

MERIDIAN OIL

May 4, 1993

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 #58B
595'FNL, 2135'FWL Section 31, T-30-N, R-6-W
Rio Arriba County, New Mexico

RECEIVED
MAY 05 1993
OIL CON. DIV
DIST. 3

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.
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.

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

Sincerely,


Peggy Bradfield
Regulatory/Compliance Representative

encs.

WAIVER

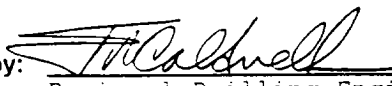
_____ hereby waives objection to Meridian Oil Inc.'s application for a non-standard location for their San Juan 30-6 Unit #58B as proposed above.

By: _____ Date: _____

xc: Phillips Petroleum as Operator of the San Juan 29-6 Unit

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-080711A
1b. Type of Well GAS	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 58B
4. Location of Well 595' FNL, 2135' FWL Latitude 36° 46' 25", Longitude 107° 30' 20"	10. Field, Pool, Wildcat Blanco Mesa Verde 11. Sec., Twn, Rge, Mer. Sec 31, T-30-n, R-6-W NMPM
14. Distance in Miles from Nearest Town 5 miles to Navajo City	12. County Rio Arriba 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 595'	
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 2000'	
19. Proposed Depth 6534'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR. Etc.) 6840' GR	22. Approx. Date Work will Start third quarter 1993
23. Proposed Casing and Cementing Program See Operations Plan attached	
24. Authorized by:  Regional Drilling Engineer	Date 3-23-93

PERMIT NO. _____ APPROVAL DATE _____
APPROVED BY _____ TITLE _____ DATE _____

Archaeological Report will be submitted
Threatened and Endangered Species Report will be submitted
NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

TRACT 1

P.O. Box 1980, Hobbs, NM 88240

TRACT 2

P.O. Drawer DD, Arama, NM 88210

TRACT 3

1000 Rio Arriba Rd., Alamogordo, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the quarter boundaries of the section

Operator		Land		Well No.	
Veridian Oil Inc.		San Juan 30-6 Unit		58B	
Section	Township	Range	County	Dedicated Acreage	
31	30 North	6 West	Rio Arriba	320	
Actual Footage Location of Well:					
595	feet from the	North	line and	2135	feet from the
Ground level Elev.		Producing Formation	Pool	West line	
6840	Mesa Verde	Blanco	Dedicated Acreage		
			320 Acres		

1. Outline the acreage dedicated to the subject well by colored pencil or ballpoint marker 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, forced-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-consolidated unit, eliminating such interest, has been approved by the Division.

5273.40

595'

2135'

31

USA-NMSF-080711A

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
3-17-93

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.

11-06-92

Date Surveyed
Needle C. Edwards

Signature of Surveyor
Professional Surveyor

(8357)

Commission No.

March 22, 1993

OPERATIONS PLAN

Well Name: San Juan 30-6 Unit #58B
Location: 595'FNL, 2135'FWL Section 31, T-30-N, R-06-W
 Rio Arriba County, New Mexico
 Latitude 36° 46' 25", Longitude 107° 30' 20"
Formation: Blanco Mesa Verde
Elevation: 6534'GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2740'	
Ojo Alamo	2740'	2950'	aquifer
Kirtland	2950'	3556'	gas
Fruitland	3556'	3754'	gas
Pictured Cliffs	3754'	3949'	gas
Lewis	3949'	4489'	gas
Intermediate TD	4099'		
Chacra	4489'	5339'	gas
Mesa Verde	5339'		gas
Upper Cliff House	5339'	5606'	gas
Massive Cliff House	5606'	5654'	gas
Menefee	5654'	6034'	gas
Massive Point Lookout	6034'	6079'	gas
Lower Point Lookout	6079'	6534'	gas & oil
Mancos	6534'		
Total Depth	6534'		

Logging Program:

Openhole Wireline Logging -
 Surface to Total Depth : GR-Epithermal neutron
 Intermediate TD to Total Depth : DIL/Dens/Temp
 Mud Logs/Coring/DST -
 Mud logs - none
 Coring - none
 DST - none

Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 200'	Spud	8.4-8.9	40-50	no control
200-4099'	Weighted	8.4-9.1	30-60	no control
4099-6534'	Gas/Mist	n/a	n/a	n/a

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

Casing Program:

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Csg. Size</u>	<u>Wt.</u>	<u>Grade</u>
12 1/4"	0' - 200'	9 5/8"	32.3#	H-40
8 3/4"	0' - 4099'	7"	20.0#	K-55
6 1/4"	3949' - 6534'	4 1/2"	10.5#	K-55

Tubing Program:

0' - 6534'	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 180 sx Class "B" cement with 1/4# flocele/sx and 3% calcium chloride (212 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 -

Lead w/717 sx of 65/35 Class "B" poz w/6% gel, 2% calcium chloride, 5# gilsonite/sx and 1/4# flocele/sx. Tail w/100 sx Class "B" w/2% calcium chloride (1387 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. Two bowspring centralizers spaced every other joint off bottom, with three spaced every fourth joint to the base of the Ojo Alamo at 2950'. Two turbolating centralizers at the base of the Ojo Alamo at 2950'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing. A cementing stage tool will be run at the base of the Ojo Alamo at 2950'.

4 1/2" Production Liner -

Cement to circulate liner top. Lead with 261 sx 50/50 Class "B" Poz with 2% gel, 0.6% fluid loss additive. Tail with 100 sx 50/50 Class "B" Poz with 2% gel, 0.6% fluid loss additive, 6.25#/sx gilsonite and 1/4#/sx cellophane flakes (464 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.

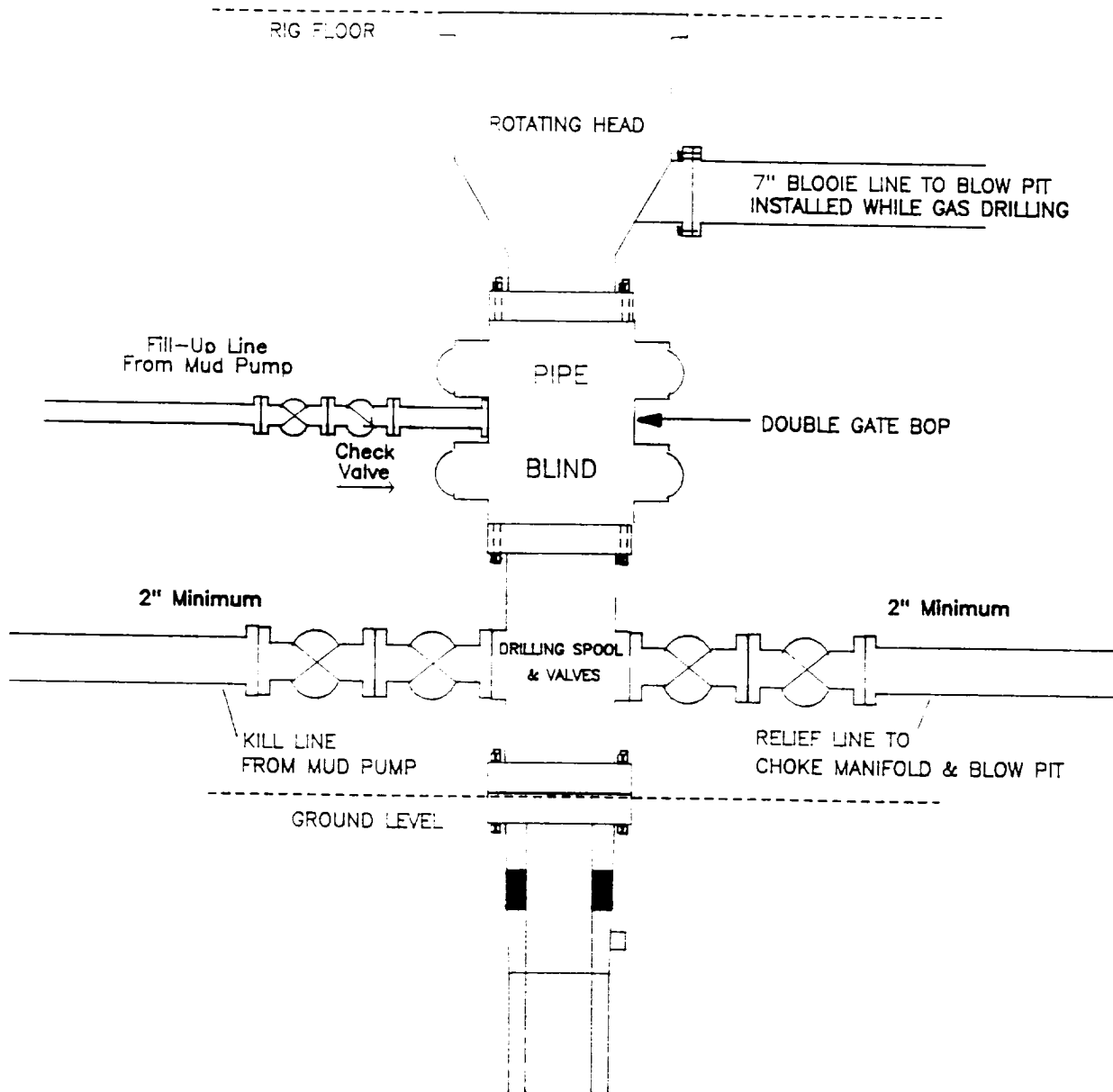
Additional Information:

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

Fruitland Coal	1000 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 31 is dedicated to this well.
- This gas is dedicated.

