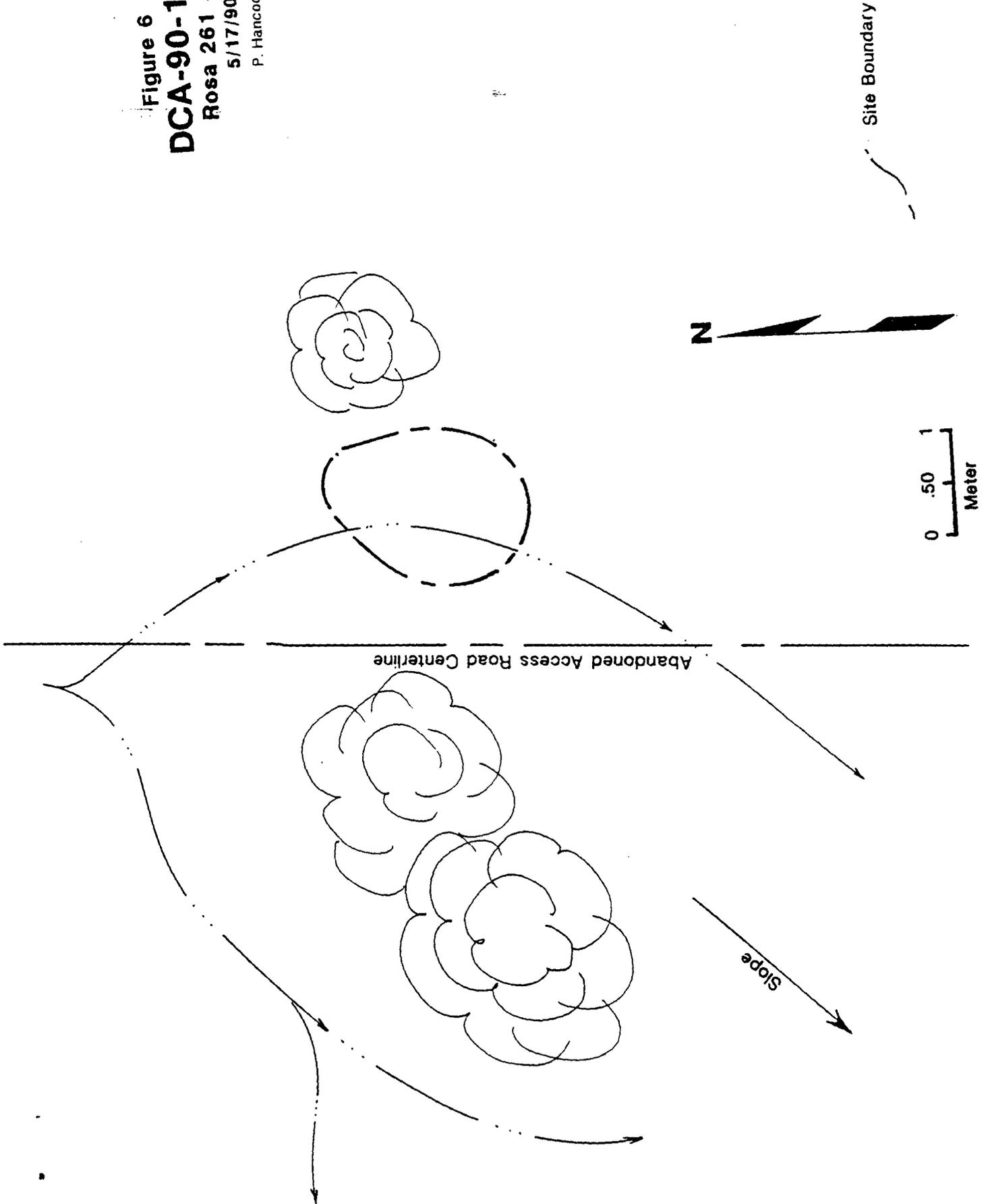
ROW

Abandoned Access Road

DCA-90-188



Figure 6
DCA-90-188
Rosa 261 #2
5/17/90
P. Hancock



Vegetation consists of a heavy overstory of pinyon (Pinus edulis) and juniper (Juniperus sp.). The understory covers 30-50% of the ground and is composed of cliffrose (Cowania sp.), sagebrush (Artemisia tridentata), mountain mahogany (Cercocarpus montanus), snakeweed (Gutierrezia sarothrae), prickly pear (Opuntia sp.), barrel cactus (Sclerocactus sp.), narrowleaf yucca (Yucca angustissima), and various grasses.

The soil is tan silt with clayey inclusions. River cobbles and sandstone can be found throughout the area. Small gravel patches are present as well.

Cultural Resources: Three Category 2 archaeological sites and 12 isolated loci were found during the survey. The isolates consist mainly of quartzite flakes, both Anasazi sherds, and Navajo sherds.

Recommendations: Documentation of the isolates has exhausted their research potential. DCA-90-187 intrudes into the construction zone and cultural buffer zone of the proposed Rosa Unit No. 261 well pad (see Figure 4). The construction zone should be eliminated on the southeast edge of the staked well pad and a site avoidance fence should be erected along the south edge of the well pad. The access road was rerouted to avoid DCA-90-188; therefore, proposed construction activity should have no impact on the site. DCA-90-189 lies in the cultural buffer zone of the proposed Rosa Unit No. 261 well pad (see Figure 4). A site avoidance fence should also be erected along the northeast corner of the construction zone. An archaeological monitor should be present during all construction activity.

Archaeological clearance is recommended for the proposed Rosa Unit No. 261 well pad and associated access road with the above stipulations.

