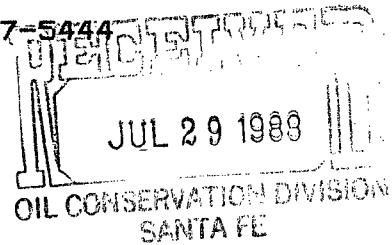


MOBIL EXPLORATION & PRODUCING U.S. INC.

P. O. Box 5444
Denver, Colorado 80217-5444

July 25, 1988



Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

REQUEST FOR EXCEPTION
UNORTHODOX LOCATION
LINDRITH B UNIT WELL NO. 75
RIO ARRIBA CO., NEW MEXICO

Gentlemen:

Mobil Producing Texas and New Mexico, Inc. proposes to drill a development oil well in SW SE OF SECTION 35, T25N, R3W, NMPM. The well was proposed for a normal location but it was necessary to move it to a point 1290' FSL AND 2100' FEL of the section to preserve native antiquities distributed extensively throughout the immediate area.

Mobil requests administrative approval for this unorthodox location in excess of one quarter mile within the unit which contains the south half of section 35.

Should you have any questions, please contact C. N. Eggerman at (303) 298-2346.

Yours truly,

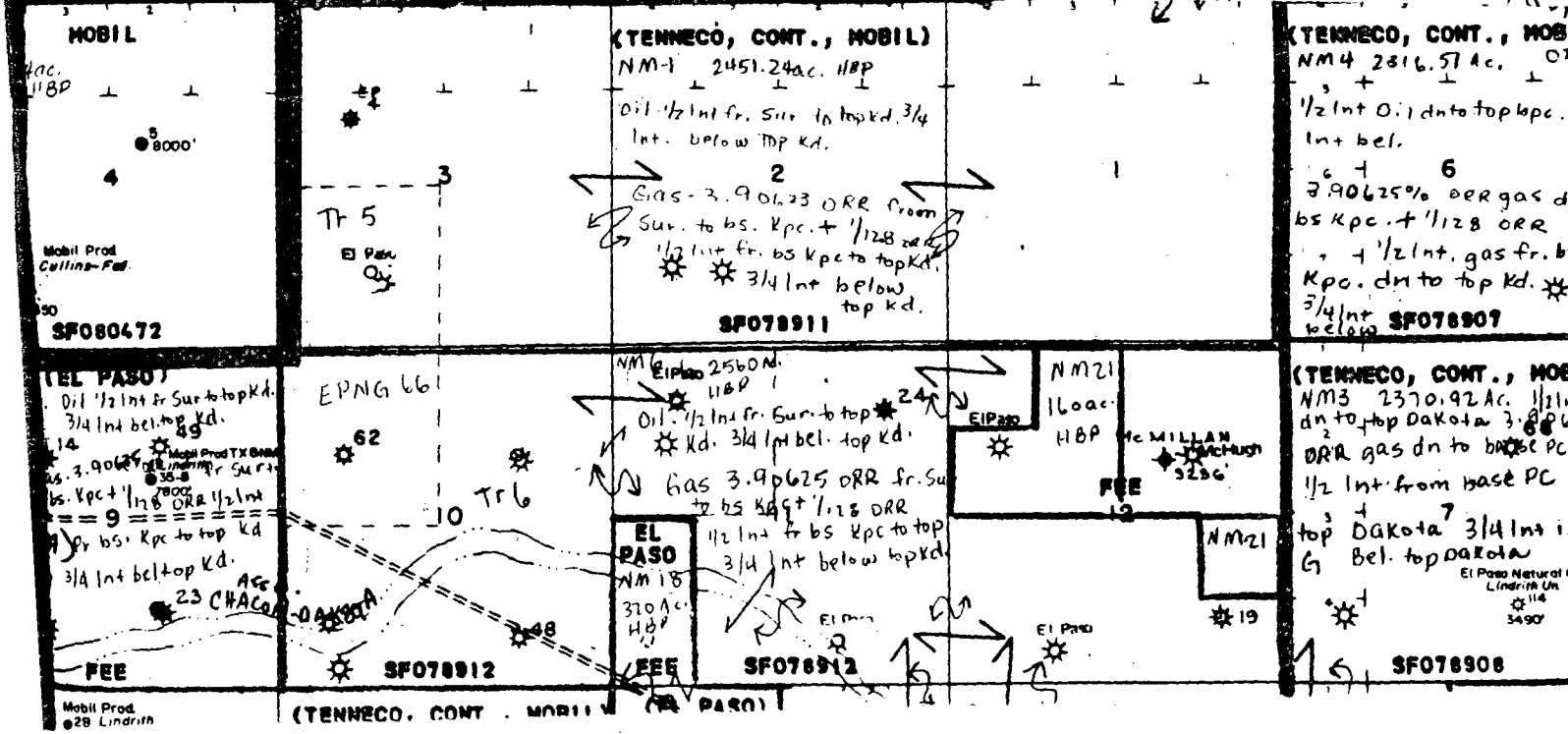
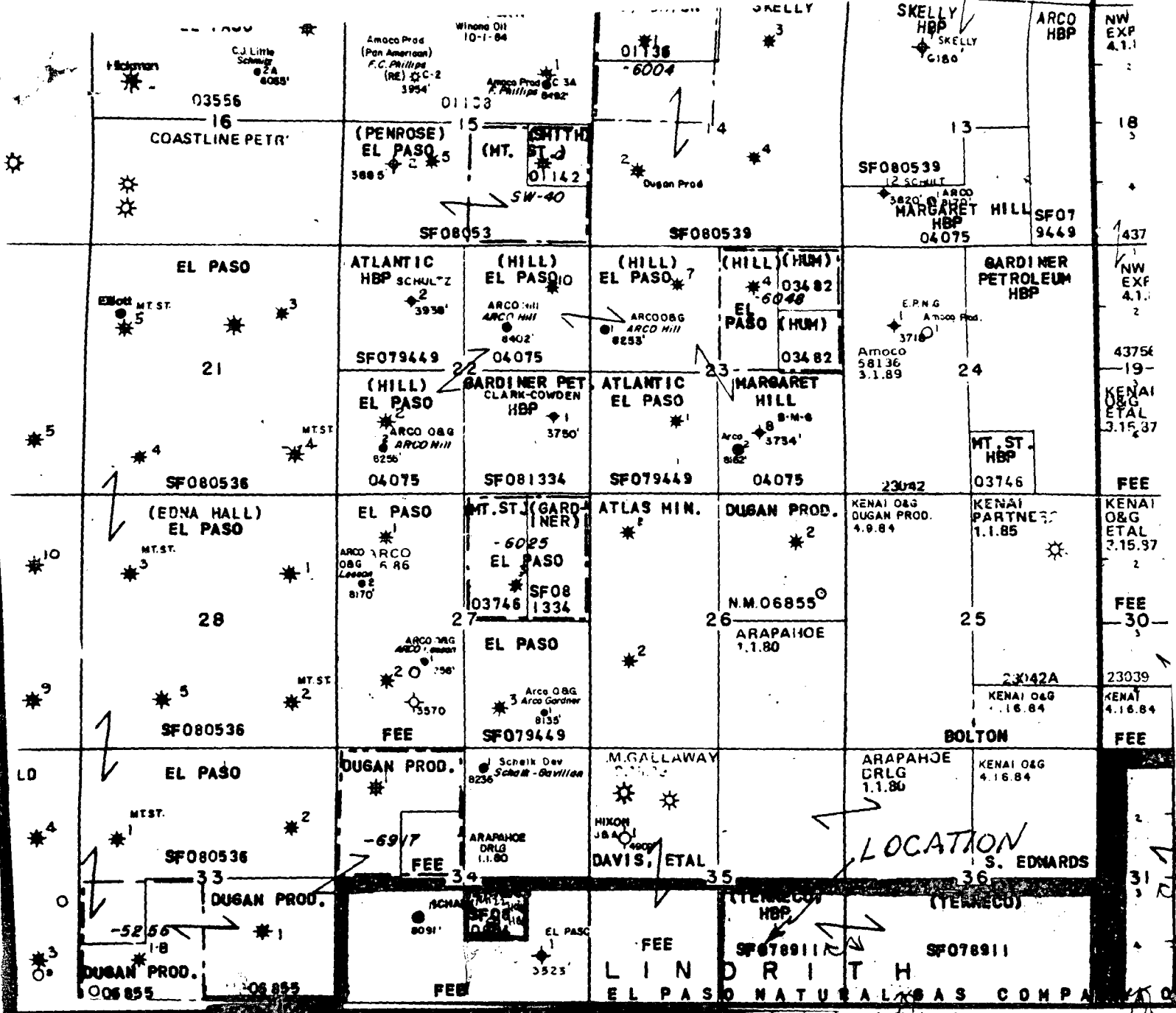
R L Brubaker for