MERIDIAN OIL INC.

Mesaverde Well BOP Configuration

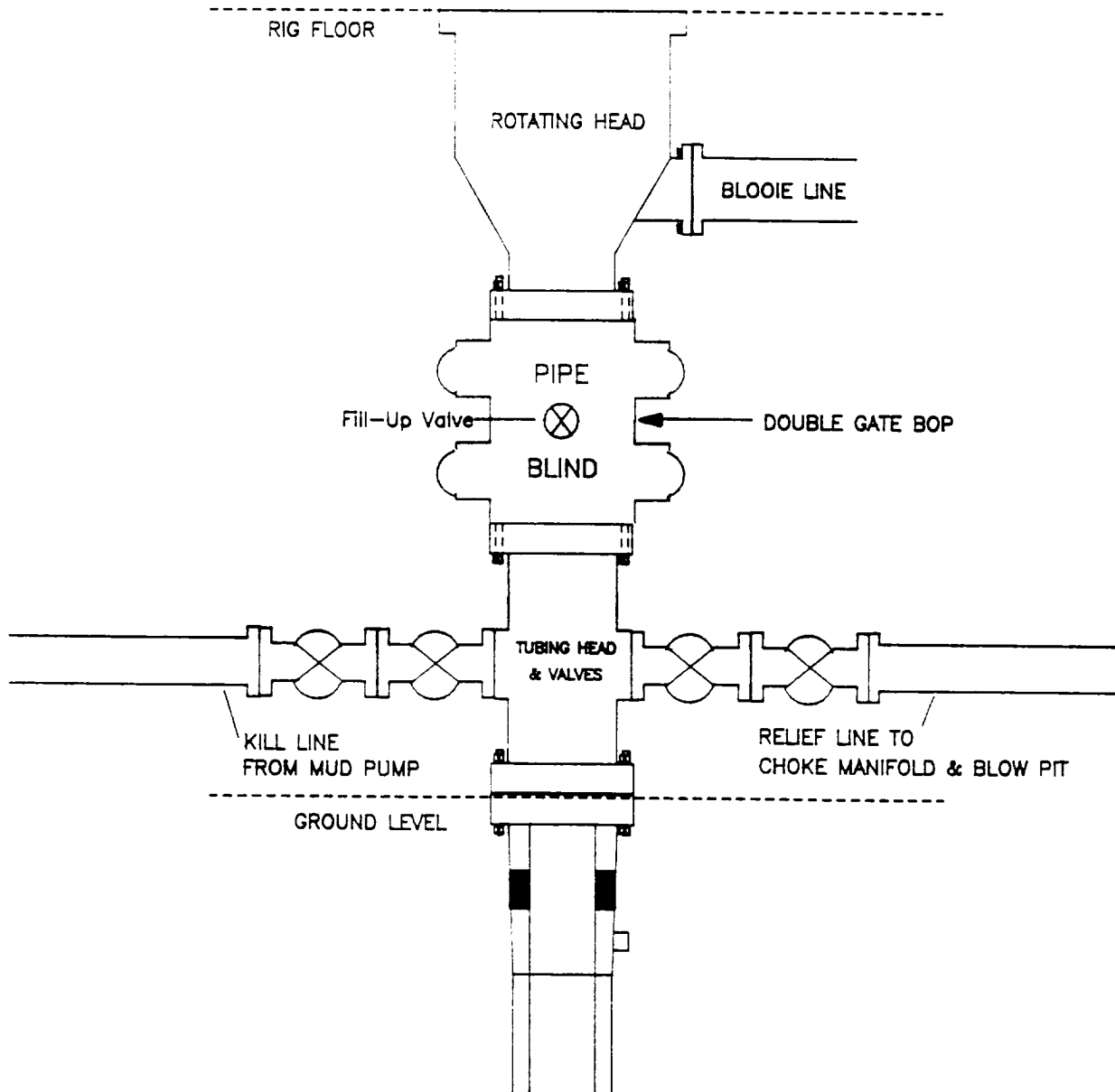


Minimum BOP installation for a Mesaverde well from Surface to Total Depth. 11" Bore, 2000psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A Schnaffer Type 50 or equivalent rotating head to be installed on the top of the BOP. All equipment is 2000psi working pressure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

Figure #1

MERIDIAN OIL INC.

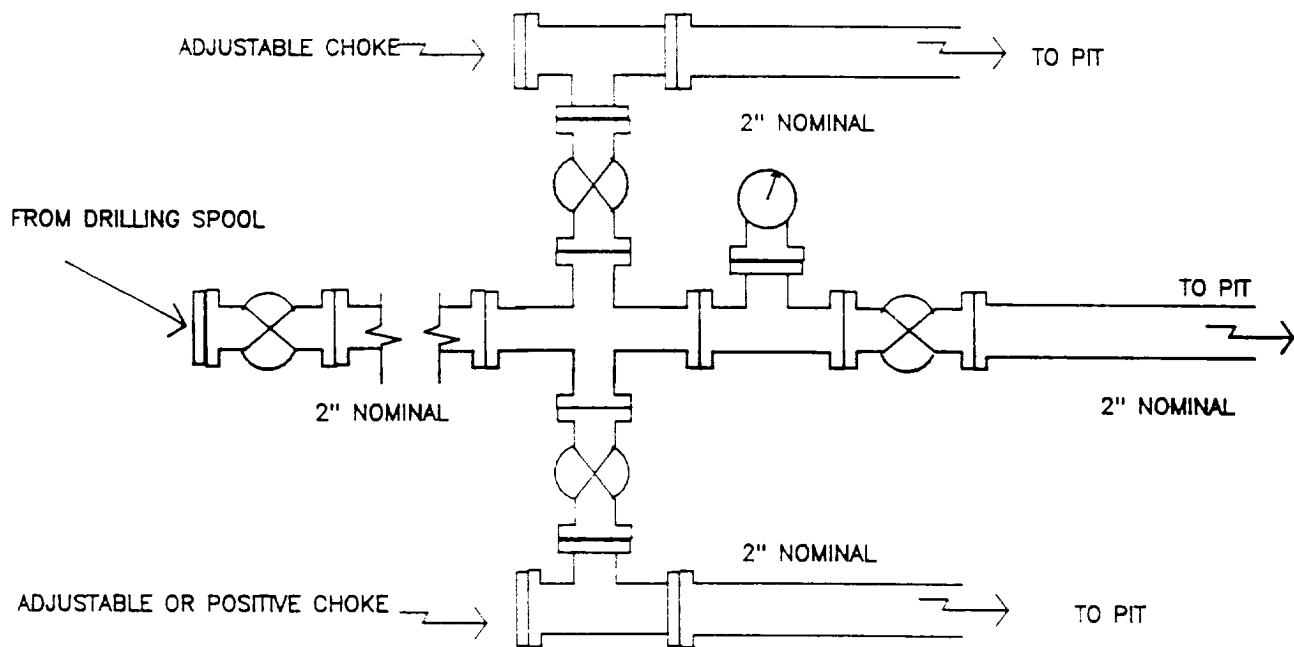
Mesaverde Well – Completion Rig BOP Configuration



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

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

MERIDIAN OIL
San Juan 30-6 Unit #58B
Multi-Point Surface Use Plan

RECEIVED
MAY 05 1993

OIL CON. DIV.]
DIST. 9

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.

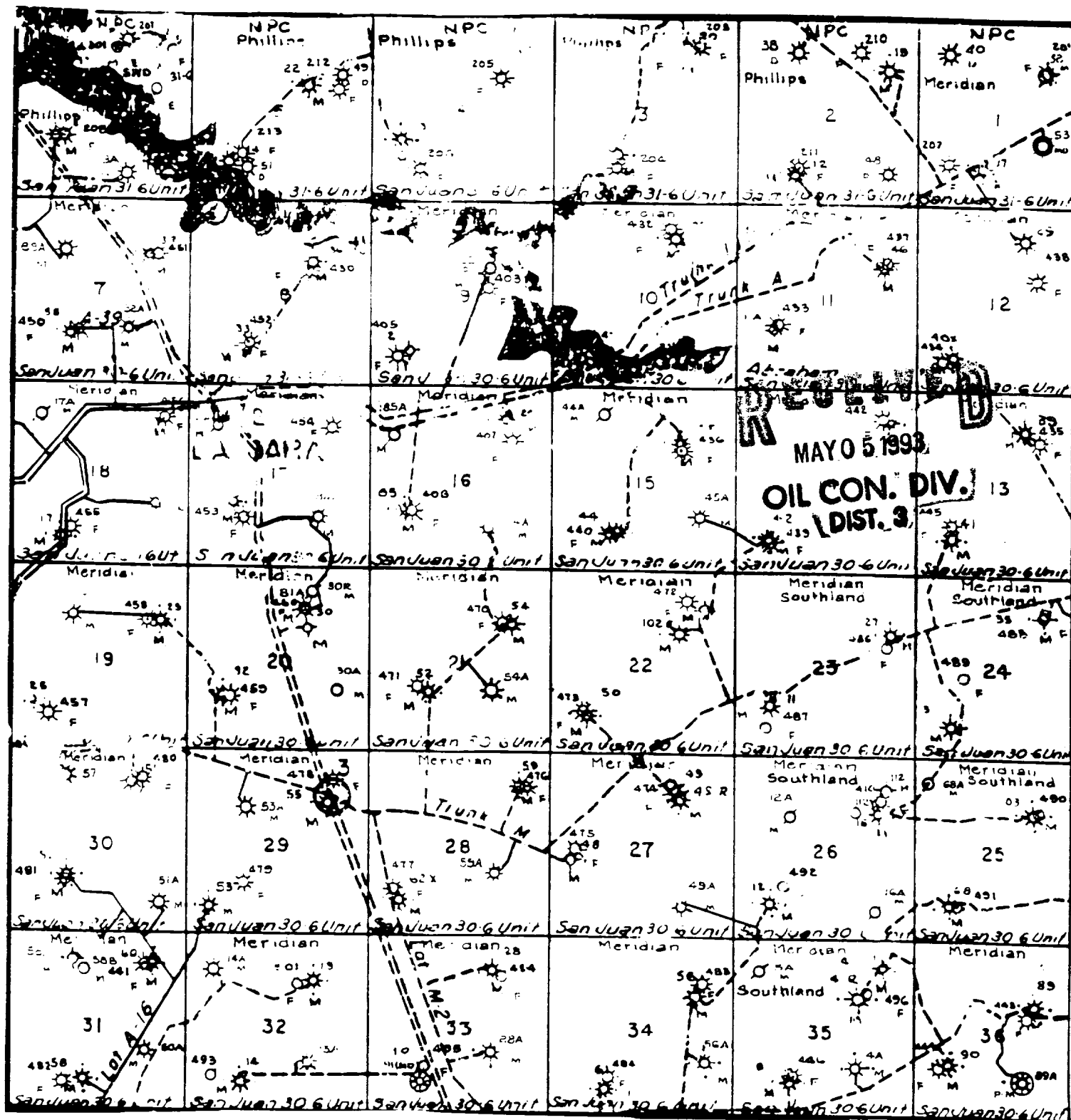
10. Plans for Restoration of the Surface - After completion of the proposed project, the location will be cleaned and leveled. The location will be left in such a condition that will enable reseeding operations to be carried out. Seed mixture as designated by the responsible government agency will be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

