MERIDIAN OIL

May 4, 1993 Rec 5/7/93

Sent Federal Express

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

Re: Meridian Oil Inc. San Juan 30-6 Unit #95X
640'FSL, 1520'FWL Section 26, T-30-N, R-7-W
Rio Arriba County, New Mexico

Dear Mr. LeMay:

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

This application for the referenced location is due to terrain and archaeology as shown on the enclosed maps.

The following attachments are for your review:

1. Application for Permit to Drill.

2. Completed C-102 at referenced location.

3. Offset operators/owners plat. Meridian Oil is the operator of the San Juan 30-6 Unit.

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 from Arboles Contract Archaeology.

6. If the well were directionally drilled to a standard bottom hole location, the economics would be severely burdened due to the incremental directional drilling costs of $200,000.

Sincerely,

Peggy Bradfield
Regulatory/Compliance Representative

encs.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
DRILL

1b. Type of Well
GAS

5. Lease Number
SF-079383

6. If Indian, All. or Tribe

2. Operator
MERIDIAN OIL

7. Unit Agreement Name
San Juan 30-6 Unit

3. Address & Phone No. of Operator
PO Box 4289, Farmington, NM 87499

(505) 326-9700

8. Farm or Lease Name
San Juan 30-6 Unit

9. Well Number
95X

4. Location of Well
640'FSL, 1520'FWL

Latitude 36° 46' 41", Longitude 107° 32' 37"

10. Field, Pool, Wildcat
Blanco Mesa Verde

11. Sec., Twn, Rge, Mer.
Sec 26,T-30-N,R-7-W
NMPM

14. Distance in Miles from Nearest Town
3.5 miles Navajo City

12. County
Rio Arriba

13. State
NM

15. Distance from Proposed Location to Nearest Property or Lease Line
640'

16. Acres in Lease

17. Acres Assigned to Well
320 W/2

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease
120'

19. Proposed Depth
6531'

20. Rotary or Cable Tools
Rotary

21. Elevations (DF, FT, GR, Etc.)
6868'GR

22. Approx. Date Work will Start
2nd quarter 1993

23. Proposed Casing and Cementing Program
See Operations Plan attached

24. Authorized by: _____
Regional Drilling Engineer

Date 4/27/93

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

Archaeological Report will be submitted
Threatened and Endangered Species Report will be submitted

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
Meridian Oil Inc.	San Juan 30-6 Unit	95X

Unit Letter	Section	Township	Range	County
N	26	30 North	7 West NMPM	Rio Arriba

Actual Footage Location of Well:
640 feet from the South line and 1520 feet from the West line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
6868'	Mesa Verde	Blanco	320 Acres

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

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

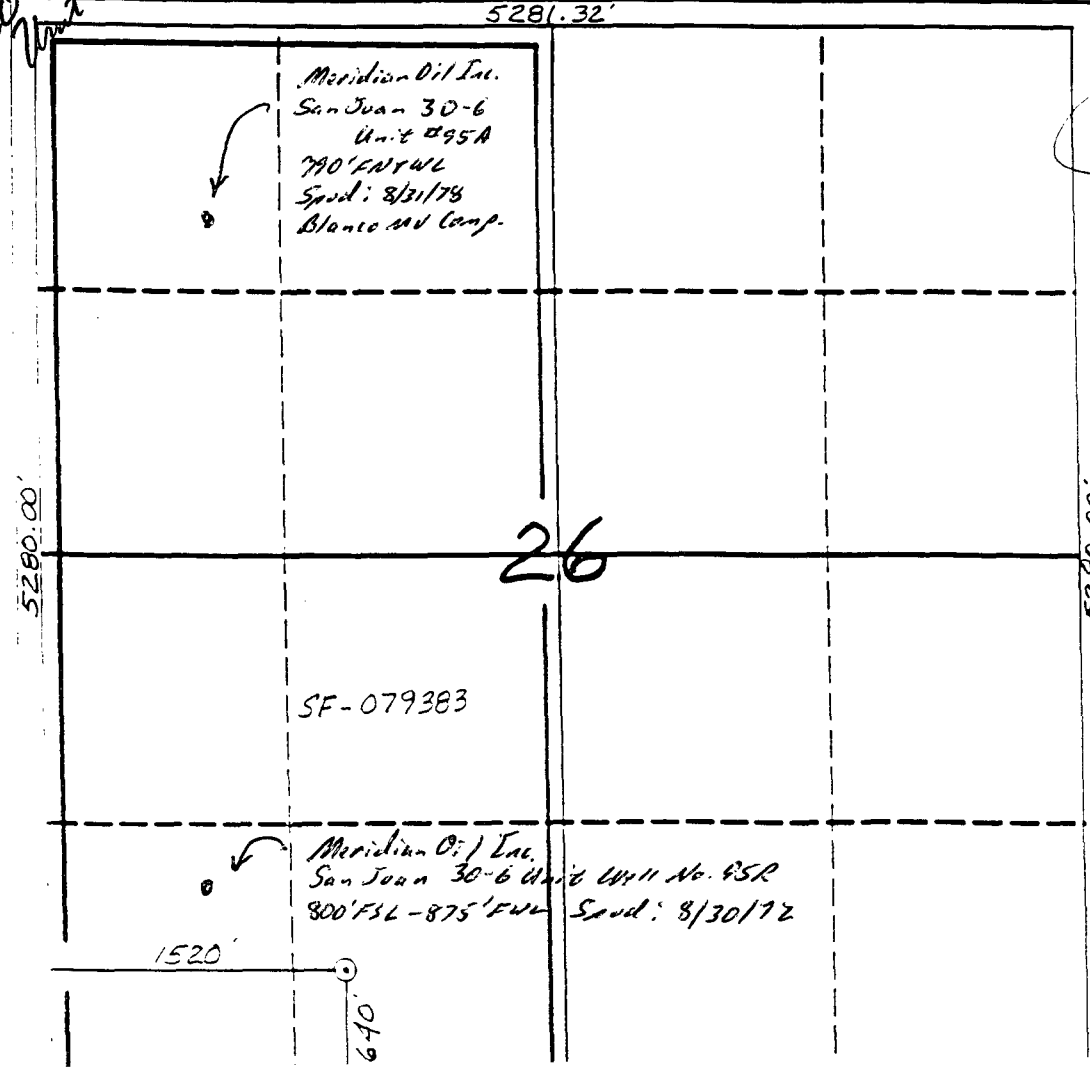
3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☒ 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.

Standard 320 acre Unit



OPERATOR CERTIFICATION

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

Signature: Peggy Bradfield

Peggy Bradfield

Printed Name

Regulatory Rep.

Position

Meridian Oil Inc.

Company

4-27-93

Date

SURVEYOR CERTIFICATION

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.

3-10-93

Date Surveyed

Neale C. Edwards

Signature & Seal of Professional Surveyor

NEALE C. EDWARDS
9857
REGISTERED LAND SURVEYOR

 April 27, 1993

OPERATIONS PLAN

Well Name: San Juan 30-6 Unit #95X
Location: 640'FSL, 1520'FWL Section 26, T-30-N, R-7-W
Rio Arriba County, New Mexico
Latitude 36° 46' 41", Longitude 107° 32' 37"
Formation: Blanco Mesa Verde
Elevation: 6868'GL

Formation Tops:	***Top***	***Bottom***	***Contents***
Surface	San Jose	2734'	
Ojo Alamo	2734'	2939'	aquifer
Kirtland	2939'	3494'	gas
Fruitland	3494'	3757'	gas
Pictured Cliffs	3757'	3904'	gas
Lewis	3904'	4464'	gas
Intermediate TD	**4044'**		
Chacra	4464'	5314'	gas
Mesa Verde	**5314'**		**gas**
Upper Cliff House	5314'	5590'	gas
Massive Cliff House	5590'	5639'	gas
Menefee	5639'	6031'	gas
Massive Point Lookout	6031'	6077'	gas
Lower Point Lookout	6077'		gas & oil
Total Depth	**6531'**		

Logging Program:
Openhole Wireline Logging -
Surface to Intermediate TD : DIL/LDT/CNL/ML
Intermediate TD to Total Depth : DIL/LDT/Ep Neut/Temp
Mud Logs/Coring/DST -
Mud logs - none
Coring - none
DST - none

Mud Program:

Interval	Type	Weight	Vis.	Fluid Loss
0- 200'	Spud	8.4-8.9	40-50	no control
200-4044'	Weighted	8.4-9.1	30-60	no control
4044-6531'	Gas/Mist	n/a	n/a	n/a

Pit levels will be visually monitored to detect gain or loss of fluid control.

Casing Program:

Hole Size	Depth Interval	Csg.Size	Wt.	Grade
12 1/4"	0' - 200'	9 5/8"	32.3#	H-40
8 3/4"	0' - 4044'	7"	20.0#	K-55
6 1/4"	3894' - 6531'	4 1/2"	10.5#	K-55

Tubing Program:

	0' - 6531'	2 3/8"	4.7#	J-55

BOP Specifications, Wellhead and Tests:

Surface to Intermediate TD -
11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, rams and casing will be tested to 600 psi for 30 minutes.

Intermediate TD to Total Depth -
11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, rams and casing will be tested to 1500 psi for 30 minutes.

Surface to Total Depth -
2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

Completion Operations -
6" 3000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 3000 psi for 15 minutes.

Wellhead -
9 5/8" x 7" x 2 3/8" x 3000 psi tree assembly.

General -
- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- A BOP pit level drill will be conducted weekly for each drilling crew.
- All of the BOP tests and drills will be recorded in the daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

Cementing:

9 5/8" surface casing - cement with 160 sx Class "B" cement with 1/4# flocele/sx and 3% calcium chloride (190 cu.ft. of slurry, 200% excess to circulate to surface). WOC 12 hrs. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing -
First stage - Lead w/13 sx of 65/35 Class "B" poz w/6% gel, 2% calcium chloride, and 1/4# flocele/sx. Tail w/100 sx Class "B" w/2% calcium chloride (142 cu.ft. of slurry, 125% excess to circulate stage tool @ 3520').

Second stage - lead w/581 sx of 65/35 Class "B" poz w/6% gel, 2% calcium chloride, and 1/4# flocele/sx. Tail w/100 sx Class "B" w/2% calcium chloride (1059 cu.ft. of slurry, 125% excess to circulate to surface). WOC minimum of 12 hours before drilling out intermediate casing. If cement does not circulate to surface, a temperature log will be run after 8 hours to determine TOC. Test casing to 1500 psi for 30 minutes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Seven bowspring centralizers spaced every other joint off bottom, with three spaced every fourth joint to the base of the Ojo Alamo at 2939'. Two turbolating centralizers at the base of the Ojo Alamo at 2939'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

4 1/2" Production Liner -

Cement to circulate liner top. Lead with 239 sx 65/35 Class "B" Poz with 6% gel, 2% calcium chloride, 5#/sx gilsonite, 0.25#/sx flocele. Tail with 100 sx Class "B" with 2% calcium chloride (541 cu.ft., 75% excess to circulate liner top). WOC a minimum of 18 hrs prior to completing.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom to top of the Mesa Verde or above. The liner hanger will have a rubber packoff.

- **If hole conditions permit, an adequate water spacer will be** pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.
- The pipe will be rotated and/or reciprocated, if hole conditions permit.