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

State of New Mexico
 Energy, Minerals and Natural Resources Department

Form C-102
 Revised 1-1-89

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

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

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

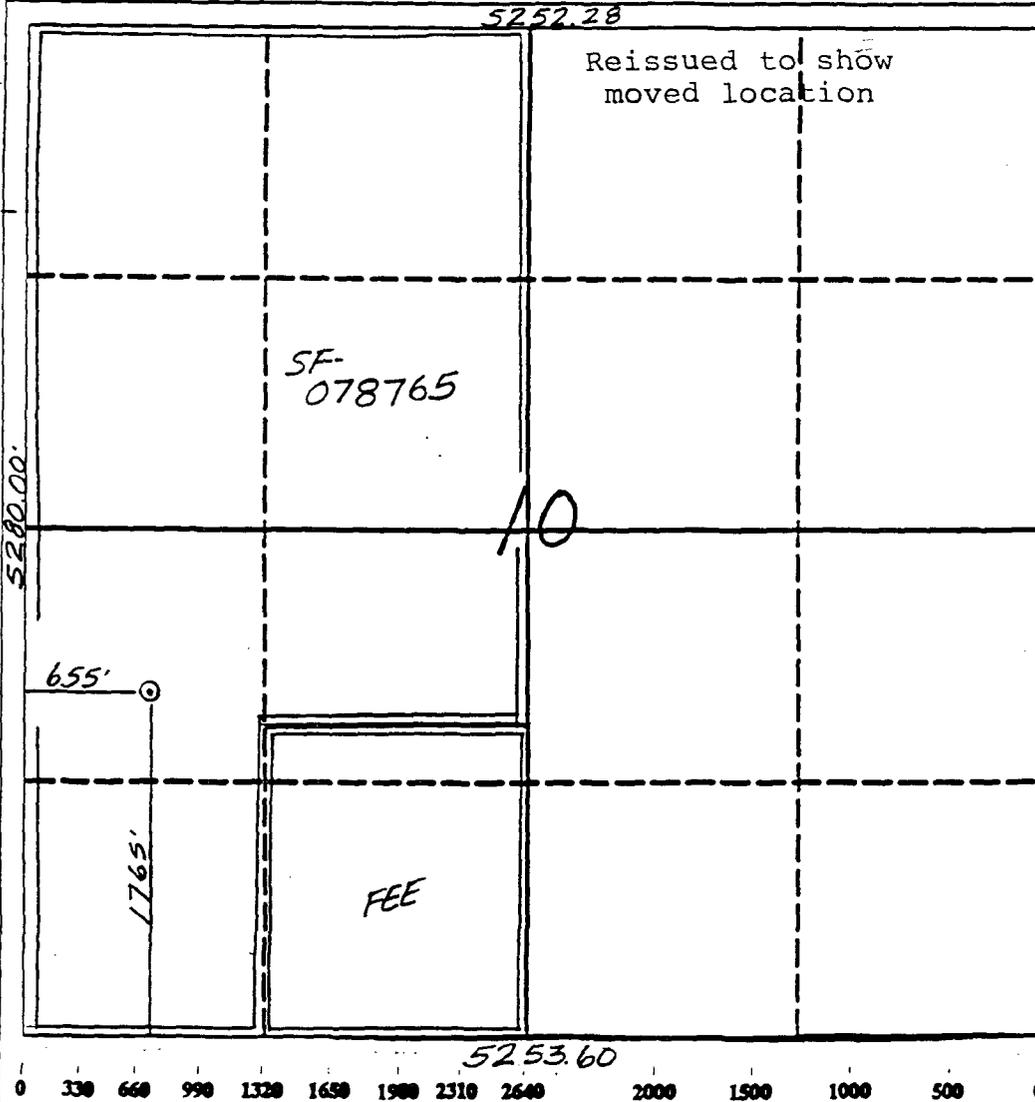
DISTRICT III
 1000 Rio Brazos Rd., Aztec, NM 87410

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-078765)		Well No. 261
Unit Letter L	Section 10	Township 31 North	Range 6 West	County San Juan
Actual Footage Location of Well: 1765 feet from the South line and 655 feet from the West line				
Ground level Elev. 6291'	Producing Formation Fruitland Coal	Pool Basin	Dedicated Acreage: 320 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or backsize marks on the plat below.
 - If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
 - If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
 - Yes No If answer is "yes" type of consolidation unitization
 If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)
- No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

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

Peggy Bradfield
 Signature

Peggy Bradfield
 Printed Name

Regulatory Affairs
 Position

Meridian Oil Inc.
 Company

8-7-90
 Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes or 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.

7-25-90
 Date Surveyed

Neale C. Edwards
 Signature of Registered Professional Surveyor

NEW MEXICO
 REGISTERED LAND SURVEYORS
 6857
 6857
 Neale C. Edwards
 Certificate No.