3/23/93
Date

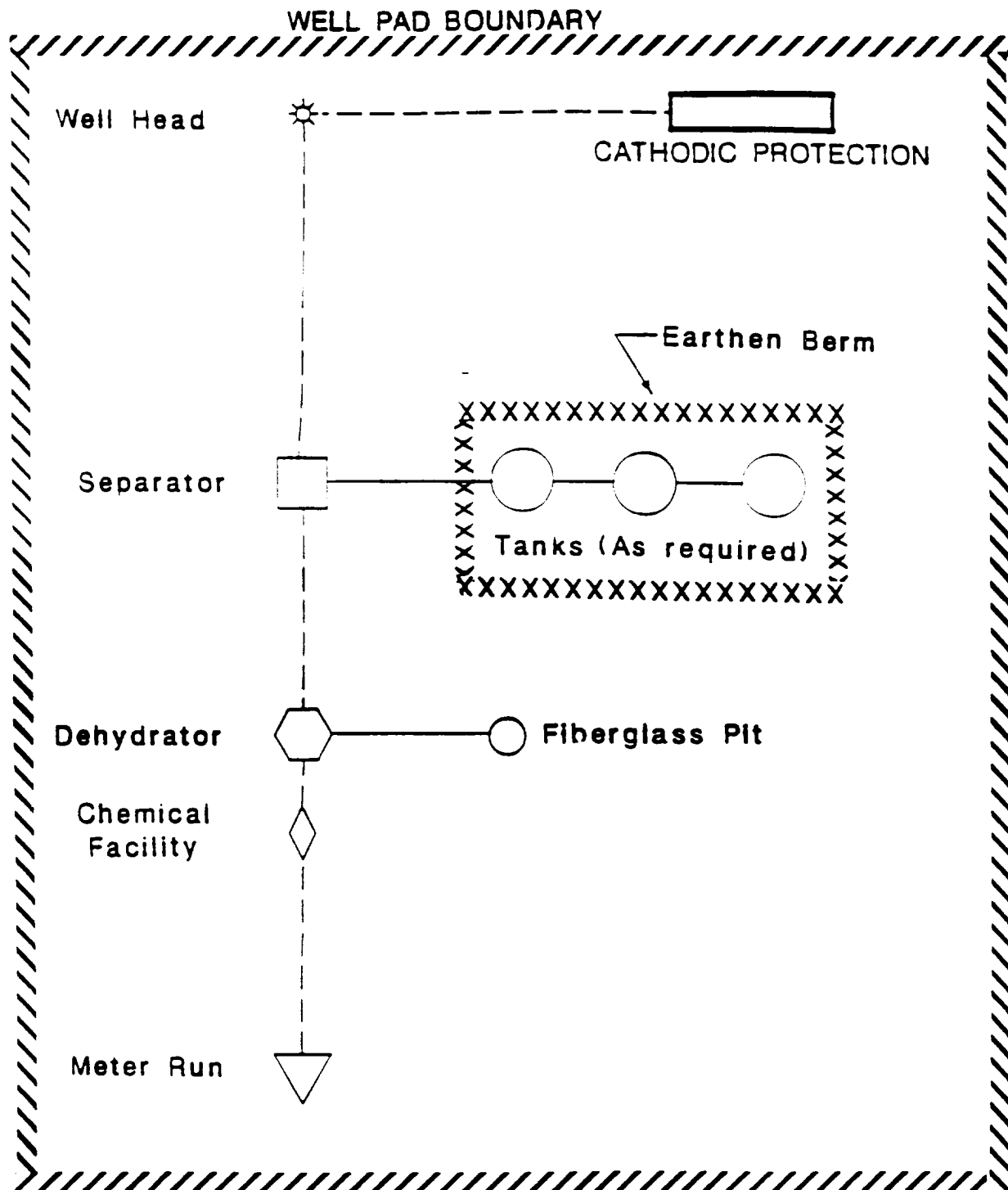
JWC:pb

[illegible]



MERIDIAN OIL INC.
Pipeline Map
T-30-N, R-06-W

San Juan 30-6 Unit #58B
Map #1A



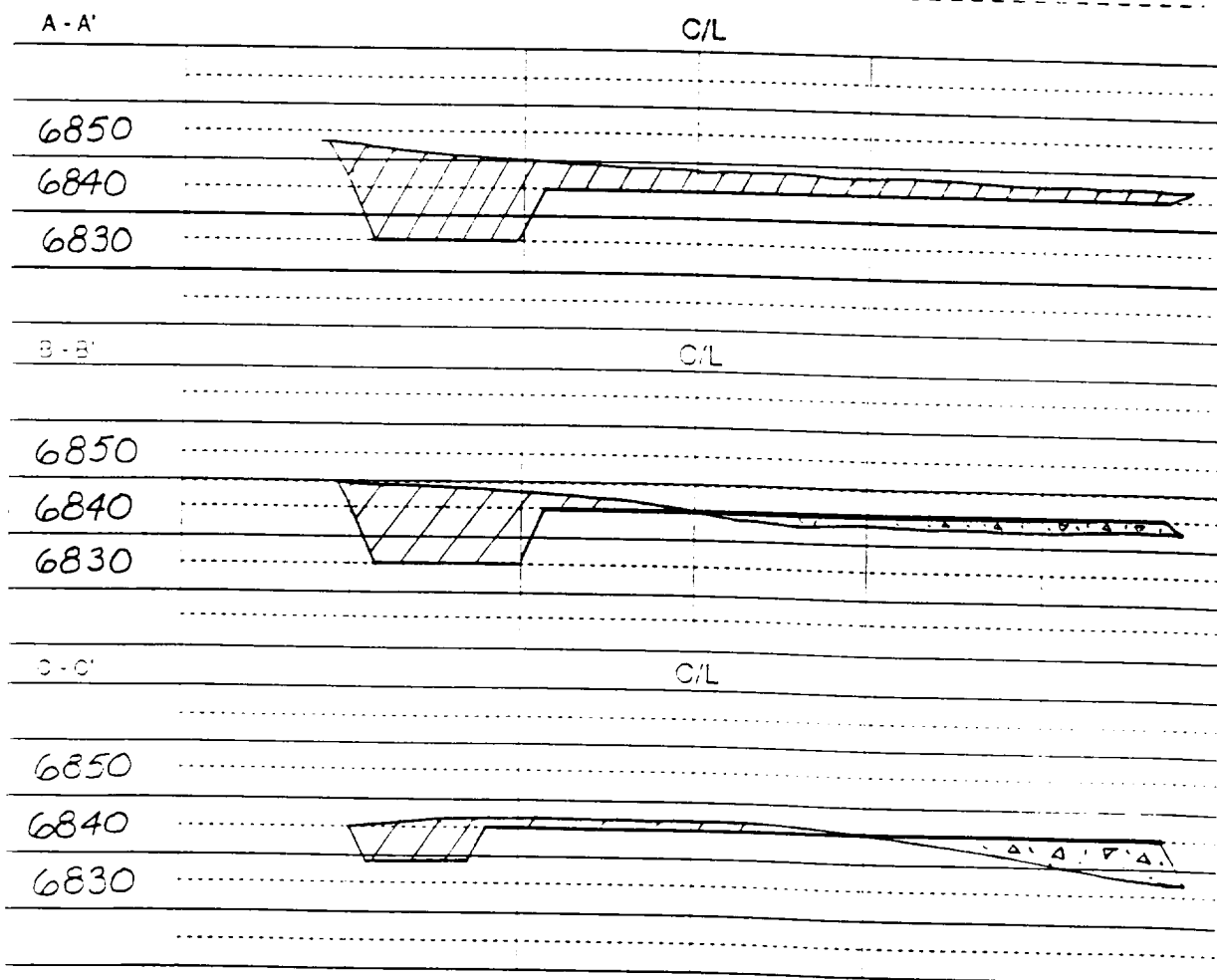
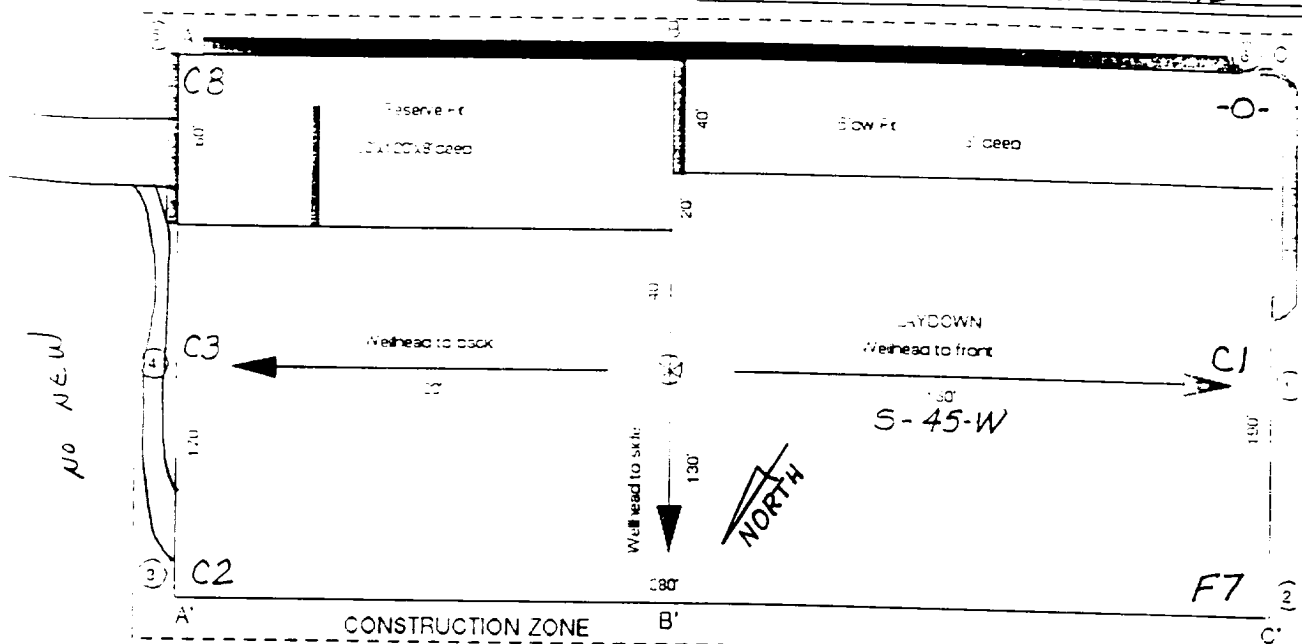
PLAT #1