Special Drilling Operations (Gas/Mist Drilling):

The following equipment will be operational while gas/mist drilling:

- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
- Engines will have spark arresters or water cooled exhaust.
- Deduster equipment will be utilized.
- The rotating head will be properly lubricated and maintained.
- A float valve will be utilized above the bit.
- Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

Additional Information:

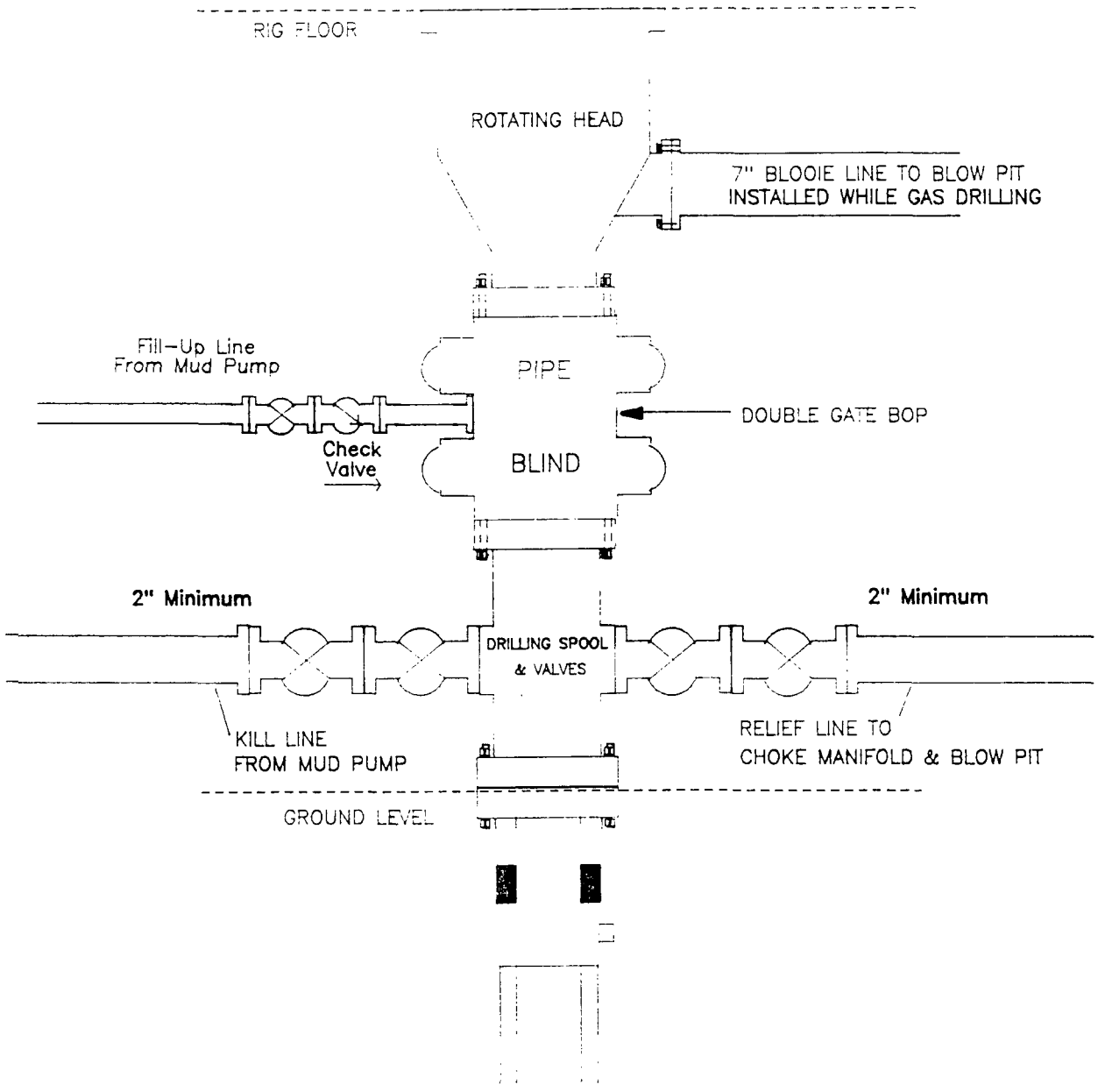
- The Mesa Verde formation will be completed.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	800 psi
Pictured Cliffs	800 psi
Mesa Verde	700 psi

- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The West half of Section 26 is dedicated to this well.
- This gas is dedicated.

MERIDIAN OIL INC.

Mesaverde Well
BOP Configuration



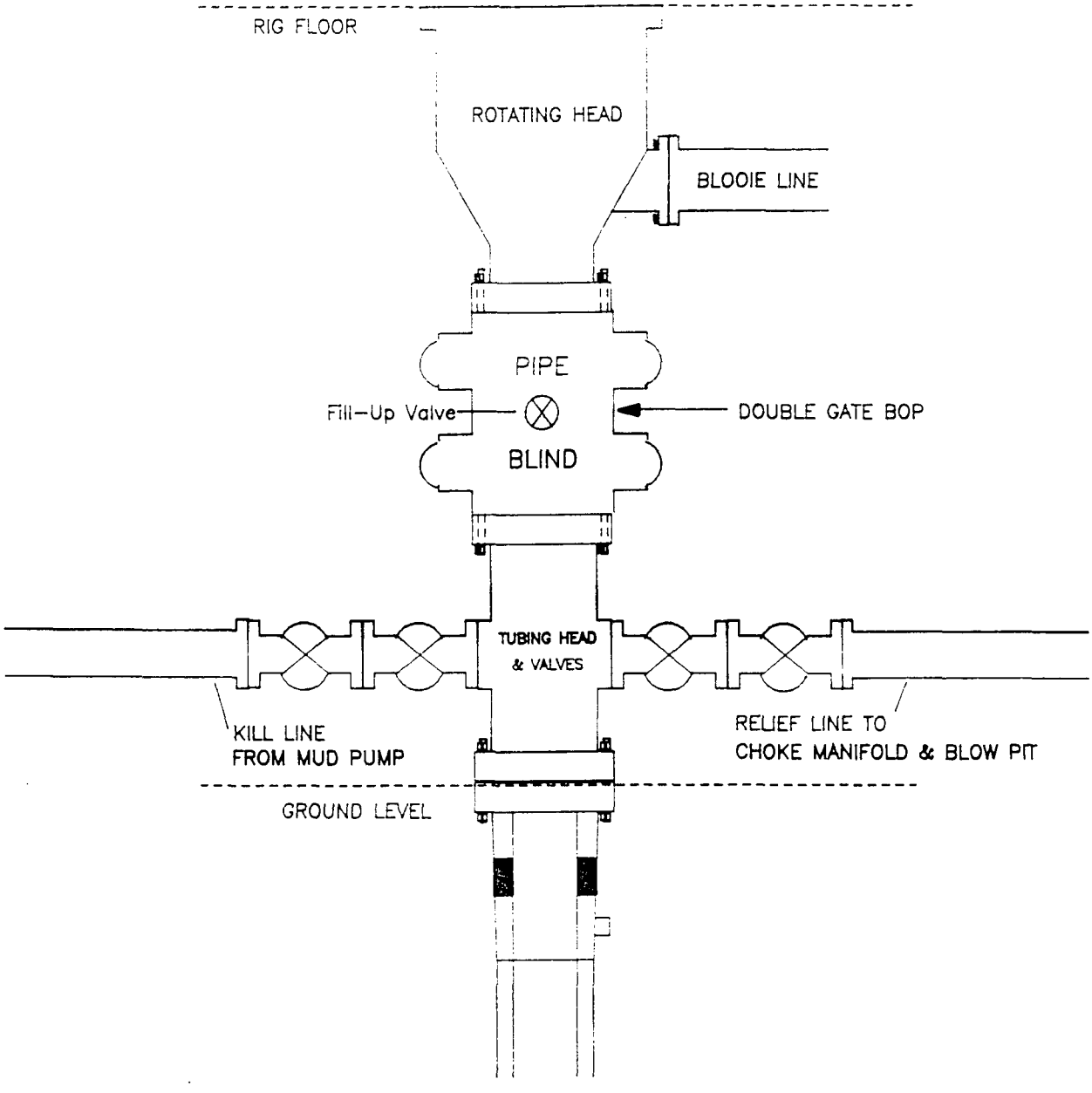
Minimum BOP installation for a Mesaverde well from Surface to Total Depth. 11" Bore, 2000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A Schaffer Type 50 or equivalent rotating head to be installed on the top of the BOP. All equipment is 2000psi working pressure or greater.

Figure #1

AMS/01-10-91

MERIDIAN OIL INC.

Mesaverde Well – Completion Rig
BOP Configuration



Minimum BOP installation for Completion Operations. 7 1/16" Bore (6" Nominal), 3000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams.

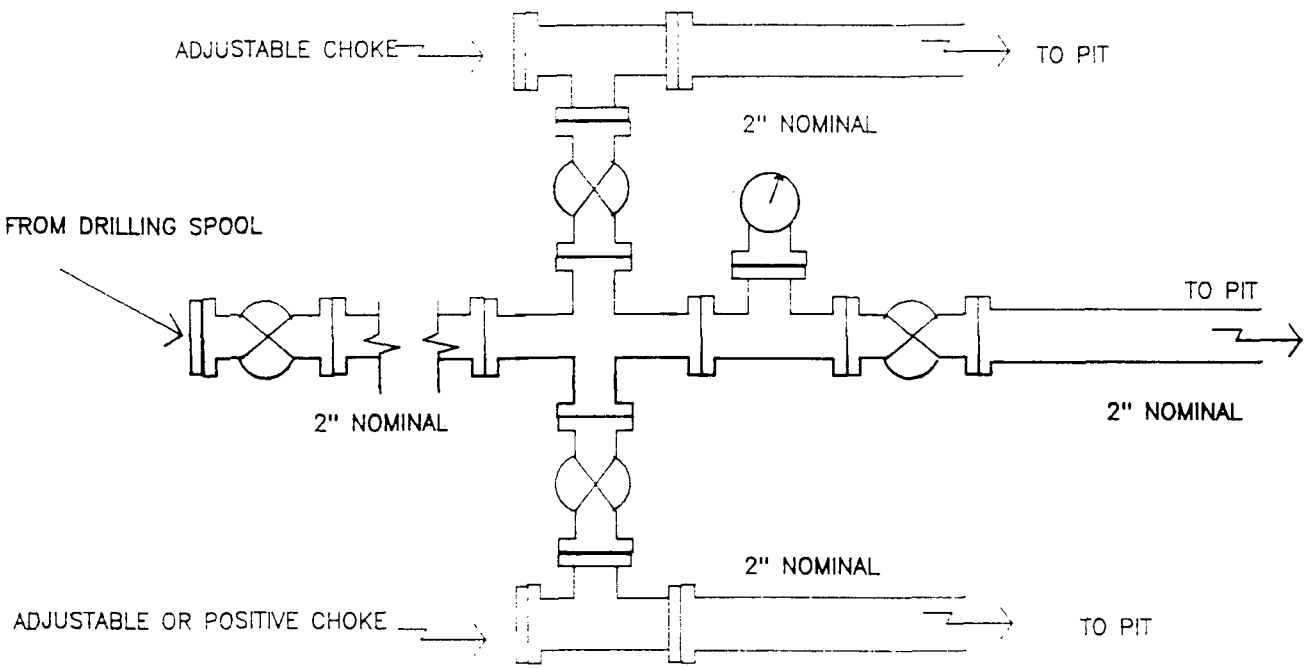
Figure #2

AMS/01–10–91

MERIDIAN OIL INC.

Mesaverde Well

Choke Manifold Configuration



Minimum choke manifold installation from surface to Total Depth.
2" minimum, 2000psi working pressure equipment with two chokes.

Figure #3

AMS/01-10-91

MERIDIAN OIL

San Juan 30-6 Unit #95X
Multi-Point Surface Use Plan

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. None required.

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 Navajo Dam at Francis Creek located in SE/4 Section 14, T-30-N, R-7-W, New Mexico.

6. Source of Construction Materials - If construction materials are required for the proposed project, such materials will be obtained from a commercial quarry.

7. Methods of Handling Waste Materials - All garbage and trash materials will be removed from the site for proper disposal. A portable toilet will be provided for human waste and serviced in a proper manner. If liquids are left in the reserve pit after completion of the project, the pit will be fenced until the liquids have had adequate time to dry. The location clean-up will not take place until such time as the reserve pit can be properly covered over to prevent run-off from carrying waste materials into the watershed. All reserve pits will be lined with 12 mil bio-degradable plastic liner. All earthen pits will be so constructed as to prevent leakage from occurring; no earthen pit will be located on natural drainage. Generation of hazardous waste is not anticipated. Federal regulations will be adhered to regarding handling and disposal of such waste if so generated.

8. Ancillary Facilities - None anticipated.

9. Wellsite Layout - Refer to the location diagram and to the wellsite cut and fill diagram (Figure No. 4). The blow pit will be constructed with a 2'/160' grade to allow positive drainage to the reserve pit and prevent standing liquids in the blow pit.

10. Plans for Restoration of the Surface - After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be used. The reseeding operations will be performed during the time period set forth by the responsible government agency. The permanent location facilities will be painted as designated by the responsible government agency.