MERIDIAN OIL INC

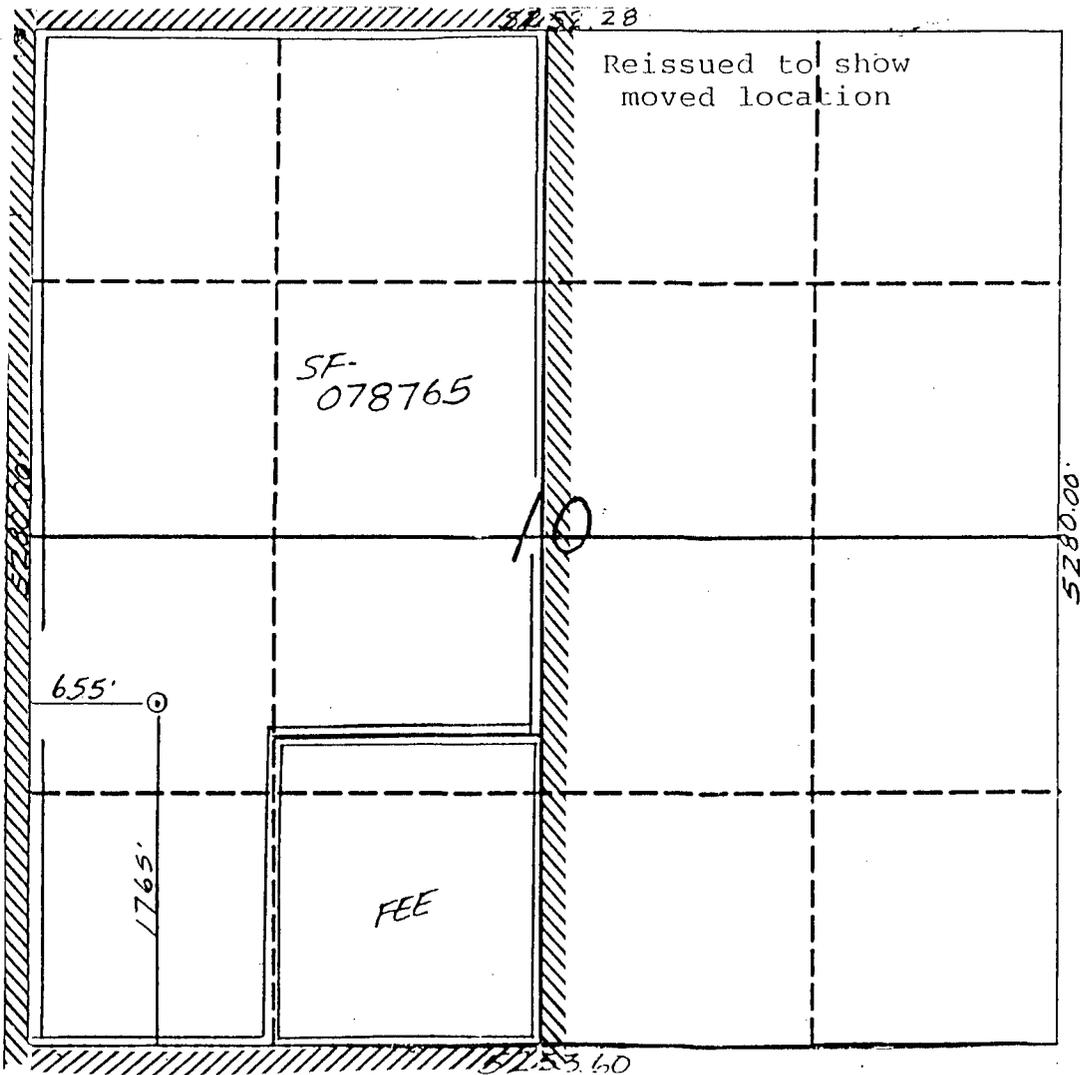
Well Name Rosa Unit #261

Footage 1765' FSL, 655' FWL

APPLICATION FOR NON-STANDARD LOCATION

County San Juan State New Mexico Section 10 Township 31N Range 6W

*Rio Arriba
of*



Remarks All surrounding lands are within the Rosa Unit boundaries
Meridian Oil Inc., Operator

Project No. 460-90-C

Cultural Resource Use Permit
7-2920-90-U (NM BLM)

MERIDIAN OIL

AUG 15 1990

FARMINGTON, NEW MEXICO
Construction Supervisor

An Archaeological Survey of
the Proposed Rosa Unit No. 261 Well Pad
and Access Road near Allison, Colorado in
San Juan County, New Mexico
T31N, R6W, Section 10, 1765' F/SL, 655' F/WL

for

Meridian Oil Inc.

by

Patricia M. Hancock
Supervisory Archaeologist

Submitted by

Byron P. Johnson
Director

DIVISION OF CONSERVATION ARCHAEOLOGY

Technical Report No. 2210
San Juan County Archaeological Research Center and Library

August 10, 1990

ABSTRACT

On July 25, 1990, the Division of Conservation Archaeology of the San Juan County Museum Association completed an archaeological survey of the proposed Rosa Unit No. 261 well pad and access road for Meridian Oil Inc. The survey area is located near Allison, Colorado in San Juan County, New Mexico and is under the jurisdiction of the Bureau of Land Management and the Bureau of Reclamation. Approximately 13.24 acres were intensively inventoried.

During the survey, six new isolates and one new site (DCA-90-342) were found. During the survey of the abandoned Rosa Unit No. 261 (1825' F/SL, 800' F/WL) well pad (Hancock et al. 1990), 12 isolated loci and three sites, DCA-90-187, DCA-90-188, and DCA-90-189, were discovered. These isolates and sites are included in this report. We recommend archaeological clearance for the proposed Rosa Unit No. 261 well pad and access road with stipulations as described in the report.

INTRODUCTION

On July 25, 1990, the Division of Conservation Archaeology (DCA) of the San Juan County Museum Association conducted an archaeological survey for Meridian Oil Inc. of Farmington, New Mexico. Charles Werner requested the survey and administered the project for Meridian Oil Inc. Byron P. Johnson administered the project for DCA.

In recognition of the limited, nonrenewable nature of archaeological remains, the federal government has enacted legislation that is designed to conserve and protect these resources. The principal legislation includes the Antiquities Act of 1906 (PL 52-209), the Historic Preservation Act of 1966 (PL 89-665) and as amended (PL 96-515), the National Environmental Act of 1969 (PL 91-852), the 1971 Executive Order No. 11593, the Archaeological and Historical Conservation Act of 1974 (PL 93-291), and the Archaeological Resources Protection Act of 1979 (PL 96-95). In addition, the Navajo Nation and the states of Arizona, New Mexico, Utah, and Colorado have enacted laws to ensure compliance with federal legislation and to protect archaeological resources within their jurisdiction. Work undertaken in the course of this project is intended to comply with these statutes and is governed by the stipulations of Cultural Resource Use Permit 7-2920-90-U (NM BLM).

Patricia M. Hancock and Jude Stern, DCA archaeologists, surveyed the project area for cultural remains.

METHODS

The area was surveyed by walking a series of straight line transects spaced 10-12 m apart. A construction zone of 50 ft and a cultural resource buffer zone of 100 ft were surveyed around the proposed well pad. A buffer zone of 50 ft was surveyed on each side of the proposed access road. The archaeologists recorded all cultural remains. Those whose information potential exceeded what could be extracted during the survey phase were assigned site status. Other cultural remains were documented as isolated loci (IL). Pertinent environmental data were also recorded.

PREVIOUSLY RECORDED SITES

In addition to field inspection, the archaeologists conducted a search of the records at the Bureau of Land Management (BLM) Farmington Resource Area office on July 23, 1990 and at DCA to determine if any sites had been recorded in the project area. Site and project records required by the BLM and the New Mexico Historic Preservation Division were completed.

The records check revealed 59 previously recorded sites within one mile of the proposed project area. Those sites are shown on BLM Supplement 1A which is provided to the BLM only. Seven of the sites are within 1000 ft of the proposed project and are detailed in Table 1.

Table 1. Sites Within 1000 ft of the Project Area

<u>Site Number</u>	<u>Site Type</u>	<u>Distance from Project Area</u>
DCA-90-187	Anasazi Piedra/Arboles phase lithic scatter with one sherd and a jacal structure	adjacent; discussed within the text
DCA-90-188	Navajo Dinetah or Gobernador phase hearth with burned bone, Dinetah Gray sherds, and a few lithic artifacts	115 ft; discussed within the text
DCA-90-189	Anasazi and Navajo petroglyph panel	adjacent; discussed within the text
DCA-90-10	Anasazi Piedra phase habitation	800 ft
DCA-90-11	Anasazi Piedra phase temporary habitation	700 ft
DCA-90-12	Anasazi Piedra phase lithic/ceramic scatter	700 ft
LA 6525	Anasazi Rosa phase rockshelter and ceramic/lithic scatter	200 ft

Sites DCA-90-187, DCA-90-188, and DCA-90-189 were relocated during this survey. They were first reported in the survey of the abandoned Rosa No. 261 well pad (Hancock et al. 1990).