MERIDIAN OIL
 ANTICIPATED
 PRODUCTION FACILITIES
 FOR A
 MESA VERDE WELL

MERIDIAN OIL

Plat 5

Name: SAN JUAN 30-6 UNIT #58B
 Footage: 595' FNL, 2135' FWL
 Sec 31 T. 30 N.R. 6 W. NMPPM
 Co. RIO ARriba St. NM
 Elevation: 6840 Date: 11-6-92



Submit to Administrator
District Office
State Lands - 4 copies
Fee Lands - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-80

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, Arama, NM 88210

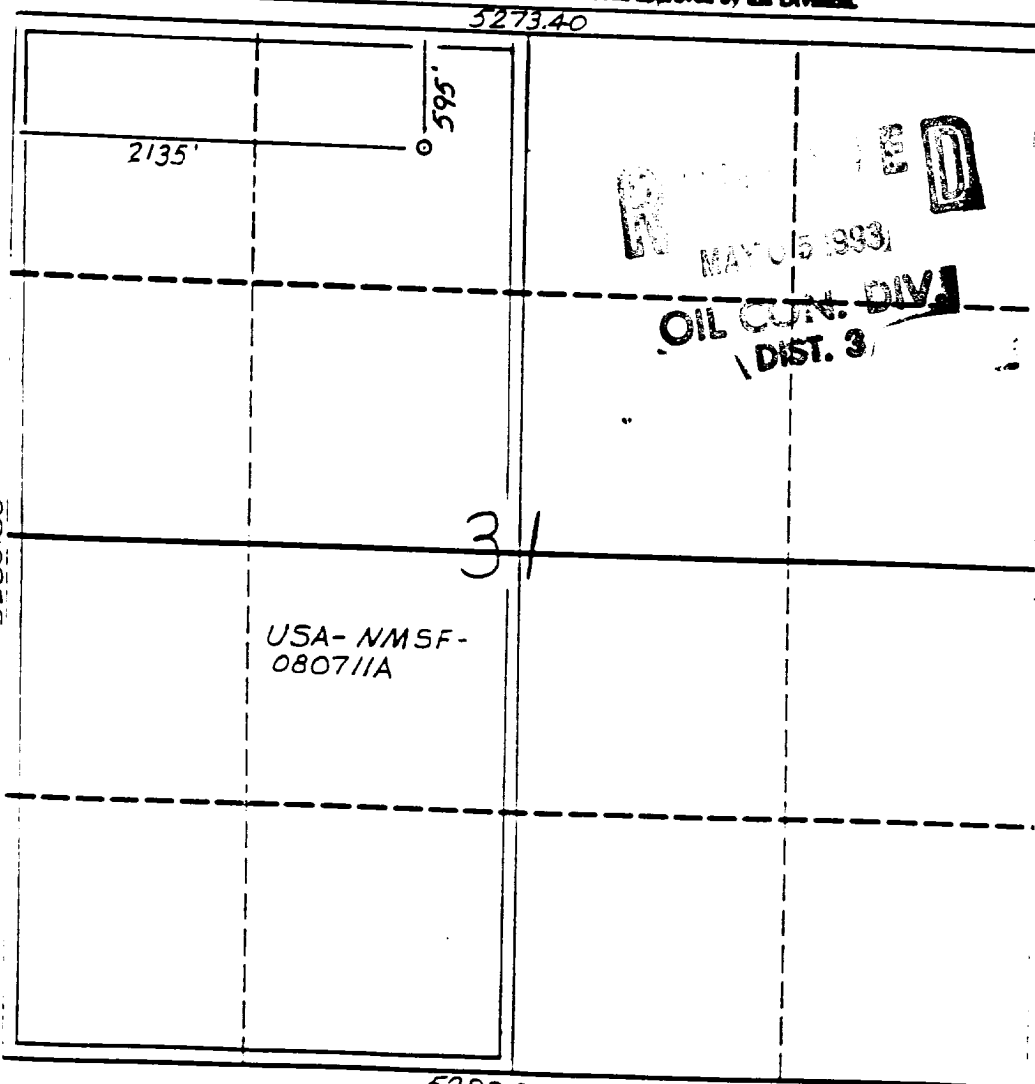
DISTRICT III
1000 Rio Arriba Rd., Alamogordo, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator		Meridian Oil Inc.		San Juan 30-6 Unit		Well No.	58B
Unit Letter	Section	Township	Range	County			
C	31	30 North	6 West	Rio Arriba			
Actual Footage Location of Well:							
595	feet from the	North	line and	2135	feet from the	West	line
Ground level Elev.		Forming Formation		Pool	Dedicated Acreage		
6840		Mesa Verde		Blanco	320 Acres		

- Outline the acreage dedicated to the subject well by colored pencil or section 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 names of all owners been considered by communitization, unitization, force-pooling, etc.?
☒ Yes ☐ No If answer is "yes" type of consideration: unitization
If answer is "no" list the owners and tract descriptions which have actually been considered. (Use reverse side of this form if necessary.)
No allowable will be assigned to the well until all interests have been considered (by communitization, unitization, force-pooling, or otherwise) or until a non-standard unit, concerning 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 Affairs

Position: Meridian Oil Inc.

Company: 3-17-93

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.

11-06-92

Date Surveyed: C. EDWARDS
Name: C. Edwards

Signature: *C. Edwards*
Professional Surveyor

(3357)