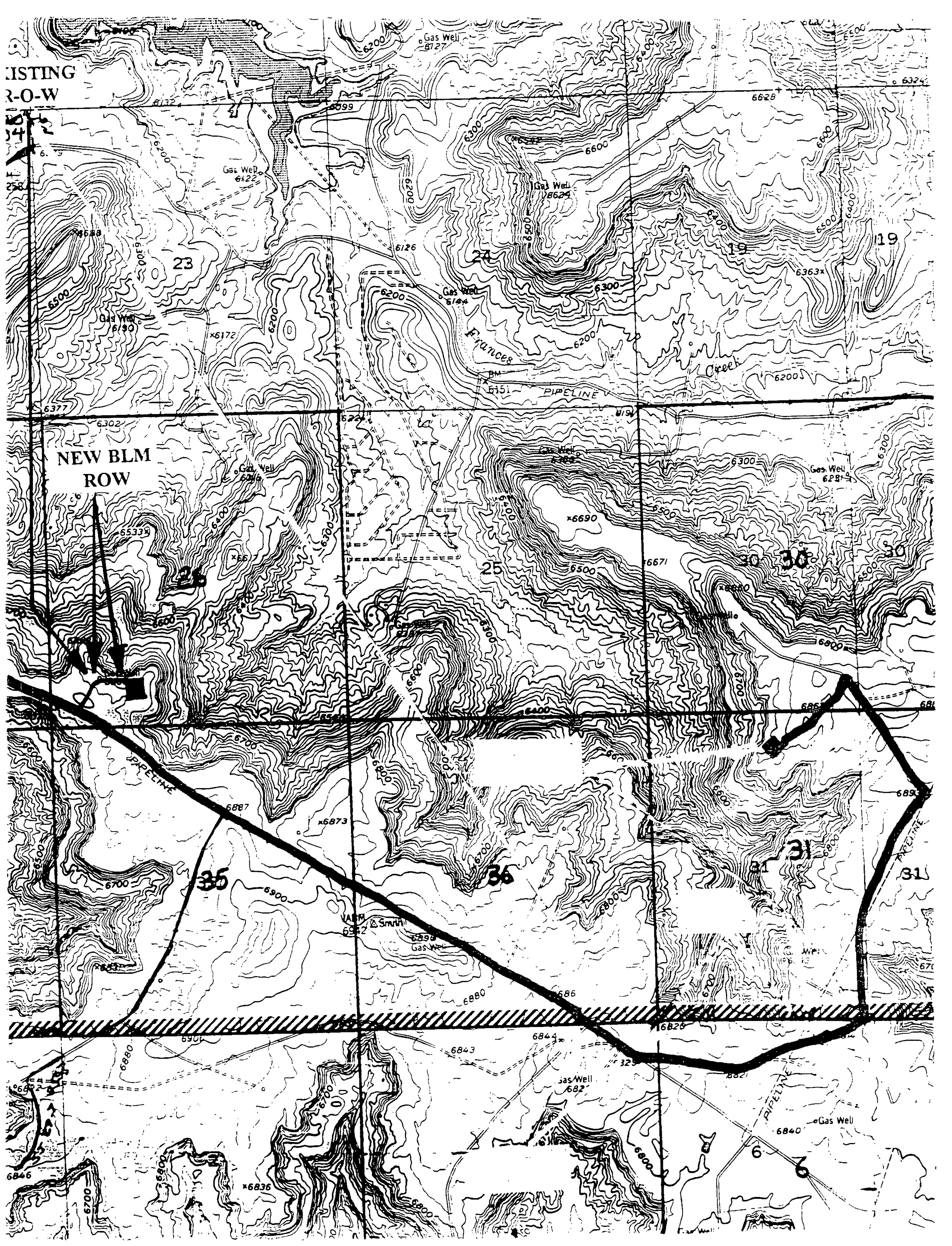
11. Surface Ownership - Bureau of Land Management.

12. Other Information - Environmental stipulations as outlined by the responsible government agency will be adhered to. Refer to the archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.

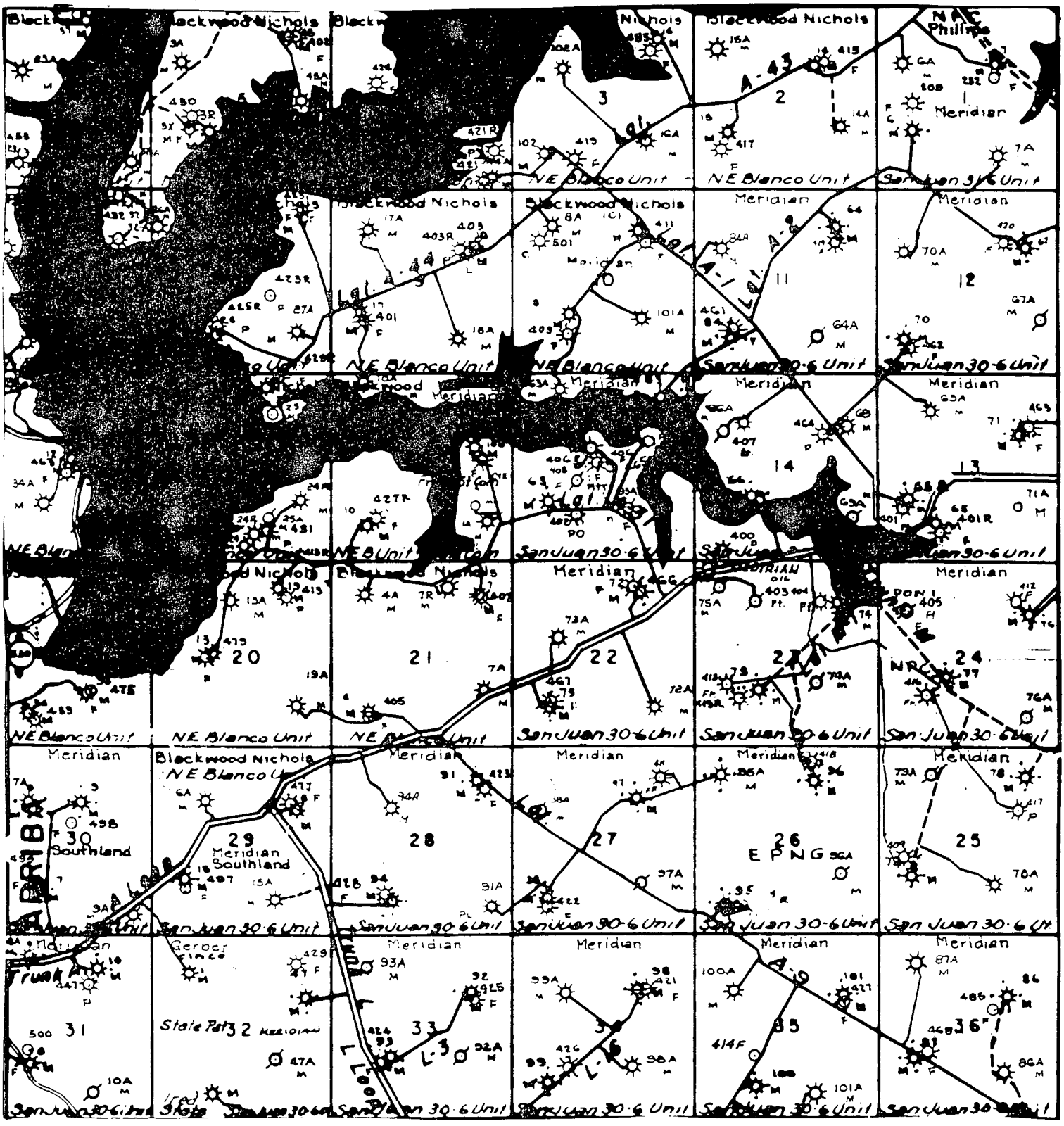
13. Operator's Representative and Certification - Meridian Oil Regional Drilling Manager, Post Office Box 4289, Farmington, NM 87499, telephone (505) 326-9700. I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan, are to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Meridian Oil Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Regional Drilling Engineer — Date 4/27/93

JWC:pb



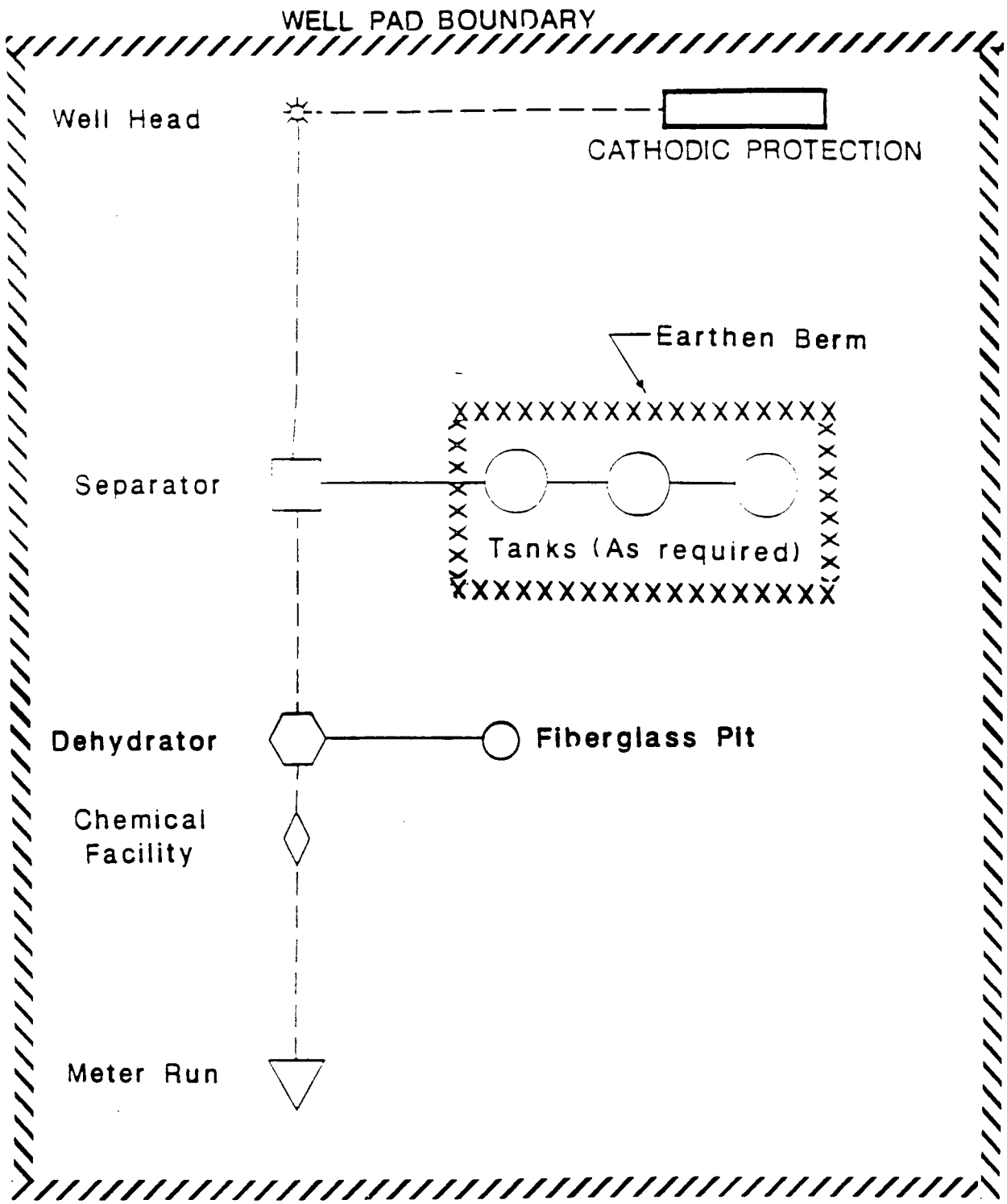
XISTING
R-O-W
NEW BLM
ROW
Gas Well
23
24
19
25
26
30
31
35
36
6
Frances
Creek
PIPELINE