Sites DCA-90-10, DCA-90-11, and DCA-90-12 were recorded during the survey of the Rosa No. 234 well pad. These sites are at least 700 ft from the proposed access road and were not rediscovered during this project; however, they and site LA 6525 should not be impacted by this project.

PROJECT DESCRIPTION

Proposed Rosa Unit No. 261 Well Pad and Access Road
(Figures 1, 2, and 3)

Legal Description:

T31N, R6W, Section 10, 1765' F/SL, 655' F/WL

	S	$\frac{1}{2}$	NW	$\frac{1}{4}$	SW	$\frac{1}{4}$	(well pad)		
	N	$\frac{1}{2}$	NW	$\frac{1}{4}$	SW	$\frac{1}{4}$	"	"	
	W	$\frac{1}{2}$	NW	$\frac{1}{4}$	SW	$\frac{1}{4}$	(access road)		
	SW	$\frac{1}{4}$	SW	$\frac{1}{4}$	NW	$\frac{1}{4}$	"	"	
Section 9,	E	$\frac{1}{2}$	SE	$\frac{1}{4}$	NE	$\frac{1}{4}$	"	"	
	NW	$\frac{1}{4}$	SE	$\frac{1}{4}$	NE	$\frac{1}{4}$	"	"	
	SW	$\frac{1}{4}$	NE	$\frac{1}{4}$	NE	$\frac{1}{4}$	"	"	
	SE	$\frac{1}{4}$	NW	$\frac{1}{4}$	NE	$\frac{1}{4}$	"	"	

N.M.P.M., San Juan County, New Mexico

Map Source: U.S.G.S. 7.5' Bancos Mesa NW, New Mexico - 1954,
photorevised 1982

Land Jurisdiction: Bureau of Land Management
Bureau of Reclamation

Project Area: 190' x 165' (well pad and construction zone)
4000' x 25' (access road)

Surveyed Area: 290' x 265' (well pad and construction zone
with buffer)
4000' x 125' (access road with buffer)
13.24 Acres

Environment: The proposed Rosa Unit No. 261 well pad and access road are located on cobble-covered mesa adjacent to the Navajo Reservoir-San Juan River. Sandstone outcrops are present as exposed bedrock as well as boulders on talus slopes. Soils are a tan clay strewn with river cobbles and sandstone. Identified river cobbles include andesite, diorites, quartz, quartzite, orthoquartzite, jasper, and chalcedony. Vegetation consists of a heavy overstory of pinyon (Pinus edulis) and juniper (Juniperus sp.). The understory covers 30-50% of the ground and is composed of cliffrose (Cowania sp.), sagebrush (Artemisia tridentata), mountain mahogany (Cercocarpus montanus), snakeweed (Gutierrezia sarothrae), prickly pear (Opuntia sp.), barrel cactus (Sclerocactus sp.), narrowleaf yucca (Yucca angustissima), and various grasses.

The proposed access road will begin at the existing Meridian Oil Inc. Rosa Unit No. 234 well pad. The road will head in a southeasterly direction along the cobble terrace and enter the center of the western edge of the well pad.

The area surveyed for this project is only half of the total well pad area, which is 380 x 330 ft (580 x 530 ft with archaeological buffer). The other half was surveyed for the abandoned Rosa Unit No. 261 well pad (Hancock et al. 1990).

FIGURE 1

Proposed Rosa No. 261 well pad and access road on USGS 7.5' Bancos NW, New Mexico, 1954 (photorevised 1982) T31N, R6W, Section 10, N.M.P.M., San Juan County, New Mexico