Seal of the State of New Mexico
Surveyor General

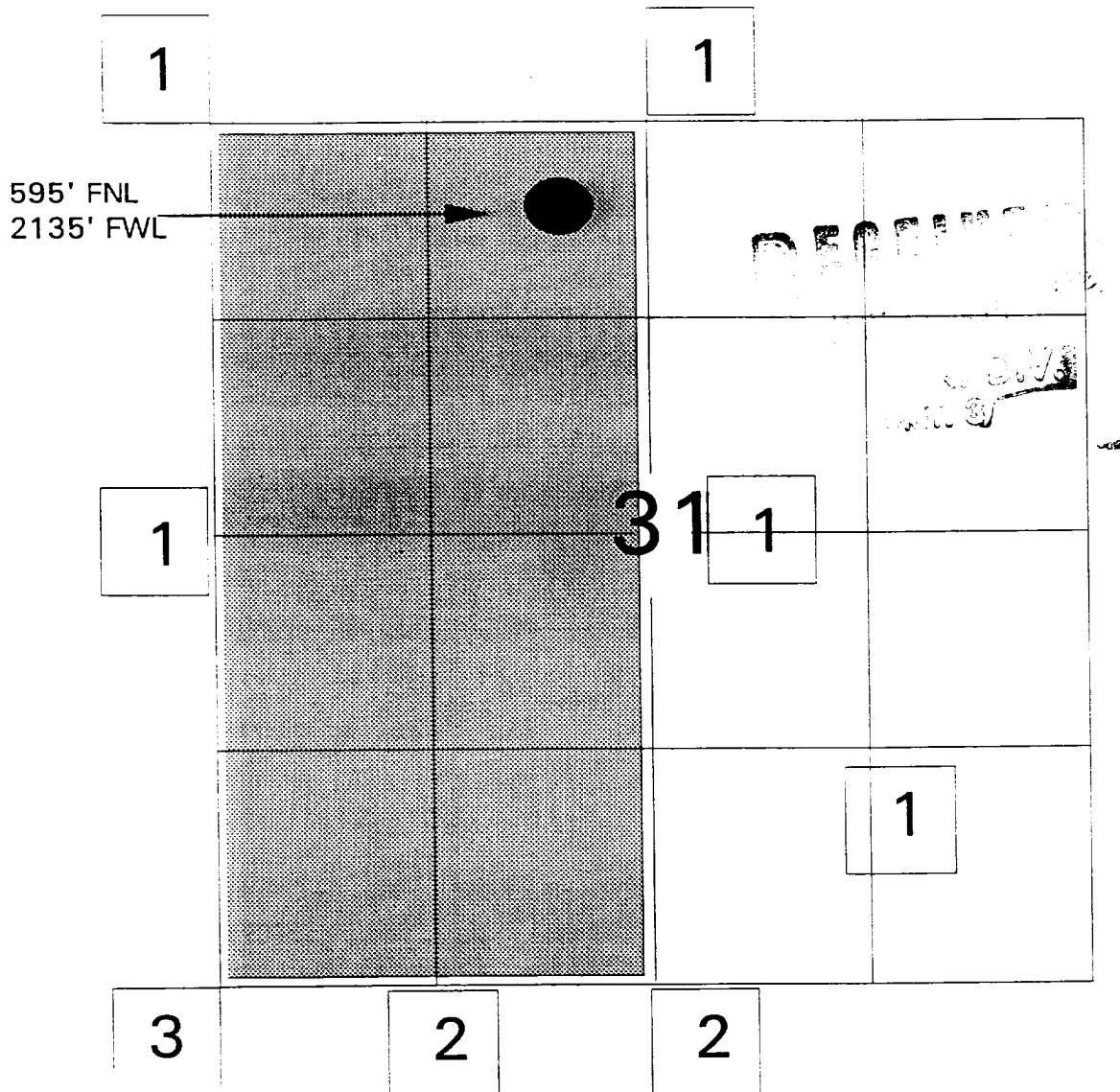
MERIDIAN OIL INC.

OFFSET OPERATOR/OWNER PLAT

San Juan 30-6 Unit 58B, MV

NE NW Section 31

Township 30 North, Range 6 West



1) Meridian Oil Inc., San Juan 30-6 Unit Operator, 3535 East 30th St., P.O. Box 4289, Farmington, New Mexico 87499-4289

2) Phillips Petroleum, San Juan 29-6 Unit Operator, 5525 Hwy 64 NBU 3004, Farmington, New Mexico 87401

3) Meridian Oil Inc., San Juan 29-7 Unit Operator, 3535 East 30th St., P.O. Box 4289, Farmington, New Mexico 87499-4289

MERIDIAN OIL

Re: Meridian Oil Inc. San Juan 30-6 Unit #58B
595'FNL, 2135'FWL, Section 31, T-30-N, R-6-W
Rio Arriba County, New Mexico

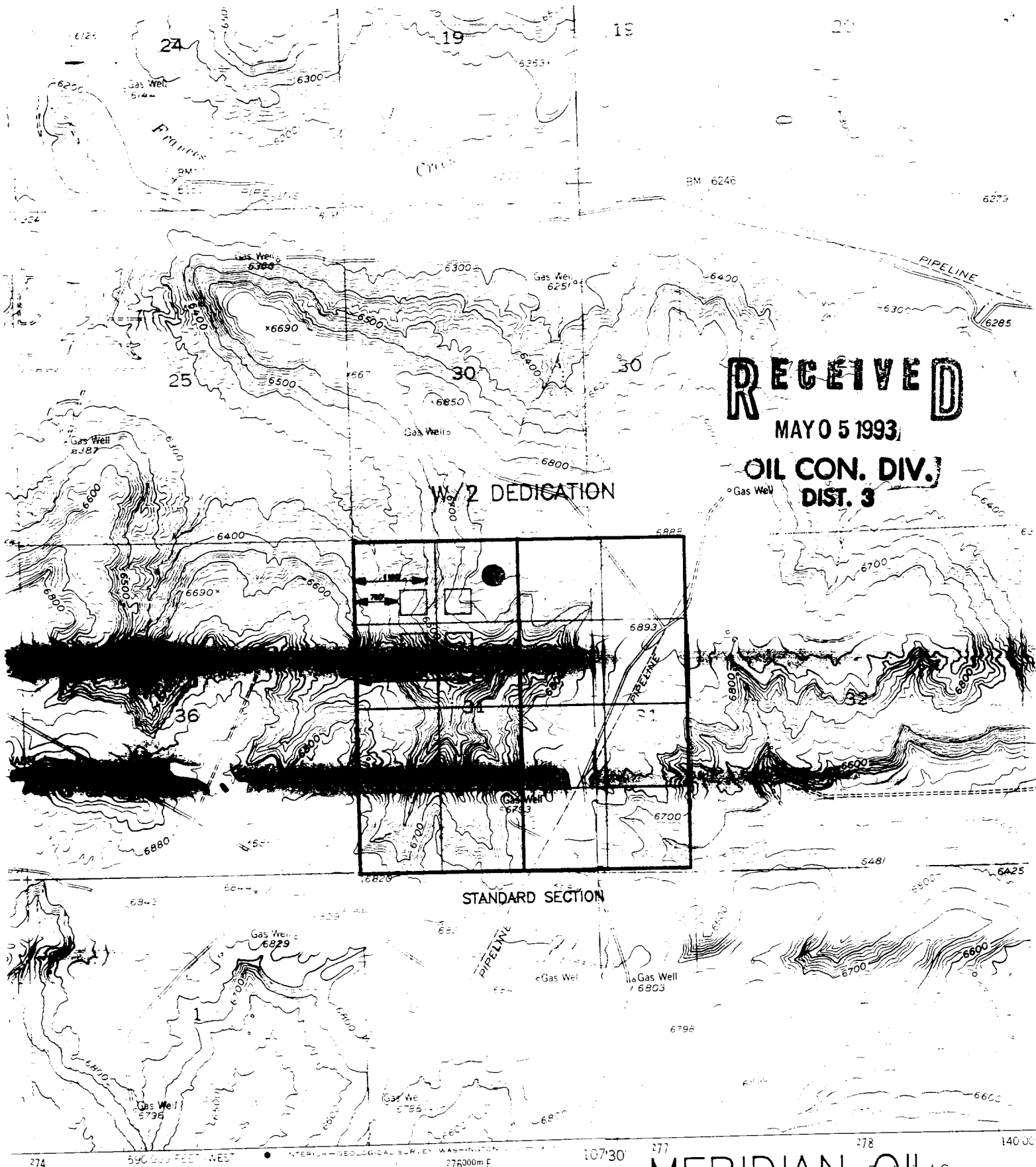
I hereby certify that the following offset operators/owners have been mailed notification of our application for non-standard location to drill the referenced well.