MERIDIAN OIL INC.
Pipeline Map
T-30-N, R-07-W
San Juan County, New Mexico

San Juan 30-6 Unit #95X
Map #1A

3/91 adw/mjb



MERIDIAN OIL

PLAT #1

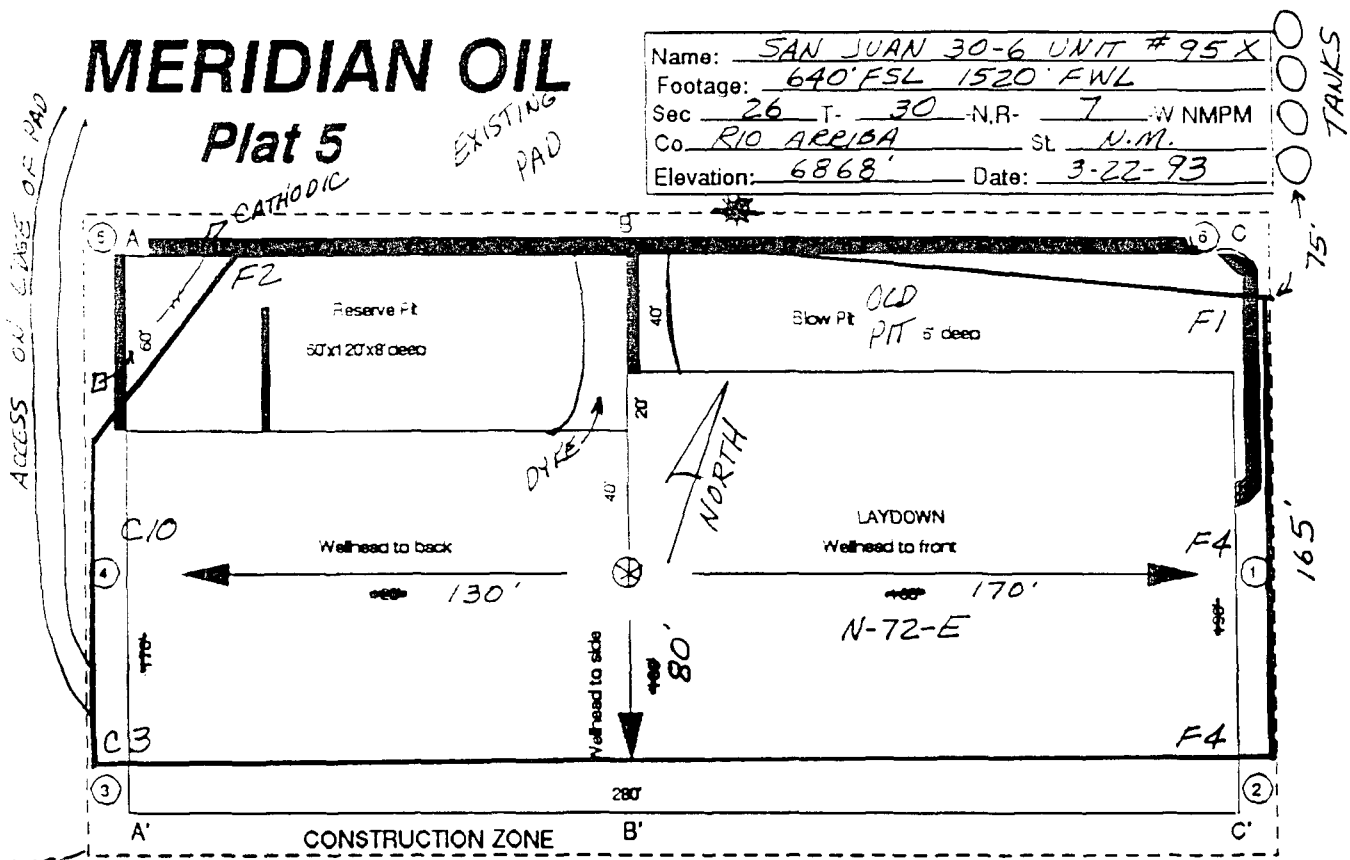
ANTICIPATED
PRODUCTION FACILITIES
FOR A
MESA VERDE WELL

KFR 2/90

MERIDIAN OIL

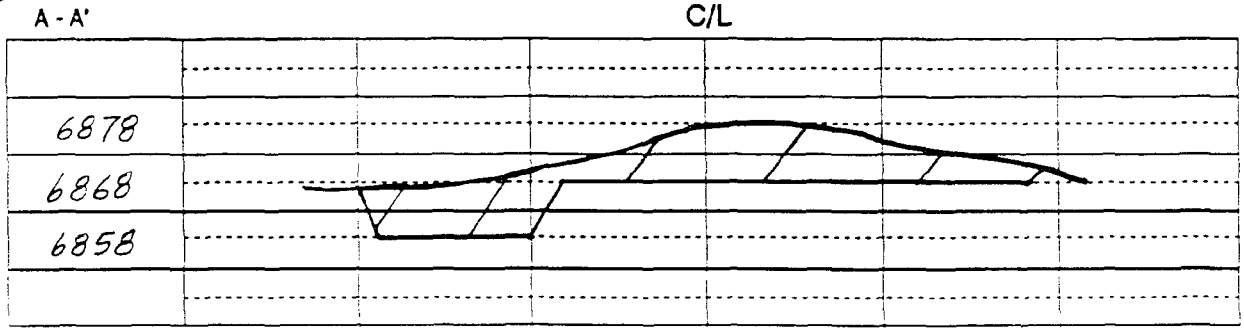
Plat 5

Name: SAN JUAN 30-6 UNIT #95X
Footage: 640'FSL 1520'FWL
Sec 26 T- 30 -N,R- 7 -W NMPM
Co. RIO ARRIBA St. N.M.
Elevation: 6868' Date: 3-22-93

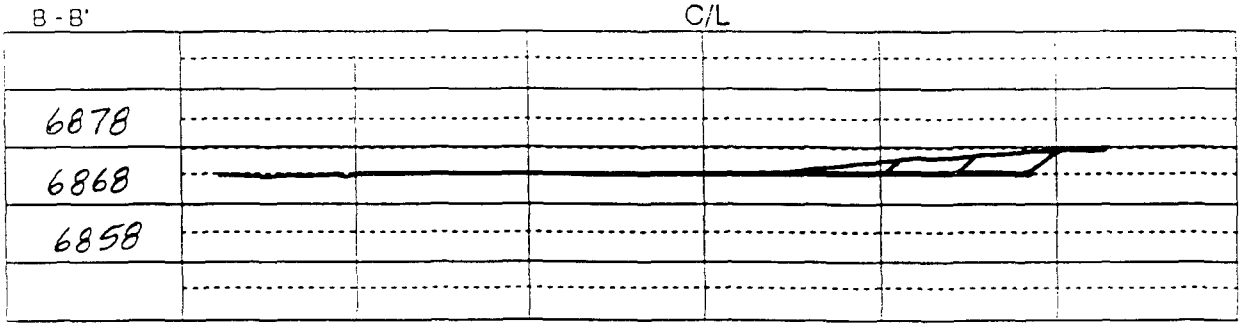


* NO NEW DISTURBANCE

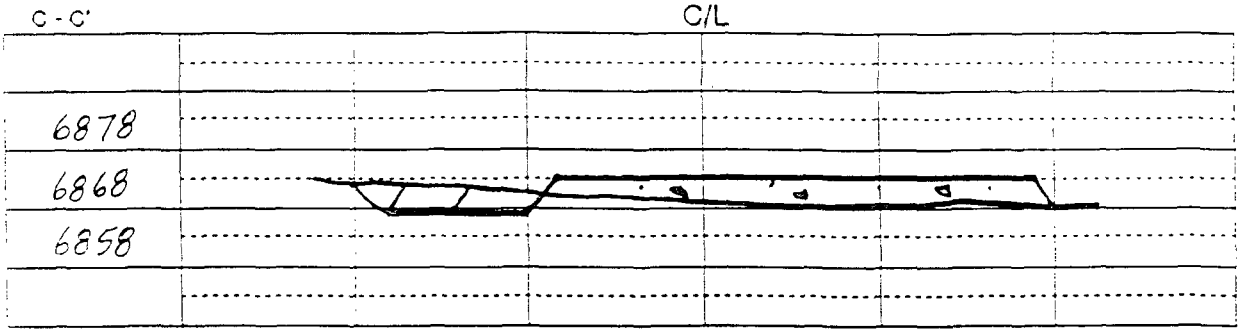
A - A'



B - B'



C - C'



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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised 1-1-89

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
Meridian Oil Inc.	San Juan 30-6 Unit	95X

Unit Letter	Section	Township	Range	County
N	26	30 North	7 West NMPM	Rio Arriba

Actual Footage Location of Well:
640 feet from the South line and 1520 feet from the West line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
6868'	Mesa Verde	Blanco	320 Acres

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

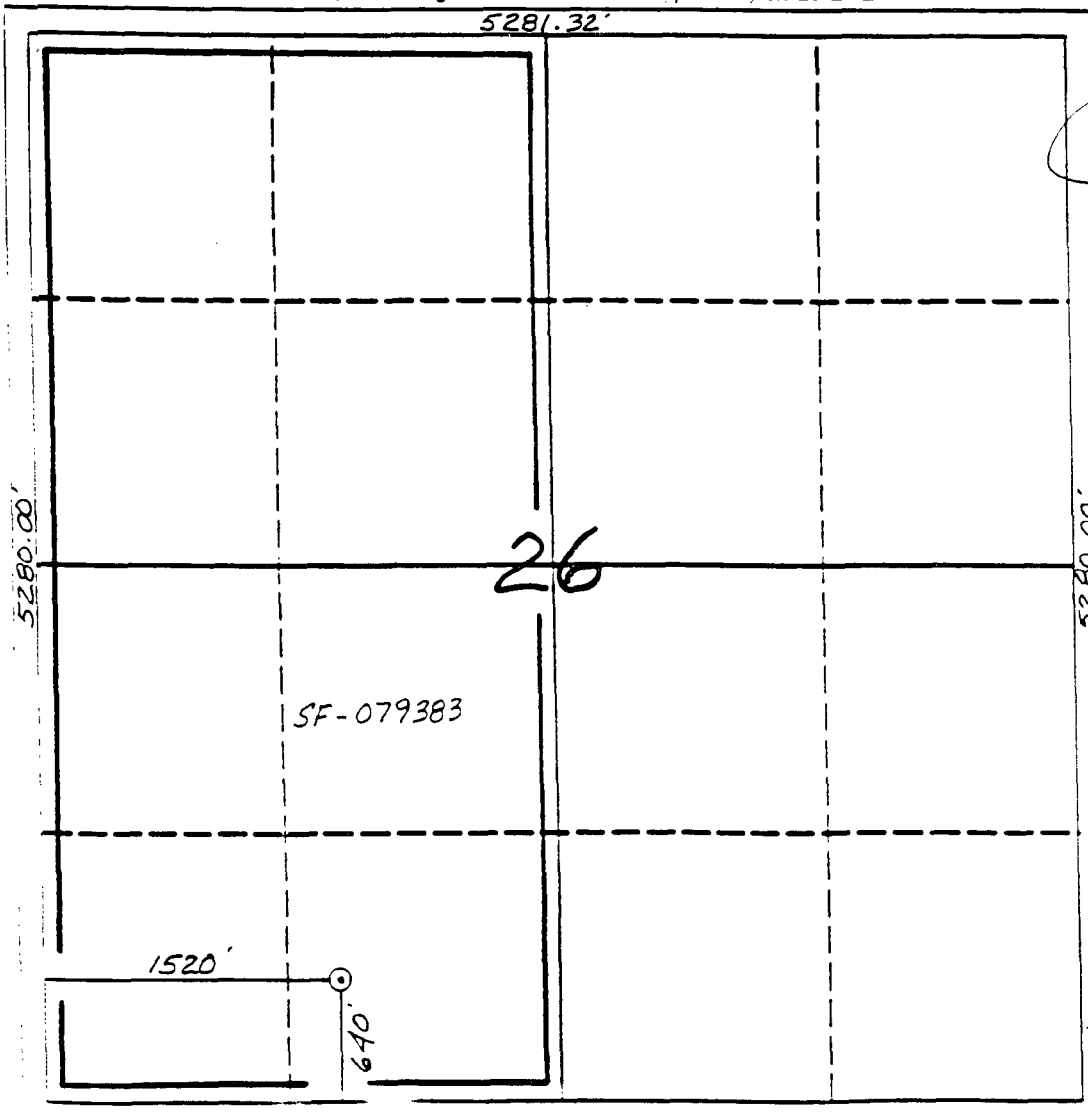
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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

[X] 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.

Signature: Peggy Bradfield

Peggy Bradfield

Printed Name: Regulatory Rep.

Position: Meridian Oil Inc.

Company: 4-27-93

Date

SURVEYOR CERTIFICATION

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. 3-10-93

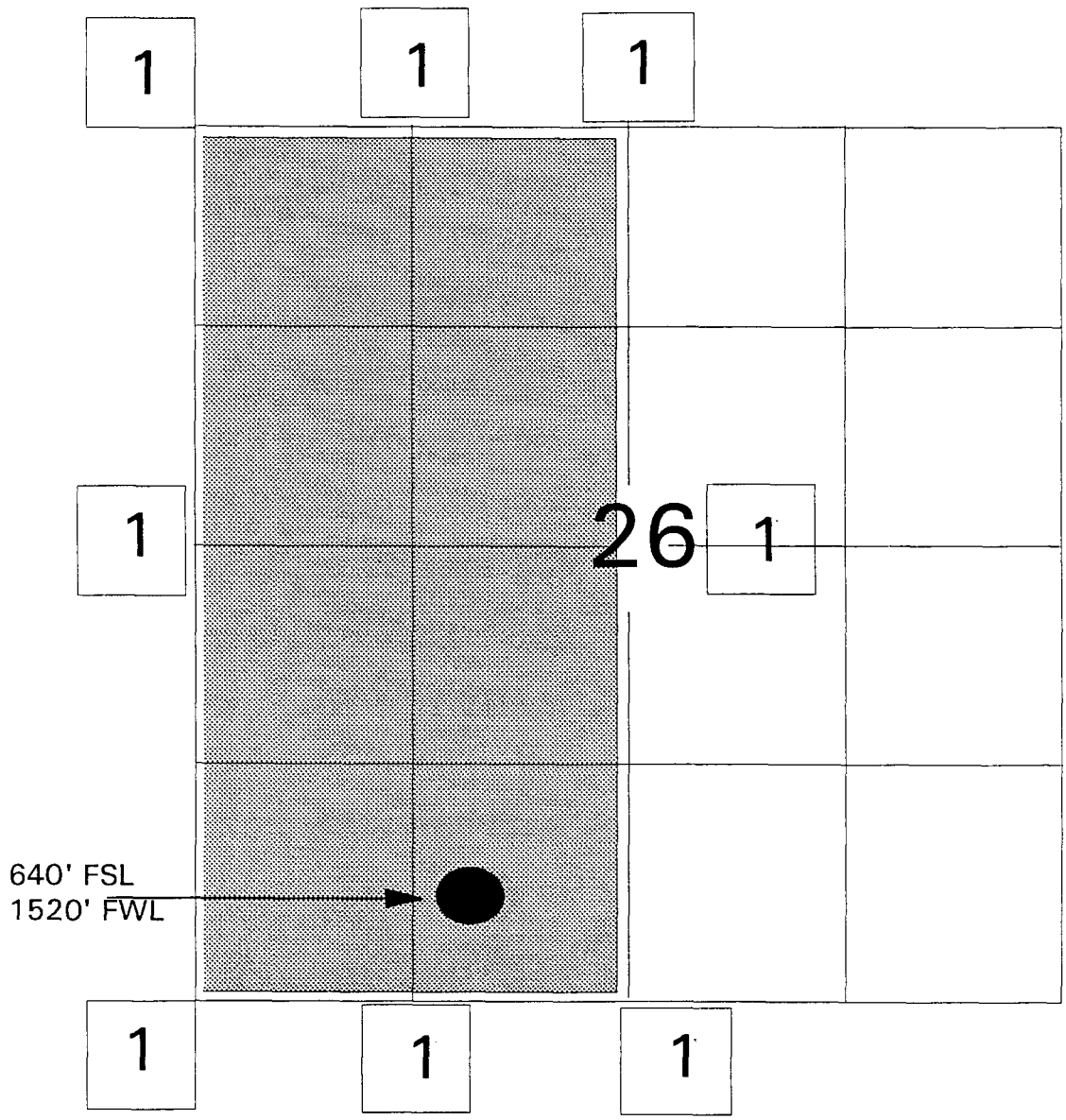
Date Surveyed: Neale C. Edwards

Signature & Seal of Professional Surveyor: NEALE C. EDWARDS 9857 REGISTERED LAND SURVEYOR