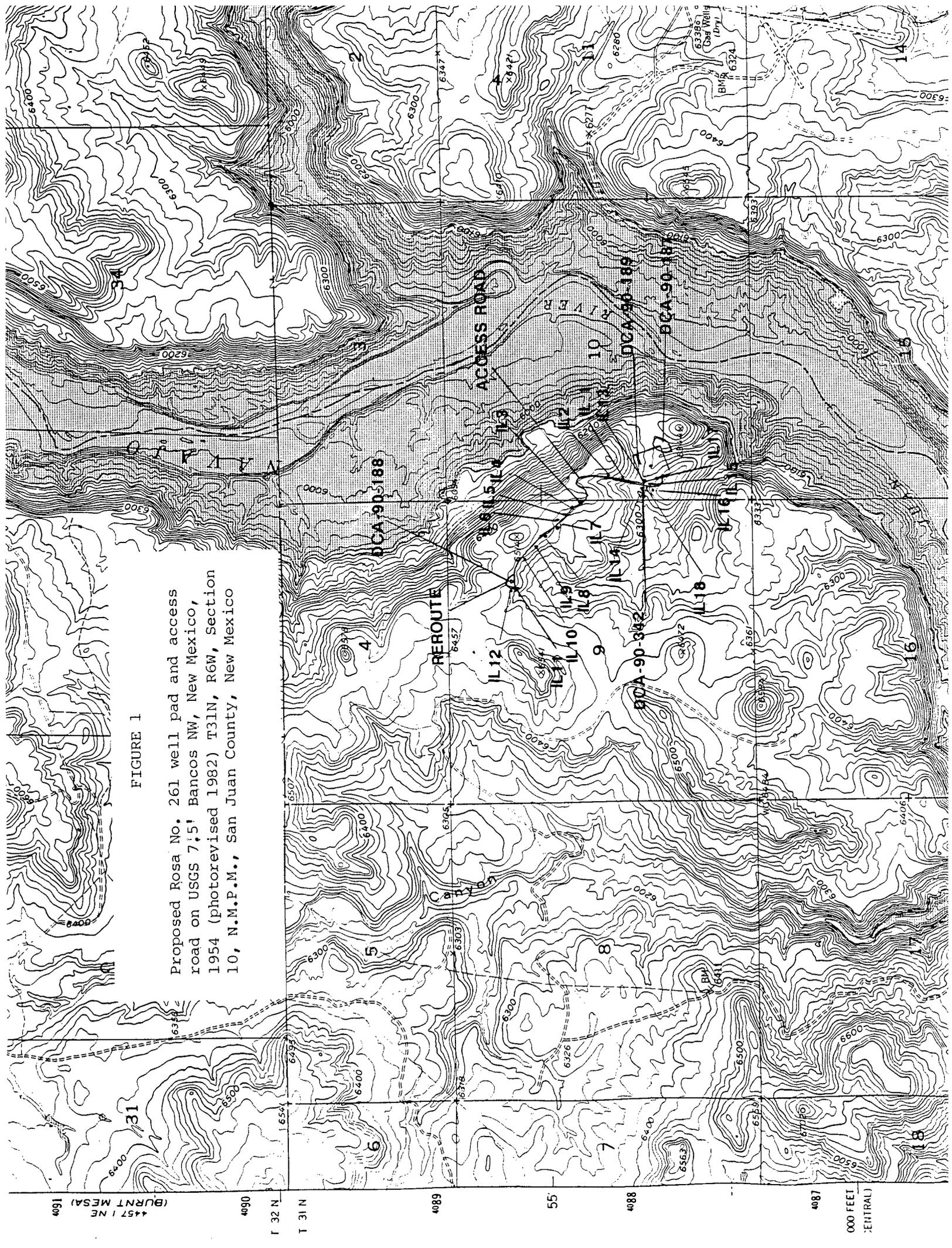


FIGURE 2

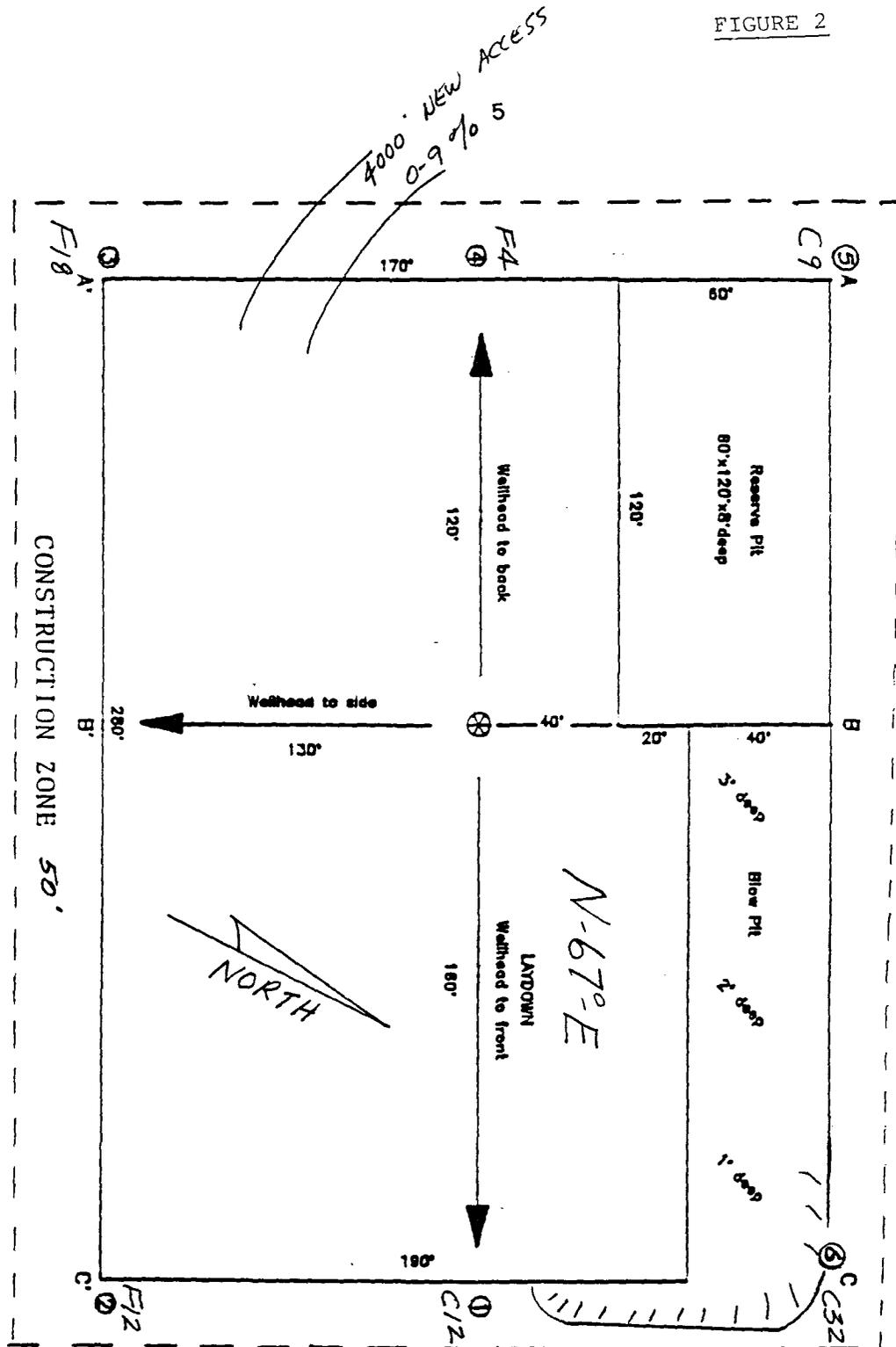
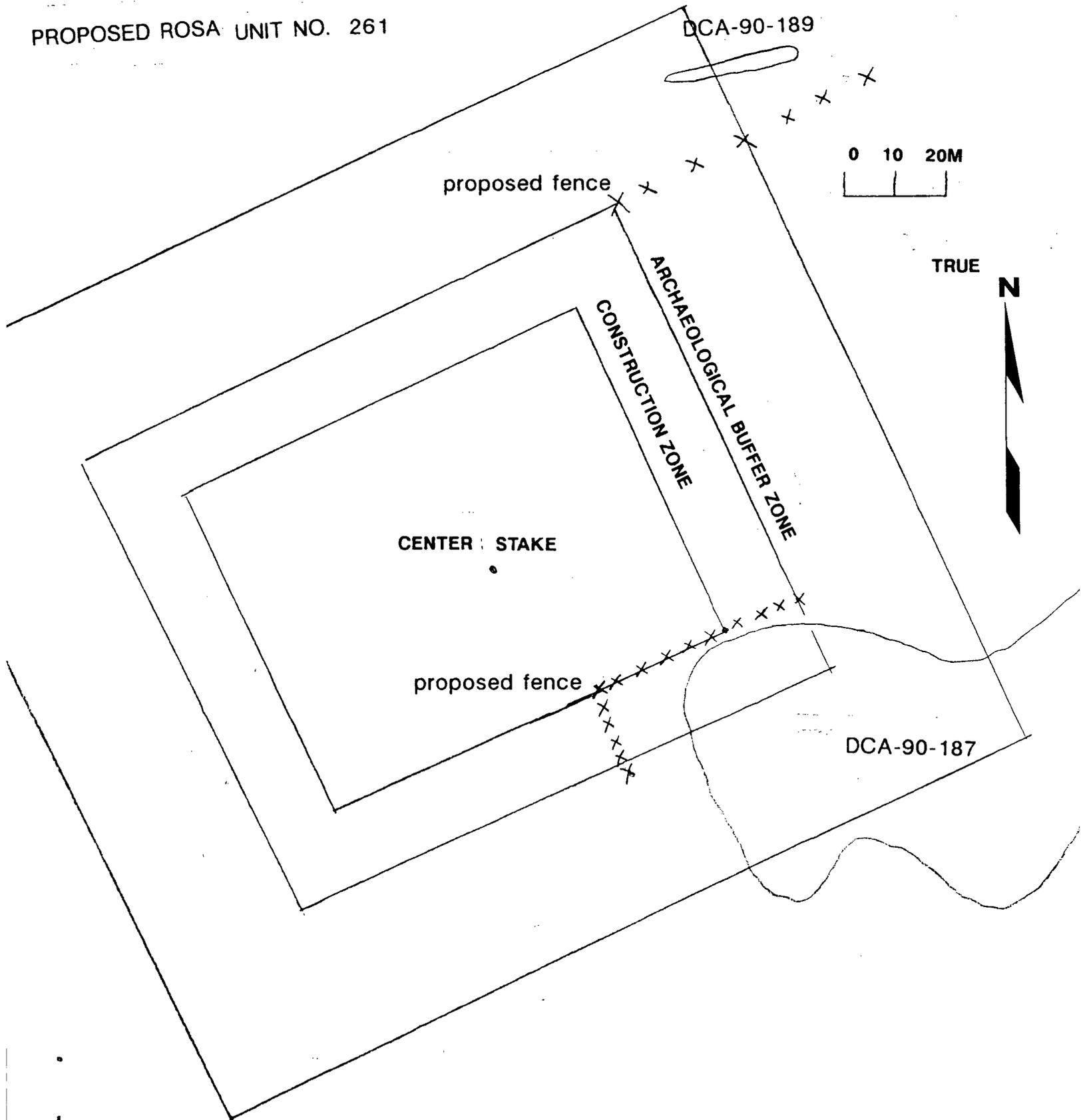