Phillips Petroleum
5525 Highway 64 NBU 3004
Farmington, NM 87401



Peggy A. Bradfield
San Juan County
State of New Mexico

My commission expires August 17, 1996



RECEIVED

MAY 05 1993

**OIL CON. DIV.
DIST. 3**

W/2 DEDICATION

STANDARD SECTION

ROAD CLASSIFICATION

Heavy-duty ———
Medium-duty ———

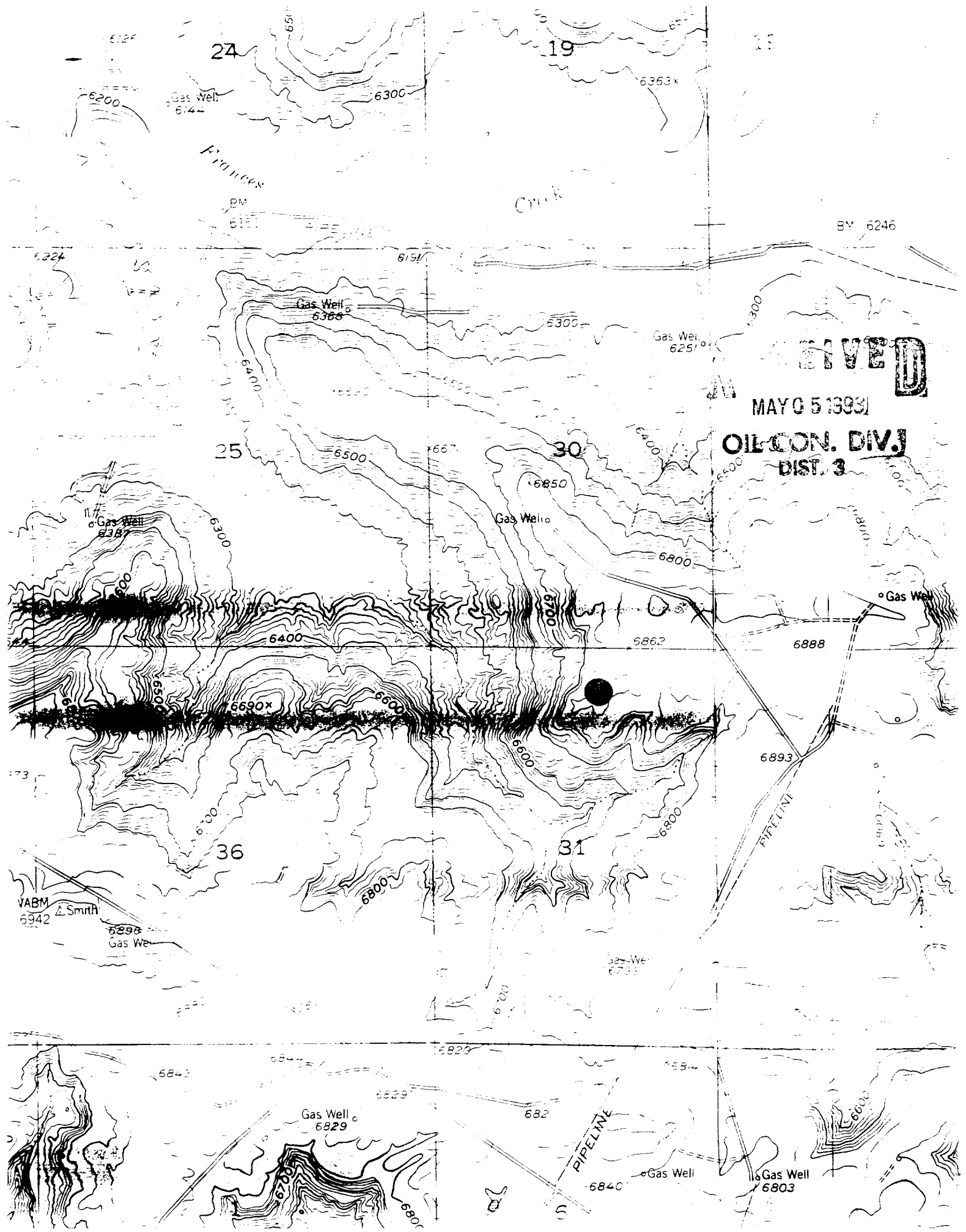
Light-duty ———
Unimproved dirt =====

U. S. Route

State Route

Maped, edited, and published by the Geological Survey
Control by USGS and NOS/NOAA

Topography by photogrammetric methods from
aerial photographs taken 1950. Field check 1954
Polyconic projection. 1927 North American datum
10,000-foot grid based on New Mexico coordinate system,
central zone
1000-meter Universal Transverse Mercator grid ticks.



RECEIVED
MAY 6 5 1993
OIL CON. DIV. J
DIST. 3

Project no. 92-089

Cultural Resource Use Permit
97-2920-92-C (NM BLM)

An Archaeological Survey of the
Proposed Well Pad and Access Road
San Juan 30-6 Unit #58B
Rio Arriba County, New Mexico
T30N, R6W, Section 31
595'FNL, 2135'FWL

for
Meridian Oil Inc.

prepared and submitted
by
John M. Kershner

Arboles Contract Archaeology

December 31, 1992

Technical report No. 153

Abstract

On November 3 and 6, 1992, Arboles Contract Archaeology completed a cultural resources survey of the proposed San Juan 30-6 Unit #58B well pad and access road 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 18.4 acres were closely inspected for cultural resources.

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

During the cultural resource survey two Navajo Gobernador phase sites, LA 89695 and LA 89696, were recorded. LA 89695 required that the initial location be abandoned. LA 89696 is located in the buffer zone of the proposed location. Clearance is recommended for the proposed well pad and access road with the stipulation that the southwest construction zone not be utilized.

Introduction

On November 3 and 6, 1992 Arboles Contract Archaeology (ACA) conducted an archaeological survey for Meridian Oil Inc. of Farmington, New Mexico. Neale Edwards of NCE Survey requested the survey on November 2, 1992 and Jim Howieson of Meridian Oil 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. 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 Resource Area office to identify sites that may have been previously recorded within the project area.

The records search on November 2, 1992 produced 42 previously recorded sites within one mile of the project area. None of the sites is 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_#	description	distance (ft) from site
none		

PROJECT DESCRIPTION

Proposed well pad and access road San Juan 30-6 Unit #58B

Legal Description:

T30N, R6W, Section 31

595'ENL, 2135'FWL

well pad

all of NE1/4 NW1/4

access road-section 31

NE1/4 NE1/4 NW1/4

section 30

S1/2 SW1/4 SE1/4

abandoned well pad-section 31

SW1/2 NE1/4 NW1/4

NW1/2 SE1/4 NW1/4

NE1/2 SW1/4 NW1/4

N.M.P.M., Rio Arriba County, New Mexico

Map Source: U.S.G.S. 7.5' Pine River, New Mexico-Photorevised-1971

Land Jurisdiction: Bureau of Land Management

Project Area:

330' X 380' (proposed and abandoned well pad
and construction zone)

1400' X 35' (proposed access road)

Surveyed Area:

530' X 580' (proposed and abandoned well pad,
construction zone and buffer zone)

1400' X 135' (proposed access road and buffer)

18.4 total acres surveyed

Project Environment: The initial well pad was located on a bench of Smith Mesa, but was abandoned because of an archaeological site in the center of the proposed location. The proposed well pad is located on Smith Mesa. An existing well pad has disturbed the SW quarter of the proposed location. An overgrown bladed road that once serviced a plugged well parallels the laydown 25 east. The

access road was resurveyed because it appears to have been built in 1960's and has not been used for many years. Soils are clay and sand sediments. Vegetation is dense oak, pinyon and juniper.

Cultural resources : Two archaeological sites were recorded during the survey.

LA 89695 is a Navajo Gobernador phase habitation with structure remains, hearths, ceramics, lithics and groundstone. The site is located on a narrow bench below Smith Mesa. Soils are deep sand sediments supporting pinyon, juniper, oak, sage, mountain mahogany and various grasses.

Features include a burned structure and three sandstone slab lined hearths or shallow storage cists. The structure has been burned and is now a low mound of dense and very fine charcoal. Artifacts in the center of the burn suggest the structure was a ramada. Two of the sandstone slab concentrations exhibit substantial oxidation and were probably hearths. The slab concentration in the center of the site was not burned and may have been a storage cist or the remains of an activity area/processing locale.

Artifacts include approximately 60-70 corn cob scraped and plain Dinetah gray and two Gobernador Polychrome sherds, 2 secondary flakes made of white chert and chalcedony, two pieces of groundstone, and a bifacially flaked tool. The groundstone are made of fine-grained sandstone. Two are slab metate fragments, and the other two are manos both of which are one-handed worked on one side. The biface is a knife with margin utilization/striation, no cortex, and made of chalcedony. The site appears to have been occupied as a habitation by a small group whose activities included resource gathering and processing.

The site has potential for datable material utilizing dendro, C-14, and archeomagnetic techniques. The site could provide information on Gobernador phase settlement patterns, subsistence, and chronology. The site should be included on the National Register of Historic Places and is recommended for Category II status.

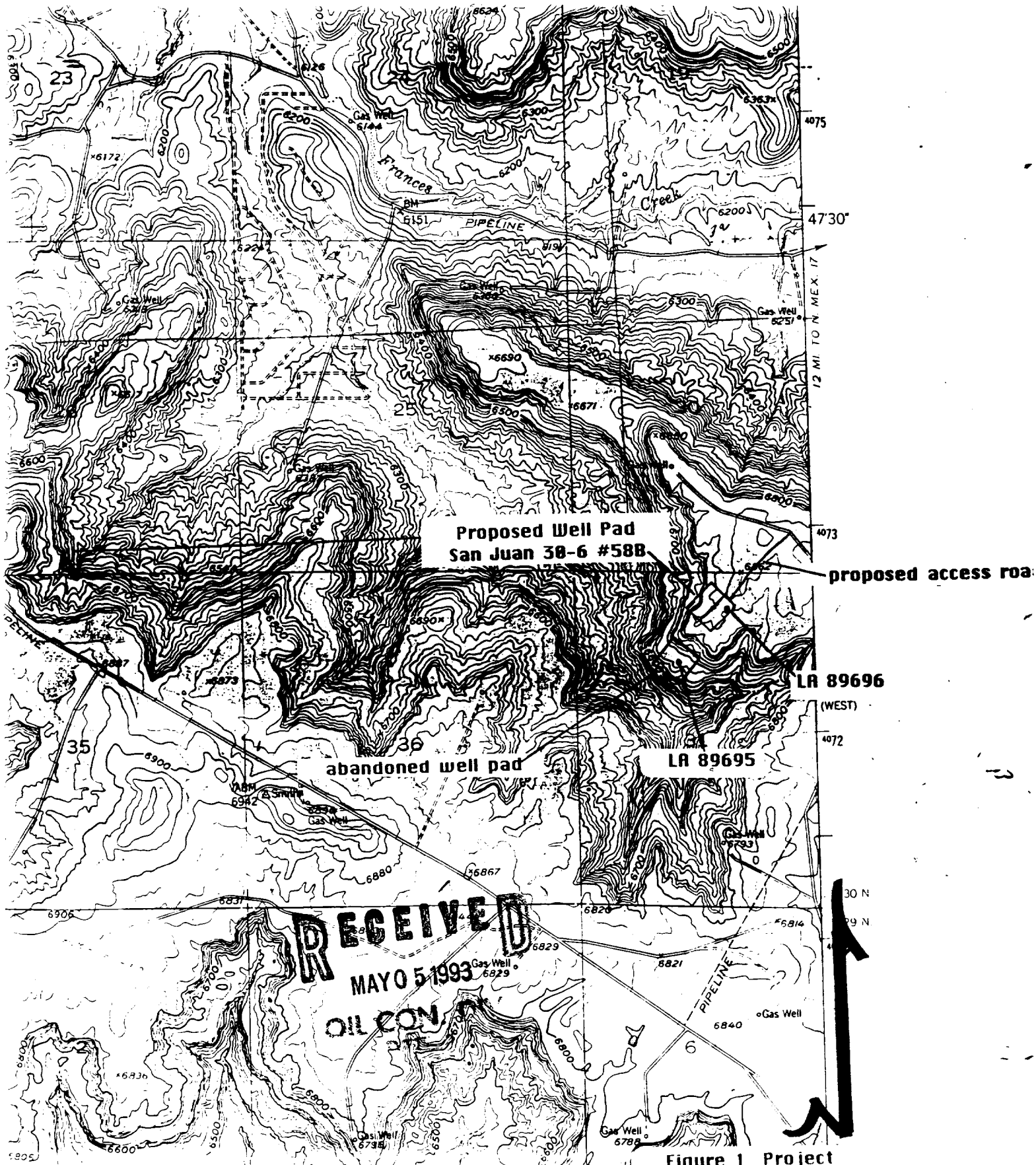
LA 89696 is a Navajo Gobernador phase encampment with possible structure remains, hearths, ceramics, and burned sandstone. The site is located on Smith Mesa. Soils are deep sandy clay sediments supporting pinyon, juniper, sage, mountain mahogany and various grasses.