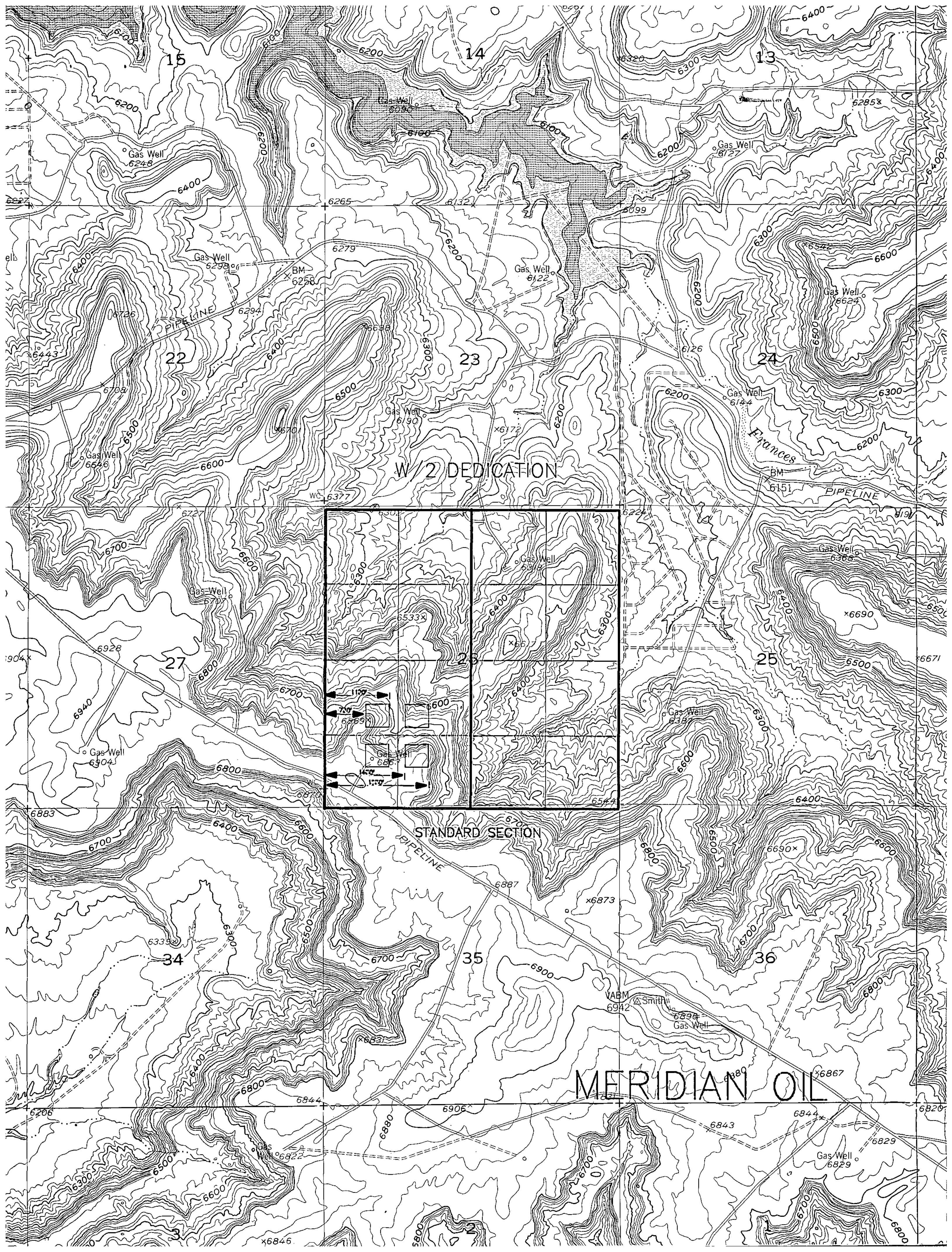
Certificate No.

MERIDIAN OIL INC.

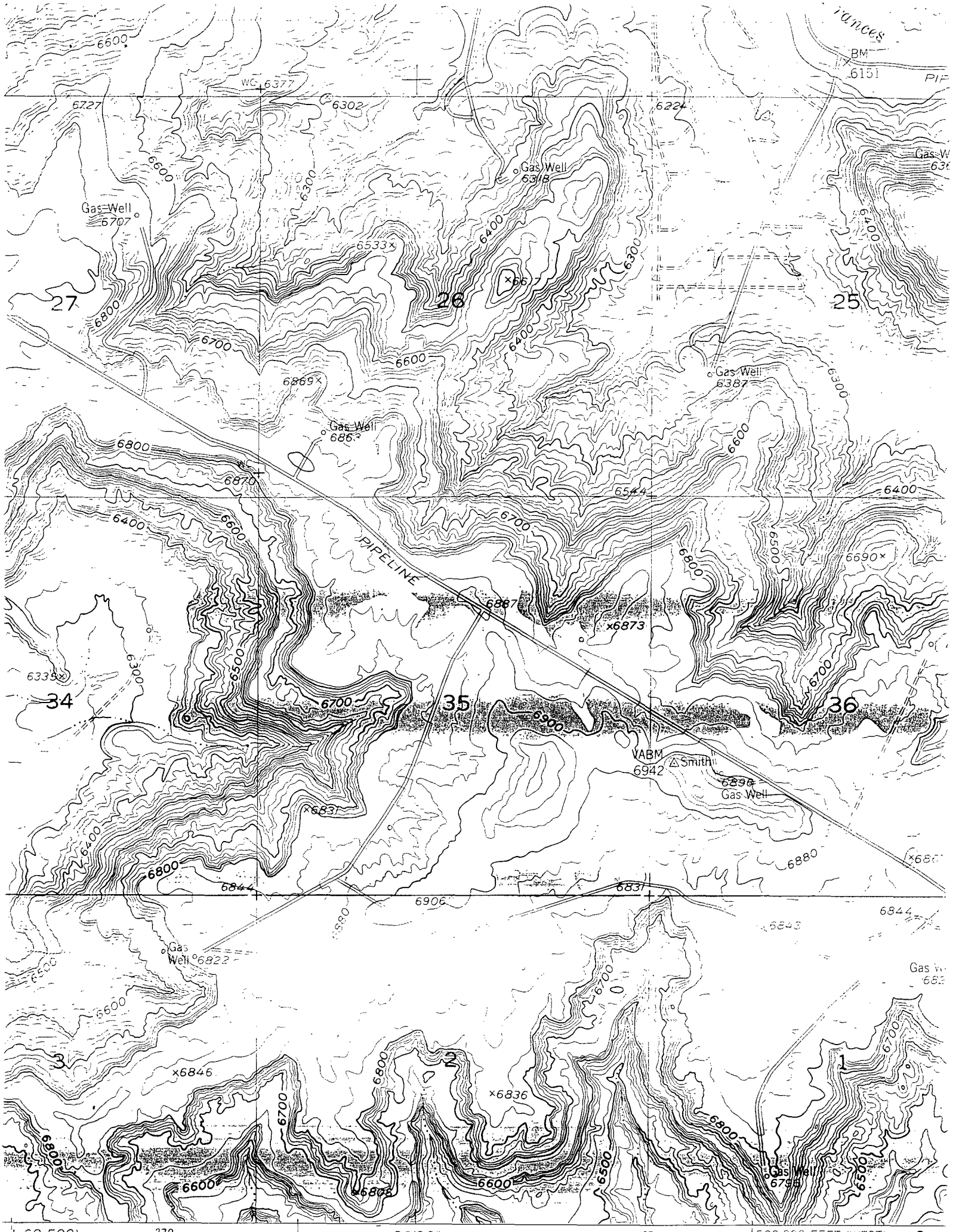
OFFSET OPERATOR/OWNER PLAT
San Juan 30-6 Unit 95X, MV
SE SW Section 26
Township 30 North, Range 7 West



1) Meridian Oil Inc., 3535 East 30th St., P.O. Box 4289, Farmington, New Mexico 87499-4289



15
14
13
22
23
24
27
26
25
34
35
36
3
2
1
W/2 DEDICATION
STANDARD SECTION
MERIDIAN OIL
PIPELINE
Gas Well
Frances
BM
VABM
Smith



1:62 500) 272 32'30" 274 590 000 FEET (WEST)

Project no. 022-93

Cultural Resource Use Permit
97-2920-93-D (NM BLM)

An Archaeological Survey of the Proposed Well Pad MOI San Juan 30-6 Unit #95X Rio Arriba County, New Mexico T30N, R7W, Section 27 640´ FSL, 1520´ FWL

for
Meridian Oil Inc.

prepared and submitted

by
John M. Kershner

Arboles Contract Archaeology

April 25, 1993

Technical report No. 208

Abstract

On March 23, April 2 and 3, 1993, Arboles Contract Archaeology completed a cultural resources survey of the proposed MOI San Juan 30-6 Unit #95X well pad for Meridian Oil Inc. The survey is located on Smith Mesa, Rio Arriba County, New Mexico and is under the jurisdiction of the Bureau of Land Management. Approximately 5.5 acres were closely inspected for cultural resources.

John Kershner, ACA archaeologist, surveyed the project area for archaeological material.

LA 99778, containing burned sandstone from a sweat structure, was recorded during the survey. NM-01-34735, a multi-hogan Dinetah phase habitation, was re-recorded and dendrochronological samples were taken. Archaeological clearance is recommended for the proposed San Juan 30-6 Unit #95X well pad with the stipulation that no new surface disturbing activities occur on the SW, SE and NE sides of the proposed location and that a temporary fence be erected to protect the two archaeological sites. The area of the proposed well pad has been completely disturbed by an existing well pad.

Introduction

On March 23, April 2 and 3, 1993 Arboles Contract Archaeology (ACA) conducted an archaeological survey for Meridian Oil Inc. of Farmington (MOI), New Mexico. Neale Edwards of NCE Survey requested the survey on March 9, 1992. John Angvick administered the project for Meridian Oil Inc. John Kershner administered the project for ACA.

Because of the finite and nonrenewable extent of archaeological remains, the Federal government of the United States has enacted legislation that will conserve and protect these resources. Key legislative enactments consist of the Antiquities Act of 1906 (PL 52-209), the Historic Preservation Act of 1966 (PL 89-655) 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 and Protection Act of 1979 (PL 96-95). To ensure compliance with federal legislation within specific jurisdictional areas, the Navajo Nations and the states of New Mexico, Arizona, Colorado and Utah have enacted legislation to protect cultural resources.

Methods

The project area was completely surveyed employing straight line transects spaced 5-8m apart. The project consisted of a primary impact area around the well head detailed on the plat map (figure 2), a construction zone of 50 feet around the primary impact area and a cultural resource buffer zone of 100 feet around the construction zone. The access road was surveyed, based on a 35' impact swath and, on either side, a 50' cultural resource zone. All archaeological and relevant environmental data were recorded under the guidelines defined by the lead agency on the project area.

Previously Recorded Sites

Prior to the cultural resources survey of the project area, a records search was conducted at the Bureau of Land Management (BLM) Farmington District office to identify sites that may have been previously recorded within the project area.