EXHIBIT: _____	
Name:	MOI Rosa Unit # 261
Footage:	1765' FSL, 655' FWL,
Sec. 10	T- 31 -N, R- 6 -W NMPM
Co. San Juan	St. N.M.
Elevation: 6291'	Date: 7-25-90

Plat 2
2/3/90

FIGURE 3

PROPOSED ROSA UNIT NO. 261



Cultural Resources: During the survey, six new isolates (ILs 13-18) and one new site (DCA-90-342) were found. This report also includes ILs 1 to 17 and three sites, DCA-90-187, DCA-90-188, and DCA-90-189, which were recorded during the survey of the abandoned well pad (Hancock et al. 1990).

DCA-90-342 is a lithic scatter with a possible structure of unknown cultural affiliation (Figure 4). It is located 250 ft west of the proposed well pad. It was discovered while trying to find a new location for this well pad.

DCA-90-187 is a large lithic scatter with a jacal structure (Figure 5). The one sherd recovered suggests the Piedra/Arboles phase. The site is located in the southeastern edge of the construction zone.

DCA-90-188 is a Dinetah or Gobernador phase (Figure 6) hearth with burned bone and a few lithic artifacts. The access road has been moved to the east 111 ft to avoid the site.

DCA-90-189 is an Anasazi and Navajo petroglyph panel. It is situated on a talus slope, above the well pad at the edge of the northeastern archaeological buffer zone.

DCA-90-342 is recommended for a Category 2 status. DCA-90-187, DCA-90-188, and DCA-90-189 have been recommended as eligible for the National and State Registers and for a Category 2 status (Peggy Gaudy, personal communication, August 6, 1990).

Recommendations: Documentation of the isolates is considered sufficient to exhaust their research potential.

Site DCA-90-342 will be protected from adverse effects because of its location over 250 ft west of the proposed well pad. No stipulations are necessary.

Site DCA-90-188 will be protected from adverse effects because the western edge of the access road is now 115 ft to the east. No stipulations are necessary.

Sites DCA-90-187 and DCA-90-189 should be protected from adverse effects through construction of a temporary fence. To protect DCA-90-187 a fence should be placed 50 ft east of the southeast corner stake that continues for 75 ft west of the stake. The fence should then turn at a right angle and go south for 50 ft. To protect DCA-90-189 a fence should be constructed that begins at the northeast corner of the construction zone and continues east for 200 ft. Construction activities should not occur beyond the fences (see Figure 3). Archaeological clearance for the proposed Rosa Unit No. 261 well pad and access road is recommended with the above stipulations.