Features include a charcoal concentration 1m in diameter containing burned sandstone and ceramics. This may be a large hearth but the presence of an axe cut pole south west of the concentration suggests the feature may have been a small structure. Two smaller charcoal concentrations north and northeast of the possible structure appear to be hearths. In the southwestern portion of the site are burned and axe-cut stumps.

Ceramic artifacts include 15-20 plain Dinetah gray and a single Gobernador Polychrome sherd. The Dinetah sherds may have been a jar. Lack of artifact diversity or numbers indicates the site was occupied by a small group for a short time period. Evidence of multiple hearths suggest the site may have been reoccupied.

The site has potential for datable material utilizing dendro, C-14, and archeomagnetic techniques. The site could provide information on Gobernador phase settlement patterns, subsistence, and chronology. The site should be included on the National Register of Historic Places and is recommended for Category II status.

Recommendations: During the cultural resource survey two Navajo Gobernador phase sites, LA 89695 and LA 89696, were recorded. LA 89695 required that the initial location be abandoned. LA 89696 is located in the buffer zone of the proposed location. Clearance is recommended for the proposed well pad and access road with the stipulation that the southwest construction zone not be utilized.



32°30' 274 1:590 000 FEET (WEST) • INTERIOR-GEOLOGICAL SUR R. 7 W. R. 6 W

ROAD CLASSII

MILE

Heavy-duty ———

Medium-duty ———

Unimproved dirt =====

U. S. Route

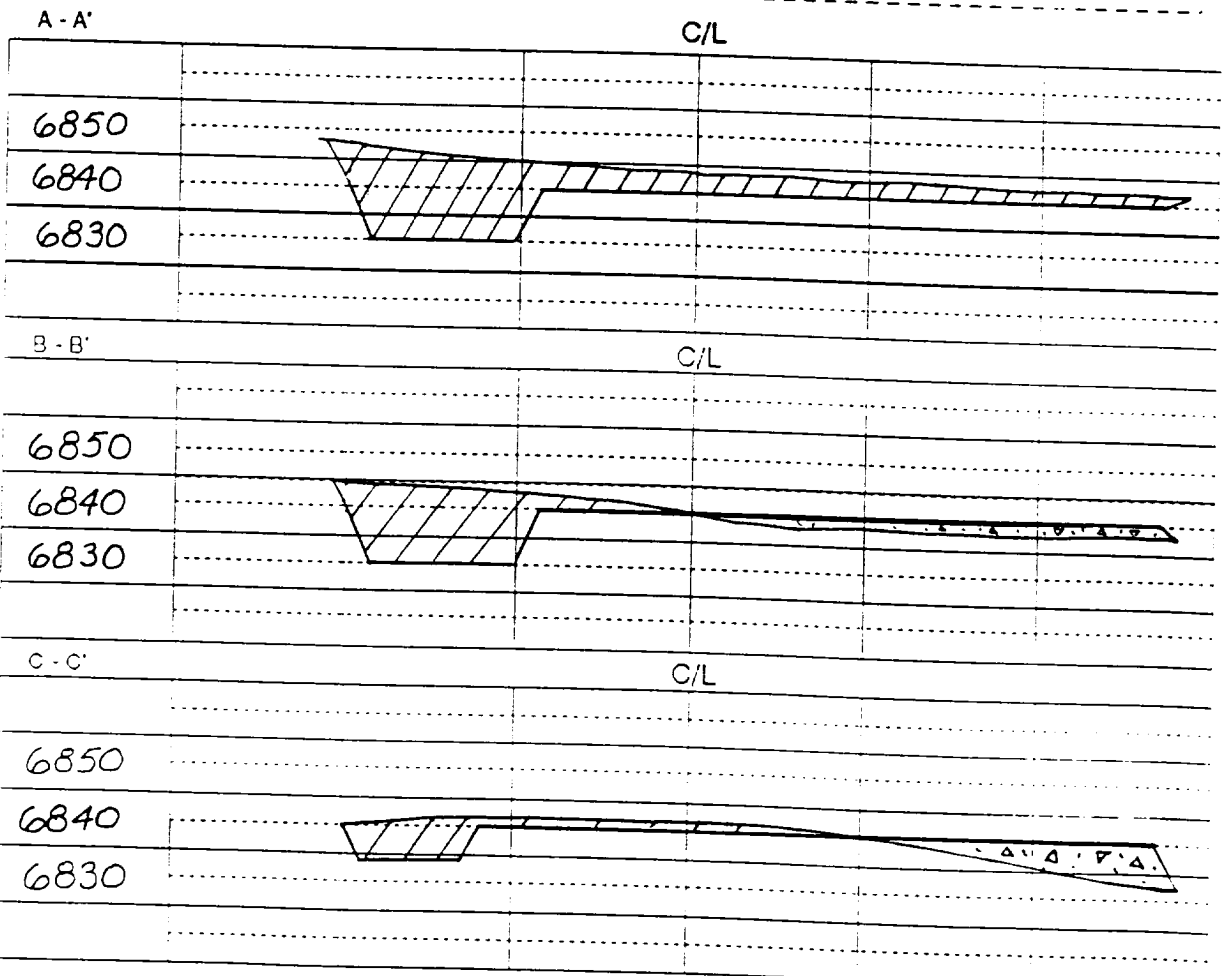
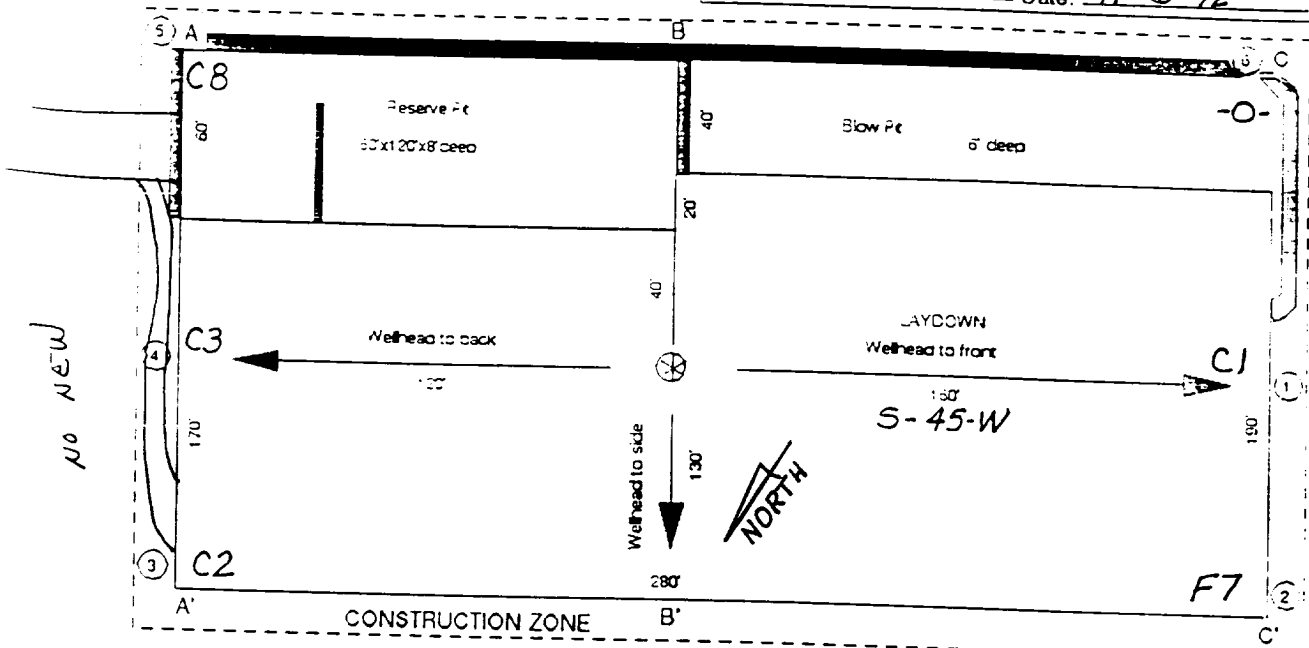
State Route