The records search on March 9, 1993 produced 18 previously recorded site within one mile of the project area, of which, two are within 1000 feet of the project area. BLM supplement map 1-a delineates the project area on the appropriate U.S.G.S. topographical map on which previously recorded sites have been located.

site #NM-01-	site type	distance (ft.) from surveyed area
34735	discussed in text	in proposed buffer zone
34863	Dinetah artifact scatter	500

PROJECT DESCRIPTION

Proposed San Juan 30-6 Unit #95X well pad
Legal Description:
T30N, R7W, Section 26
640´FSL, 1520´FWL
well pad:
W1/2 SE1/4 SW1/4

N.M.P.M., Rio Arriba County, New Mexico
Map Source: U.S.G.S. 7.5' Pine River, New Mexico-1971
Land Jurisdiction: Bureau of Land Management

Project Area: 280´ X 300´ (proposed well pad and construction zone)

Surveyed Area: 480´ X 500´ (proposed well pad, construction zone and buffer zone)

5.5 Acres surveyed

Environment: The proposed well pad is located on Smith Mesa. 100% of the proposed location which includes the well pad proper and 75% of the construction zone has been disturbed by an existing well pad San Juan 30-6#415. Soils are composed of sand and clay sediments. Vegetation consists of piñon and juniper woodland with grasses and scattered sage. Access to the proposed location will be from an existing well pad located within the survey area.

Cultural resources : LA 99778, containing burned sandstone from a sweat structure was recorded during the survey. NM-01-34735, a multi-hogan Dinetah phase habitation, was re-recorded and dendrochronological samples were taken. This site was previously monitored (Powell, 1987) and no new or known archaeology was disturbed during the 1987 monitoring.

LA 99778 is composed of burned sandstone cobbles and a pile of juniper sticks that appear to be the remains of a lean-to. The site is

located on a terrace immediately below the top of Smith Mesa above Frances Creek Canyon. Soils are sand sediments supporting a single juniper bush. The site is bounded by a 2-5m escarpment above and below the occupation.

The concentration of oxidized sandstone cobbles has a dense concentration of cobbles and charcoal adjacent to the juniper sticks. The sticks are small and appear to be broken off from large branch or tree. The sticks are too fragmented to yield dendrochronological samples. The arrangement of sticks indicates a small lean-to structure used in a sweat activity. The wall of the escarpment and the large boulders on the east side of the site are deeply oxidized.

The site appears to be a component of NM-01-347835, a large Dinetah occupation with at least four forked stick hogans.

The site has a reasonable assurance of subsurface cultural material and a potential of yielding radiocarbon dates from the charcoal. The well pad disturbance does not appear to have compromised the site integrity. For these reasons, the site should be included on the National Register of Historic Places and is recommended for Category II status.

The update of NM-01-34735 only includes a slight alteration of the site map. In addition, four dendrochronological samples were taken from structures 4, 5 and 6 (see structure maps).

NM-01-34735 was originally recorded in 1987 and updated the same year. The updated site description is reproduced below:

> The site as originally defined consisted of three features - a hogan, a midden, and a small activity area. Subsequent survey...turned up several other features and deposits. These features (3 hogans, an ashy soil area, and a possible sweatlodge area) are located about 30m to the northwest and southwest of the original site area.
>
> Feature 3, a midden area of ashy soil, plain gray Dinetah

sherds, etc., was enlarged by an area about 4 x 10m to the south-southeast. The added area consists largely of ashy gray soil but lacks artifacts. A single pole (2.5m long with possibly ax-cut branches_ leans against a juniper south of Feature 2. It may or may not be cultural. Another small (1 x 2m) ash stain with some sandstone chunks lies about 4m south of the pole in the tree.

Feature 4 is a collapsed forked-stick hogan made of about 40 weathered juniper poles ranging from about 1.5 to 3m long. A few pieces are semi-erect. The diameter of the collapsed structure is about 5.5m. No entrance was discernible. There is a noticeable depression (ca. 15cm-20cm deep) where the floor of the hogan is located. Southeast of the hogan is an ash stain with only a few Dinetah Gray sherds evident. The ashy soil is largely obscured by the debris from a clump of juniper trees. The deposit may be 40cm deep.

Feature 5, about 8m west of Feature 4, is a second forked-stick hogan. The collapsed juniper posts cover an area about 5 x 7m at the base of a large juniper tree. Apparently the posts formed a semicircle supported by a branch of the tree. Some of the poles still rest on the limbs and in the forks of the tree. Feature 5 was built with about 50 posts and the pattern of the posts as they collapsed suggests either that some of the posts fell outward to the east as the tree grew or that there were two structures. I believe the first possibility is more likely. There are virtually no artifacts or even any soil deposits visible.

Feature 6 is a large collapsed forked hogan. Its basal diameter is 10m. The longest beam is about 4m long and is lying northwest-southeast toward the center of the hogan. Directly opposite this beam, which appears to be the support pole, is a series of short cross-logs that may have roofed a southeast-facing entry. The hogan was constructed of about 60 juniper logs, most of which are heavily weathered. It may be possible to get a cutting date from the sheltered underside of the main support post. The only associated Artifact is a large secondary basalt flake.

Feature 7 may be the remains of a sweatlodge. Although there are no wood remains, there is a partly buried concentration (1 x 2m) of fire-reddened sandstone (20-30 pieces) and ashy soil. A few coal chunks were noted in the vicinity but they may be a product of well-drilling just a few meters north of the feature. Feature 7 also contains two flakes of gray orthoquartzite and a few sandstone slabs of indeterminate form.

Features 4, 5, and 6 are in much better condition than Feature 1. The wood from Feature 1 is scattered. The pattern of the wood distribution suggests it was dismantled. It may be an older habitation than the other three. Feature 1 is also the only hogan to have a definable midden. Whether the absence of artifacts reflects a late and short occupation of Feature 4, 5, and 6 is unknown.

Feature 6 is unusually large (the hogan itself was probably smaller; as the poles slid outward as it collapsed, the basal diameter probably increased). It may be a multi-family dwelling or perhaps a ceremonial hogan.

Recommendations: Archaeological clearance is recommended for the proposed San Juan 30-6 Unit #95X well pad with the stipulation that no new surface disturbing activities occur on the SW, SE and NE sides of the proposed location and that a temporary fence be erected to protect the two archaeological sites on the three sides indicated above.

References cited:

Powers, Margaret 1987 An Archaeological Survey of a the San Juan 30-6 Unit #415 Water Pipeline. DCA. Bloomfield.

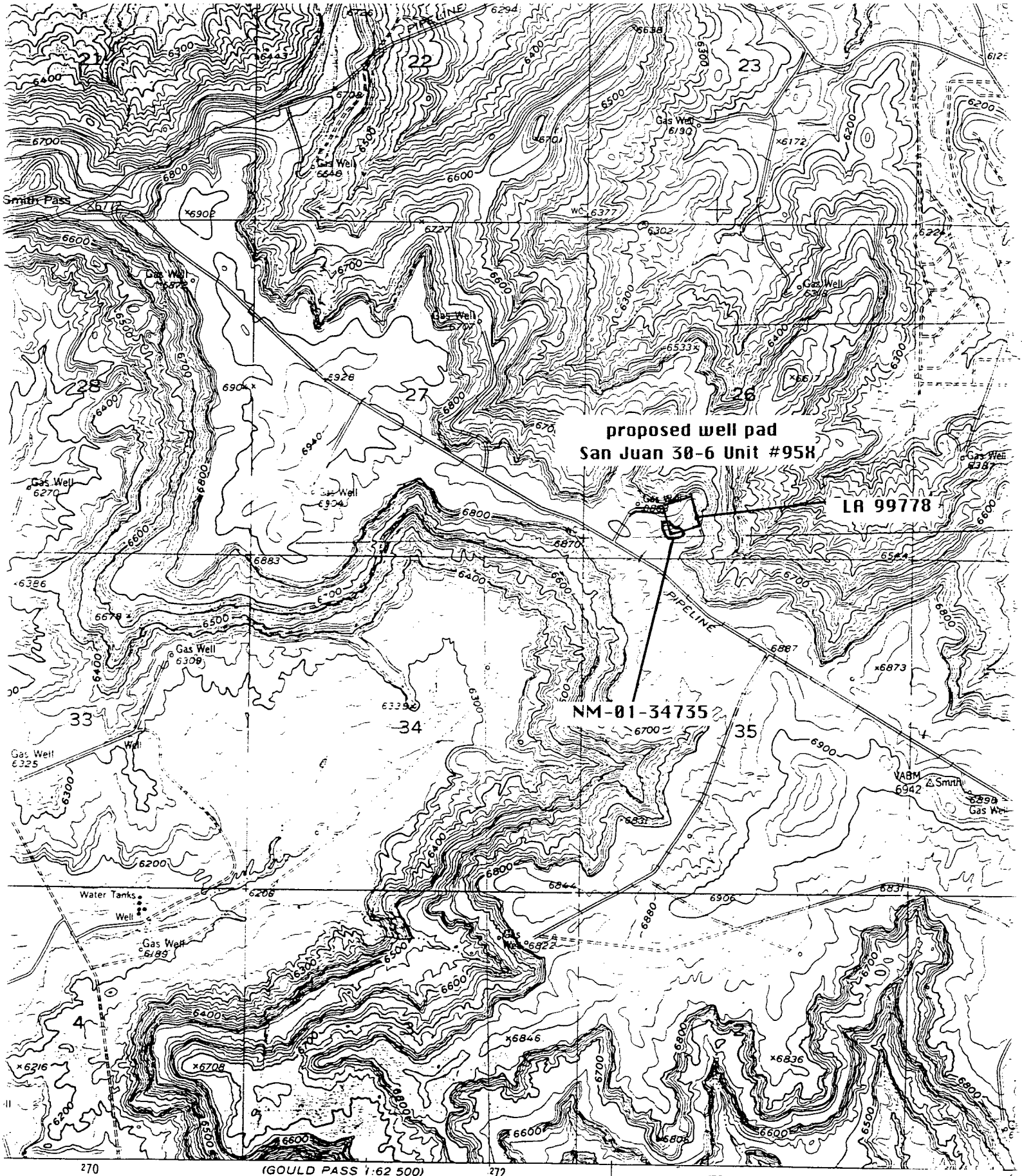
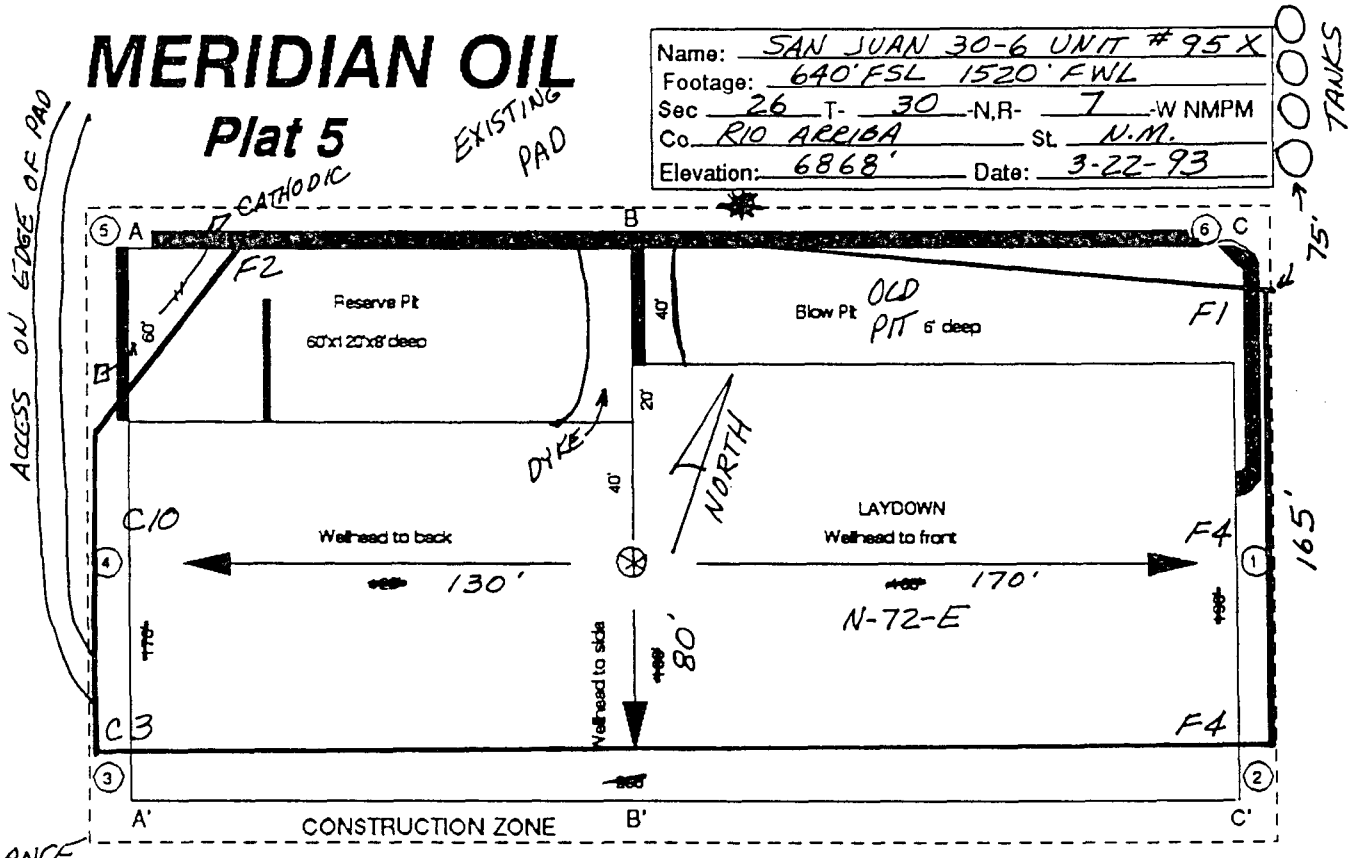