FIGURE 4
DCA-90-342

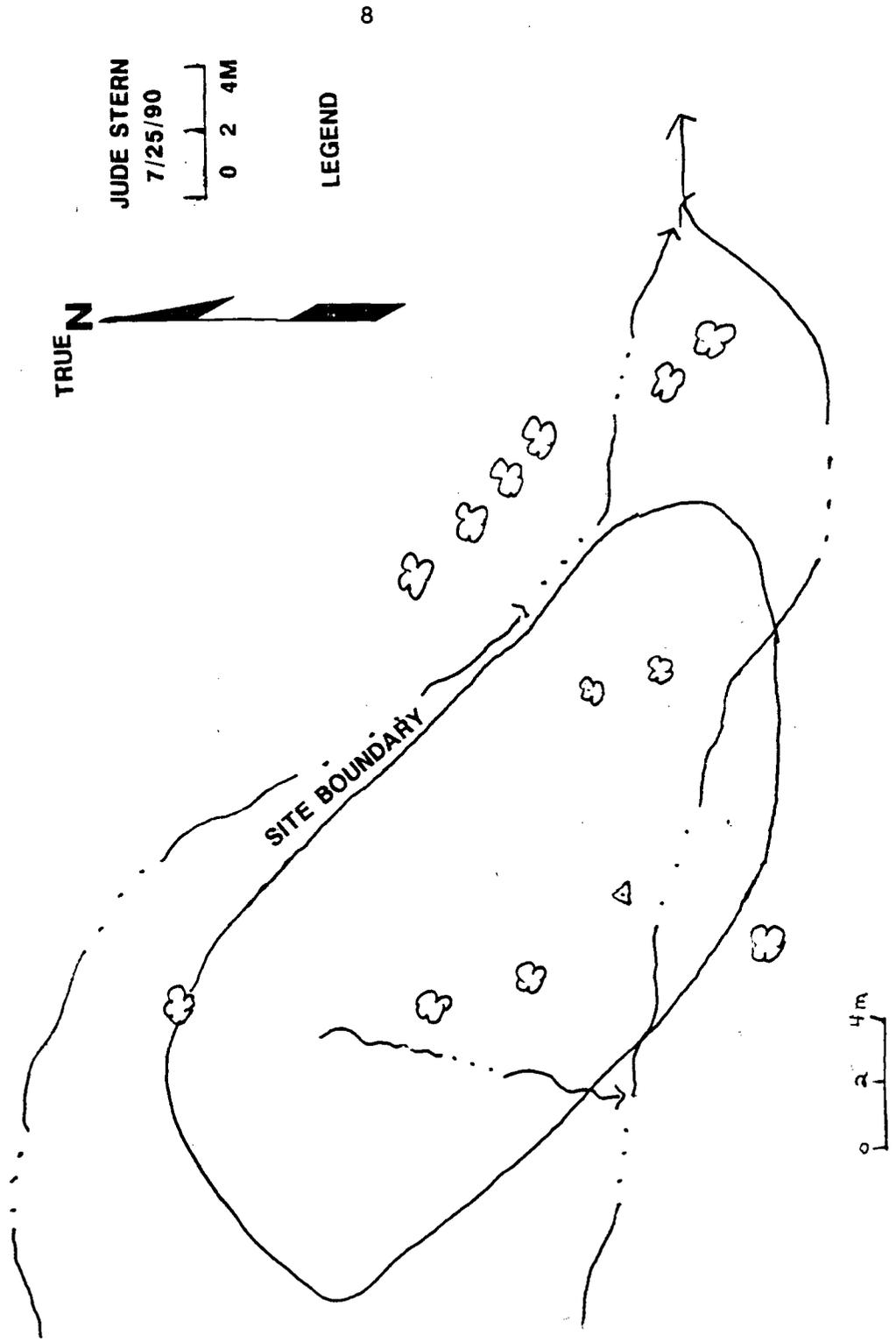


FIGURE 5

DCA-90-187

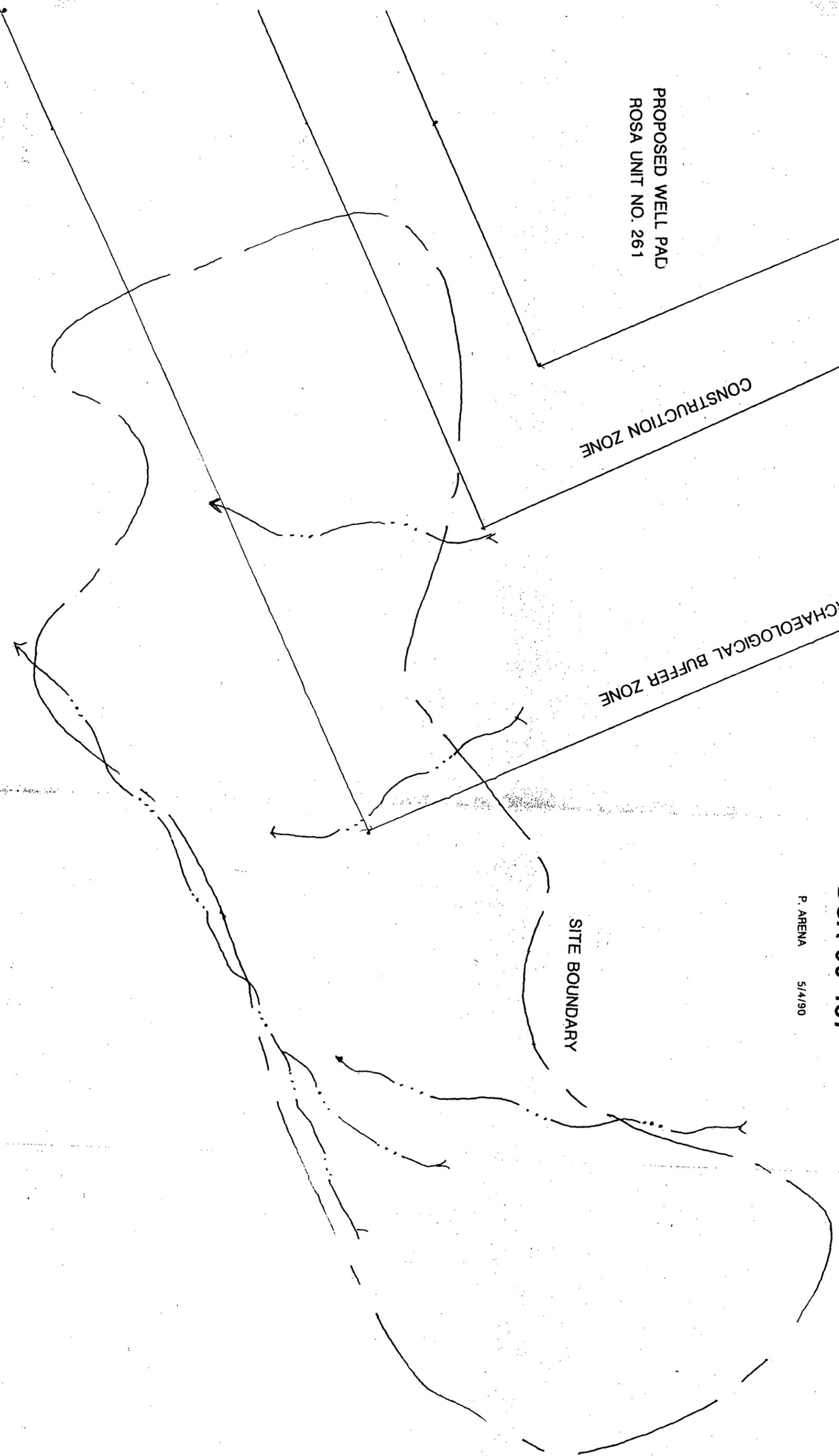
P. ARENA 5/4/90

PROPOSED WELL PAD
ROSA UNIT NO. 261

CONSTRUCTION ZONE

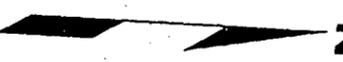
ARCHAEOLOGICAL BUFFER ZONE

SITE BOUNDARY



TRUE

N



0 10 20M

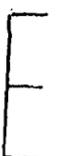


Figure 6

P. Hancock 5/17/90

Rerouted Access Road &
TO ROSA NO 261

10

Reroute ROW

Reroute Archeological Buffer Zone

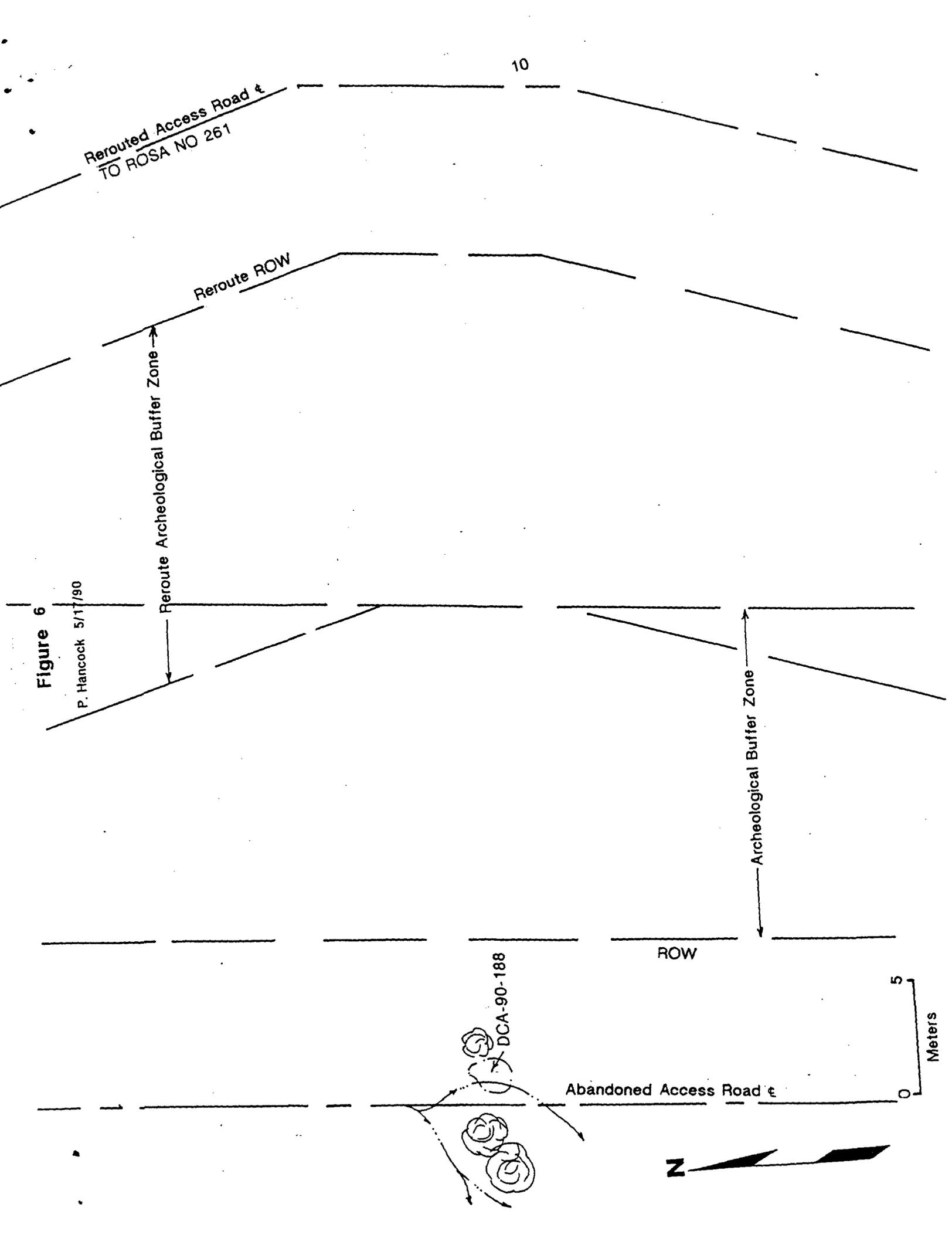
Archeological Buffer Zone

ROW

DCA-90-188

Abandoned Access Road &

5
0
Meters





United States Department of the Interior

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



ORIG- WELL
FILE

IN REPLY REFER TO:

8100(019)

MERIDIAN OIL

JUL 2 - 1990

FARMINGTON, NEW MEXICO
REGULATORY

JUN 29 1990

Mr. Charles Werner
Meridian Oil Inc.
PO Box 4289
Farmington, NM 87499

Dear Mr. Werner:

We have completed a preconstruction compliance check on the proposed Rosa 261 well located on Middle Mesa. The proposed well has a long access which begins at the Rosa 235 well.

We have several concerns about the relationship of the three archaeological sites located during the inventory and the proposed well. Site DCA 90-187 is located in the buffer and construction zone and is approximately ten feet from the proposed pad. Site DCA 90-188 is located near the beginning of the access road. The archeological inventory report, Figure 1, shows a reroute to the south to avoid the site while the field check found that the reroute is to the north. We will need a revised Figure 1 and a revised map for the site to show the relationship of the site to the proposed access. Site DCA 90-189 is a series of petroglyph panels located above the well pad. Stake 6 is located about 50 feet south of the eastern portion of the site. The blow pit is oriented towards the site.

Because of the close proximity of sites DCA 90-187 and 90-189 to the proposed Rosa 261 we are recommending two alternatives. First, that the well be moved to provide additional distance between the sites and the proposed well or secondly, the data recovery plan be prepared and implemented for DCA 90-187 and then the well be moved back to the original staked location of 1705 FSL and 1170 FWL.

If you have any questions contact Peggy Gaudy at 327-5344.

Sincerely,

Now at 18255 800w

Bruce E. Dunn

Ron Fellows
Area Manager

for

cc:DCA