(ANYON)

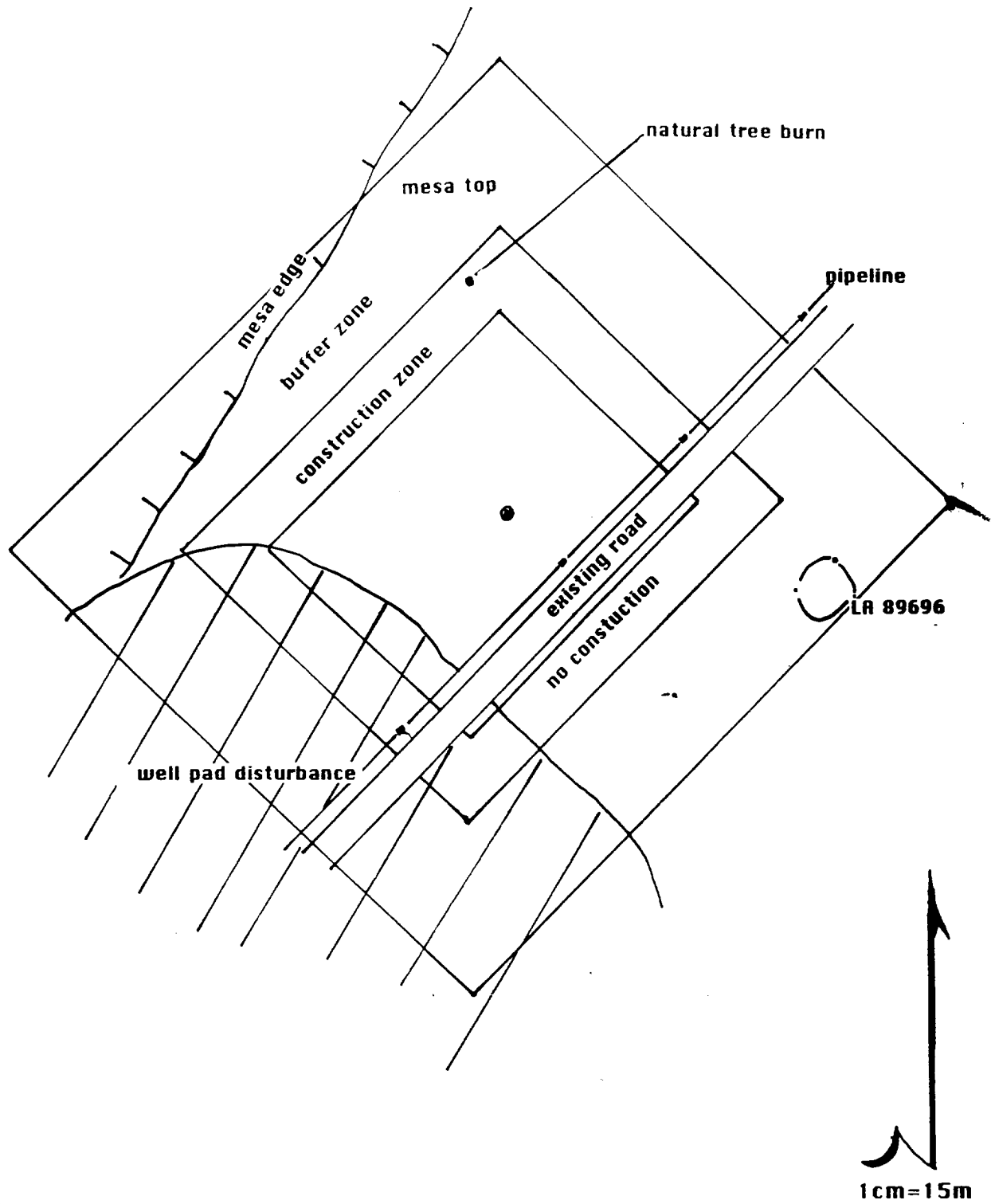
Figure 2

MERIDIAN OIL Plat 5

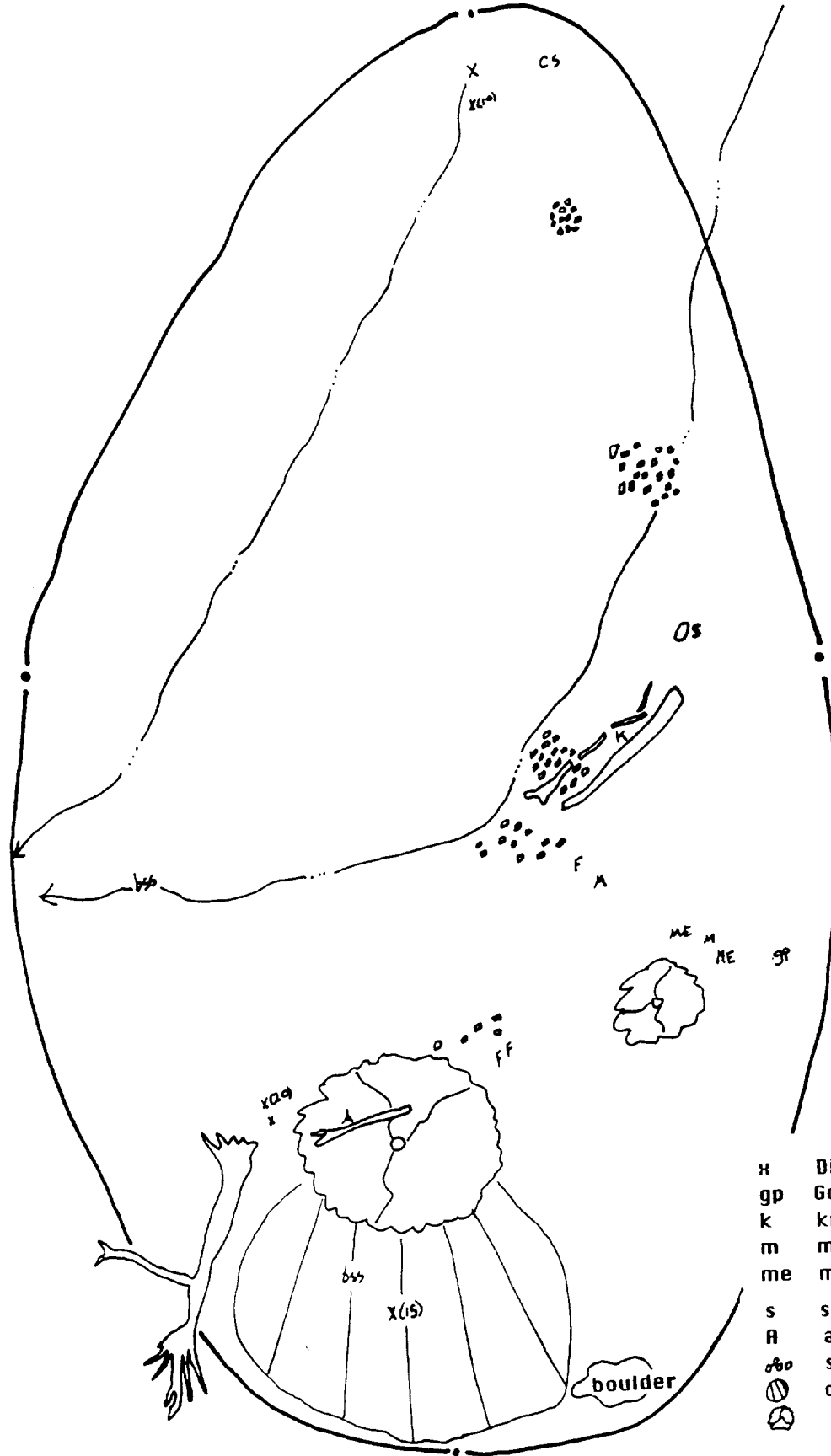
Name: SAN JUAN 30-6 UNIT #58B
 Footage: 595' ENL. 2135' FWL
 Sec 31 T. 30 N.R. 6 W NMPM
 Co. RIO ARRIBA St. NM
 Elevation: 6840 Date: 11-6-92



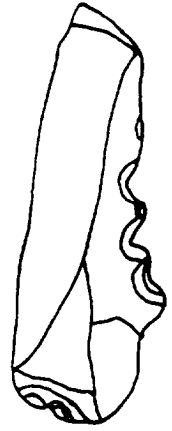
**Proposed Well Pad
San Juan 30-6 #588
Figure 3**



LA 89695



knife



1 cm = 1 cm



1 cm = 1 m

- x Dinetah Gray
- gp Gob. poly
- k knife
- m mano
- me metate
- s stump
- A axe-cut pole
- ss sandstone slab/conc.-hearth
- FF charcoal con.-ramada/hogan
- live tree

LA 89696

possible structure



saw cut pole

bss

gp.

1cm=1m

The map shows an irregular field boundary. A vertical line, possibly a road or path, runs through the center. A 'possible structure' is marked with a circle containing 'X' and 'bss'. A 'saw cut pole' is indicated by a curved line. Other features include a 'gp.' (gravel pit) near the bottom, a 'bss' (bare soil surface) area, and a '3' near the left boundary. A scale bar indicates 1cm=1m.

x Dinetah Gray
 gp Gob. poly
 bss burned sandstone
 s axe-cut stump
 bt burned tree
 charcoal conc.
 live tree