Figure 1 Project
U.S.G.S. 7.5' Pine River 1971
T30N, R7W, Section 26
Rio Arriba Co., NM

MERIDIAN OIL

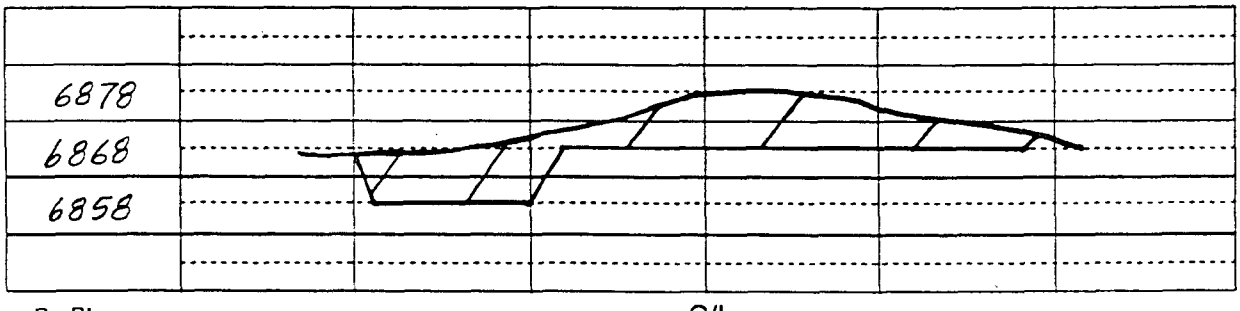
Plat 5

Name: SAN JUAN 30-6 UNIT #95X
Footage: 640'FSL 1520'FWL
Sec 26 T- 30 -N,R- 7 -W NMPM
Co. RIO ARRIBA St. N.M.
Elevation: 6868' Date: 3-22-93

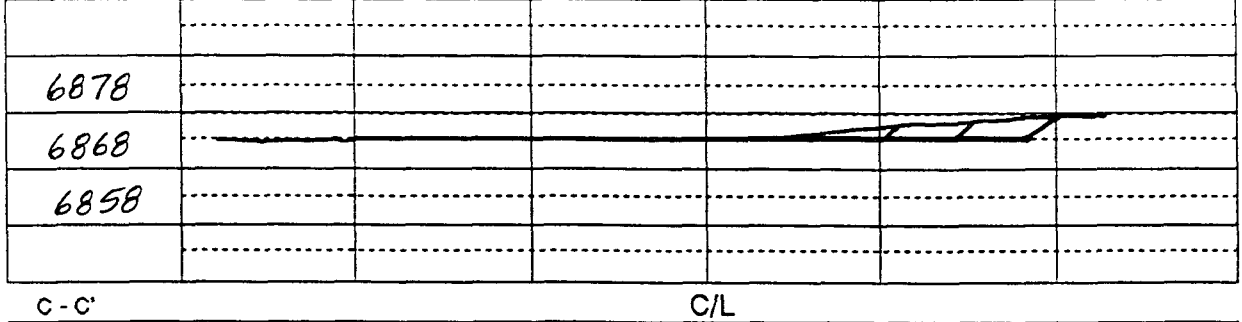


* NO NEW DISTURBANCE

A - A'



B - B'



C - C'

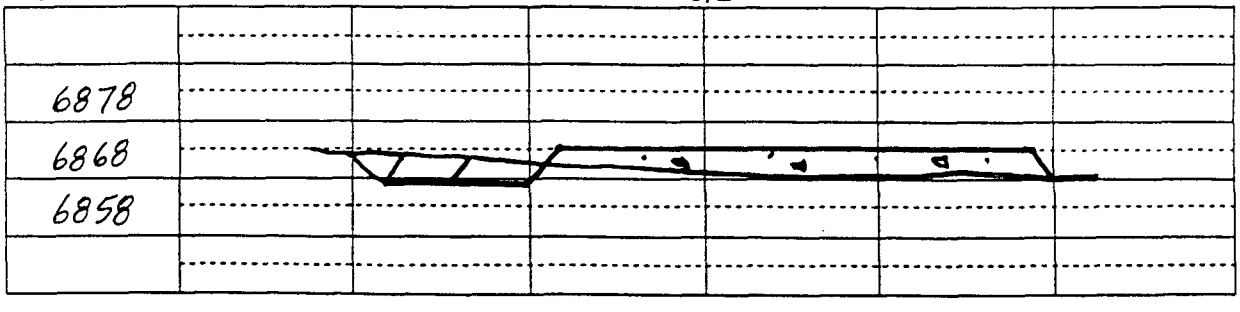
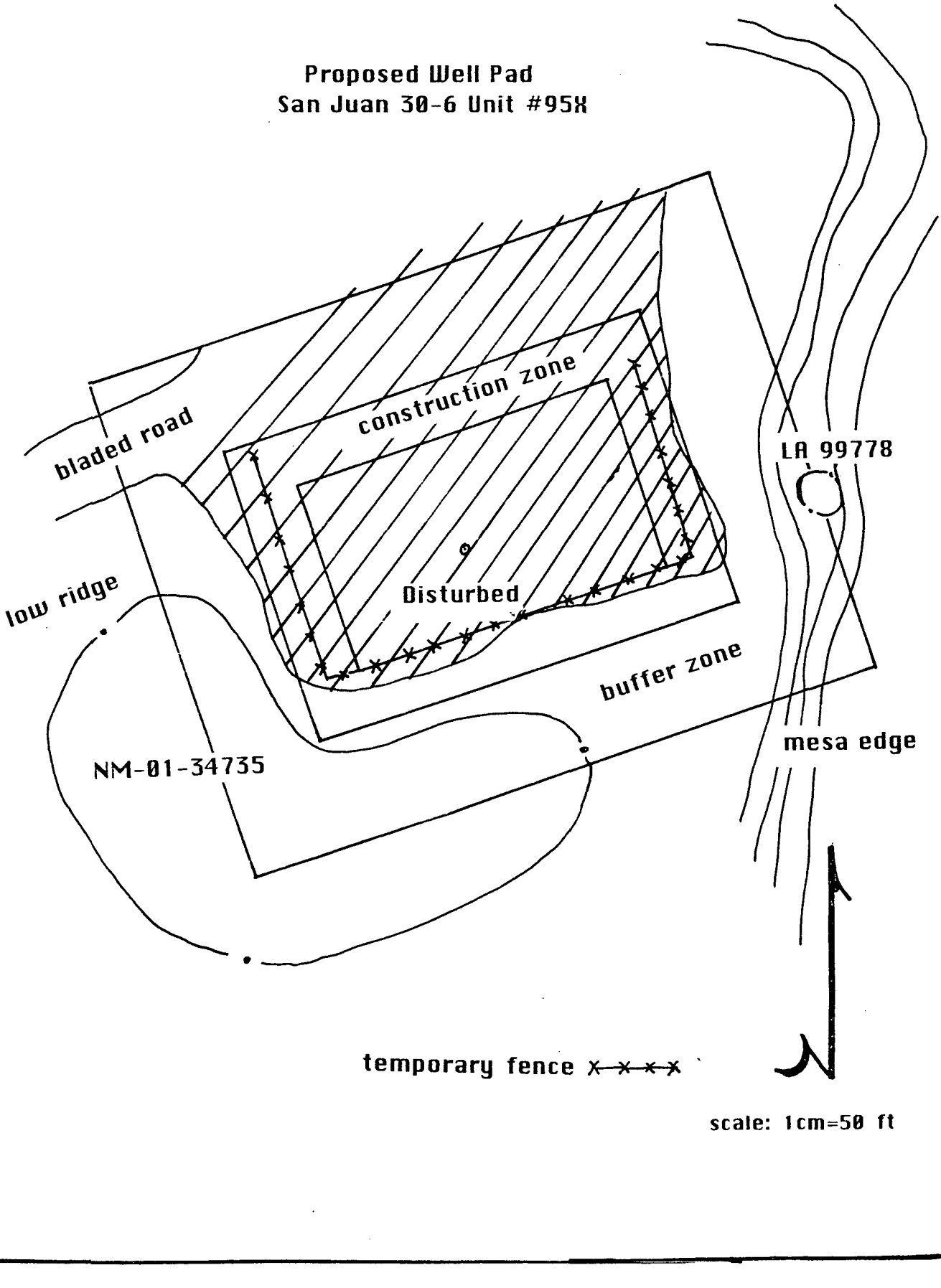
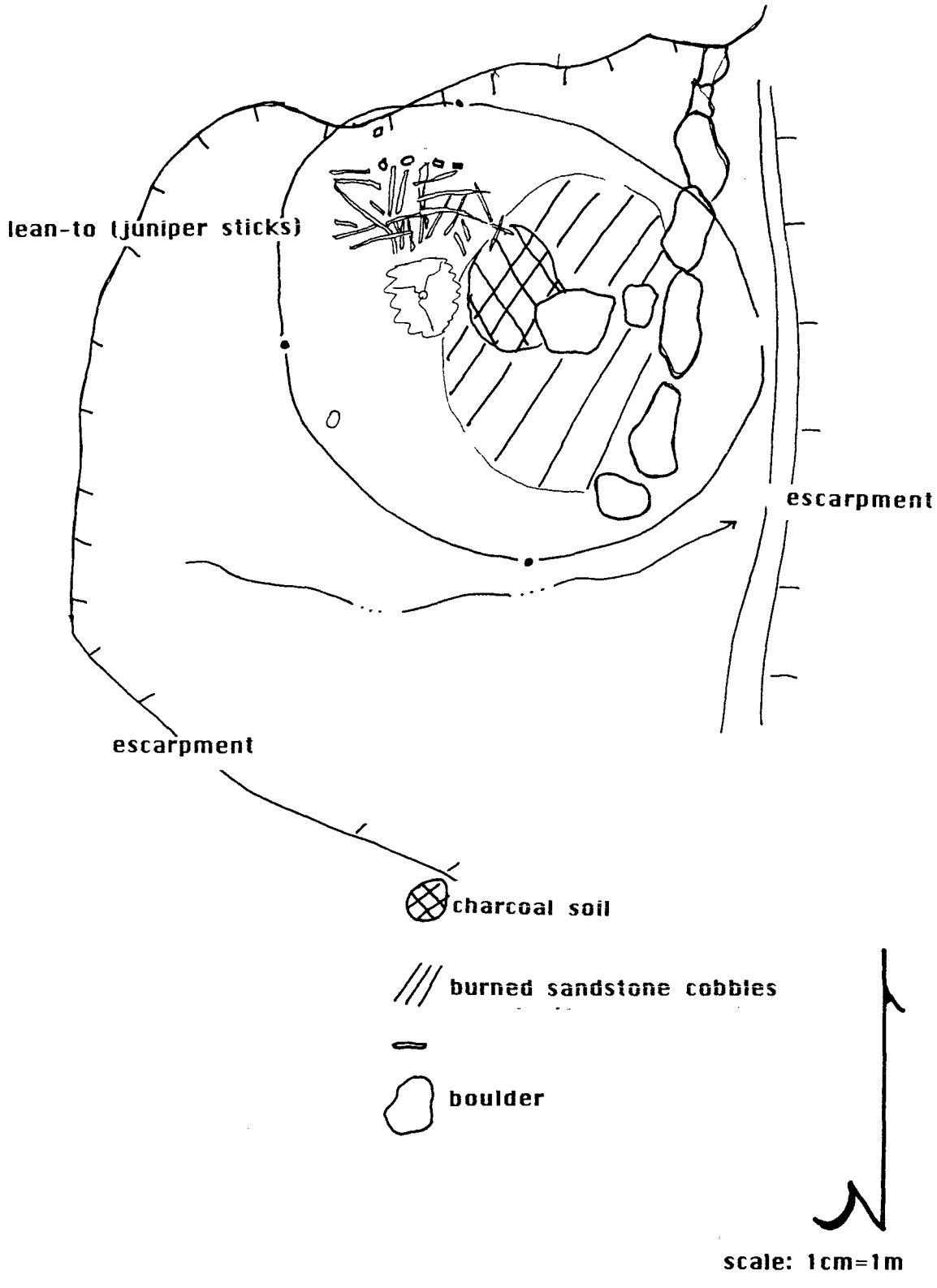
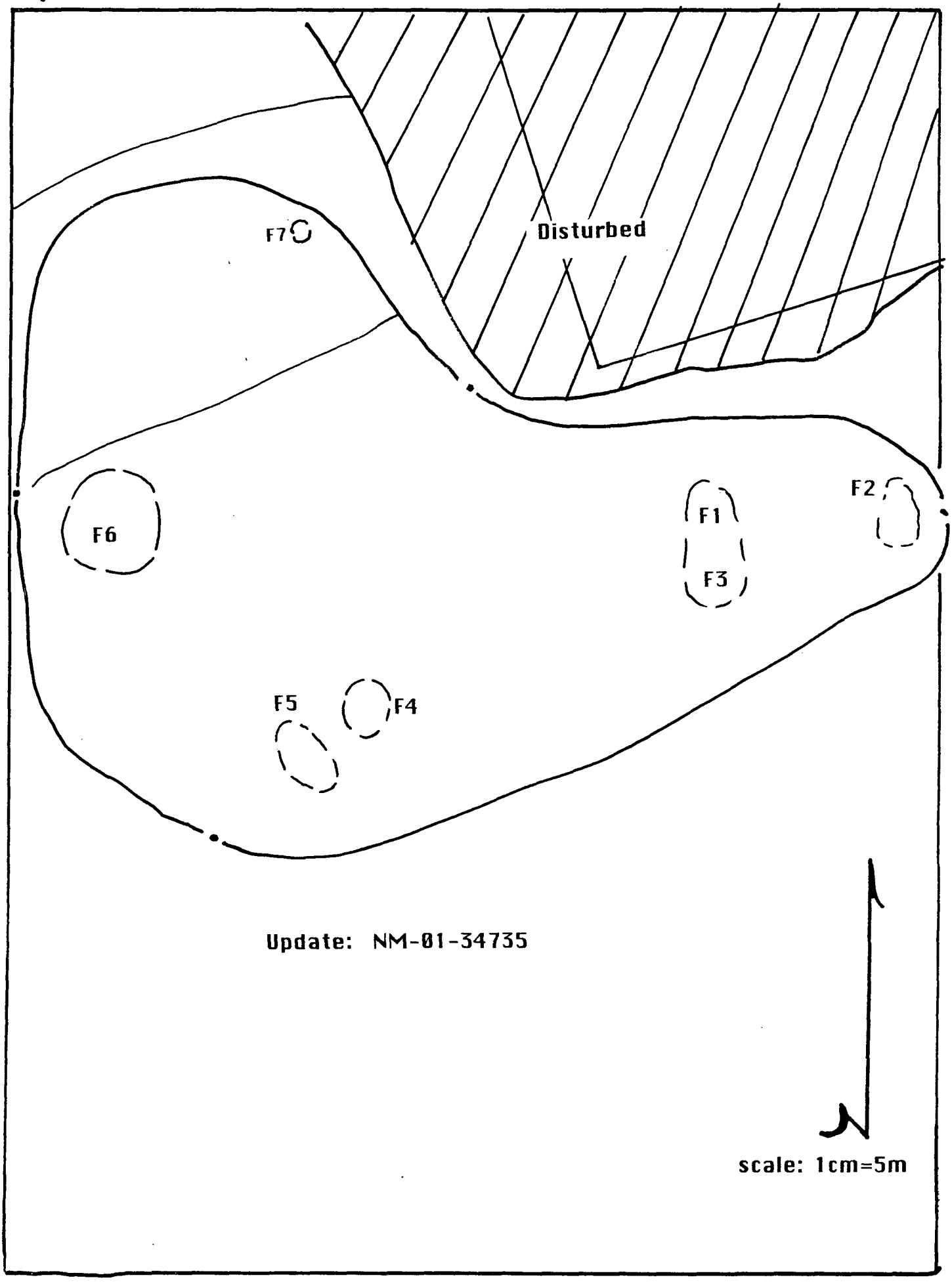


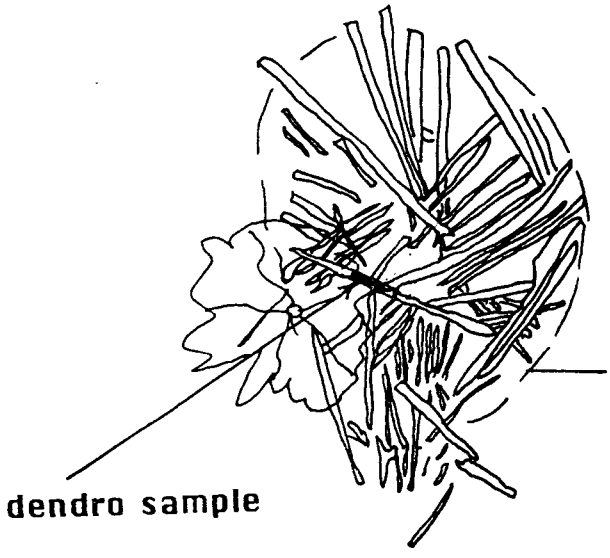
Figure #4


Proposed Well Pad
San Juan 30-6 Unit #95X
bladed road
construction zone
LA 99778
low ridge
Disturbed
buffer zone
mesa edge
NM-01-34735
temporary fence
scale: 1cm=50 ft

LA 99778

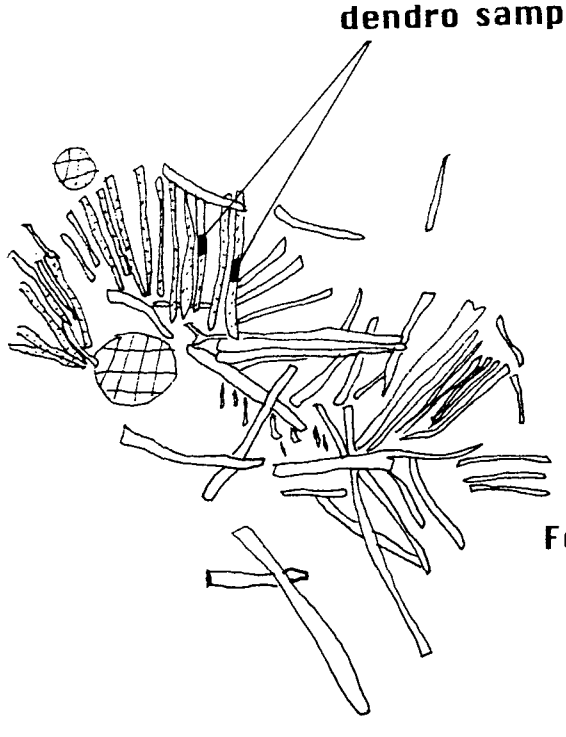

lean-to (juniper sticks)
escarpment
escarpment
charcoal soil
burned sandstone cobbles
boulder
scale: 1cm=1m

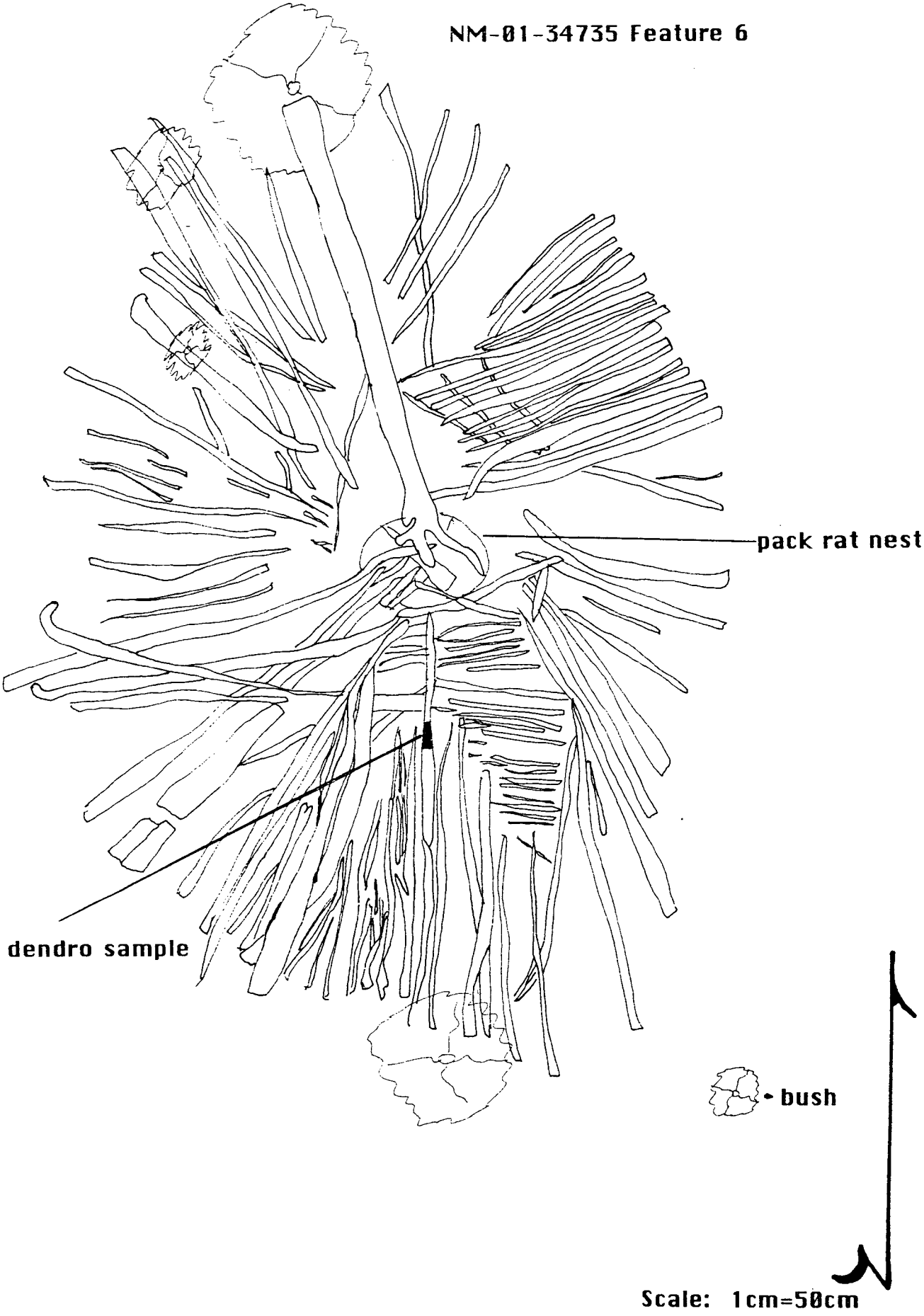

Disturbed
F7
F6
F1
F2
F3
F5
F4
Update: NM-01-34735
scale: 1cm=5m



NM-01-34735
Forked Stick Hogans

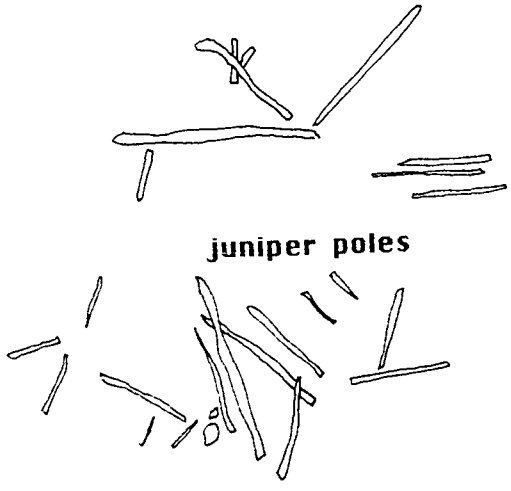
Scale: 1cm=1m




NM-01-34735 Feature 6
pack rat nest
dendro sample
bush
Scale: 1cm=50cm

Features 1 & 3

NM-01-34735



scale: 1cm=1m

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

GREY CARRUTHERS
GOVERNOR

OIL CONSERVATION DIVISION
RECEIVED
'93 JUN 2 AM 8 52

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

Date: 5-28-93

attn: Mike Stogner

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

NSL-3245

Re: Proposed NC_____
Proposed DHC_____
Proposed NSL X
Proposed SWD_____
Proposed WFX_____
Proposed PMX_____

Gentlemen:

I have examined the application dated 5-7-93

for the Meridian Oil Inc. S.J. 30-6 Unit #95X
Operator Lease & Well No.

N-26-30N-7W and my recommendations are as follows:
Unit, S-T-R

Approve

Yours truly,

David Catanach