B R Maynard 7/22/88

B. R. Maynard
Regulatory Compliance Manager

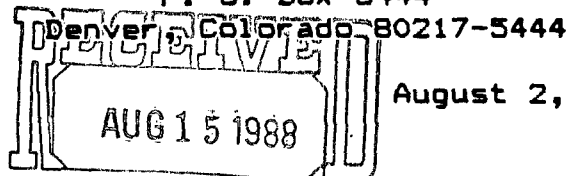
WEL:

cc: Energy and Minerals Department
Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410



MOBIL EXPLORATION & PRODUCING U.S. INC.

P. O. Box 5444



August 2, 1988

DAVE CATANACH

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
CONSERVATION DIVISION
SANTA FE

Hixon Development Company
P. O. Box 2810
Farington, N. M. 87499
Attention: Land Manager

APPLICATION FOR EXCEPTION
UNORTHODOX LOCATION
LINDRITH B UNIT WELL NO. 75
RIO ARRIBA COUNTY, NEW MEXICO

Gentlemen:

Mobil Producing Texas & New Mexico, Inc. has requested administrative exception for the unorthodox location 1290' FSL and 2100' FEL of section 35, T25N, R3W NMPM, in the Lindrith B Unit, Rio Arriba County, New Mexico. This unorthodox location is required for the preservation of antiquities found in the proximity of any normal location in the Southeast quarter of section 35.

Indication of your approval of this exception is requested. Please mail signed copy of this letter to the New Mexico Energy and Minerals Department, Oil Conservation Division and copy to us in the enclosed stamped envelopes.

If you have any questions regarding this request, please contact Bill Landry at the above address or by telephone (303) 298-2620.

Yours Truly,

R L Brubaker for
B R Maynard 8/2/88
B. R. Maynard
Regulatory Compliance Manager

wel/att

APPROVED

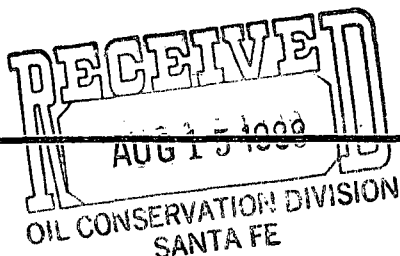
Date _____
HIXON DEVELOPMENT COMPANY

bcc: Land 9A
C. J. Benally - Cortez - (904)
Files 5B

RECEIVED

AUG 11 1988

OIL CON. DIV./
DIST. 3

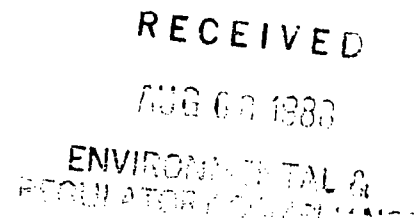


Hixon Development
COMPANY

DAVE
CATRACH

August 5, 1988

Mr. B. R. Maynard
Regulatory Compliance Manager
Mobil Exploration & Producing U.S., Inc.
P. O. Box 5444
Denver, CO 80217-5444



Subject: Application for Exception
Unorthodox Location
Lindrith B Unit Well No. 75
Rio Arriba Co., NM

Dear Mr. Maynard:

This letter is to voice our serious concern over your referenced location. By now you are probably aware of our own location for the Missy Well No. 2 at 1650' FSL, 1650' FWL, Section 35, T25N, R3W, NMPM. Because of the proximity of the two wells we urge you to consider possible locations in the NE/4SE/4, the SE/4SE/4, and if necessary the SW/4SE/4 of Section 35.

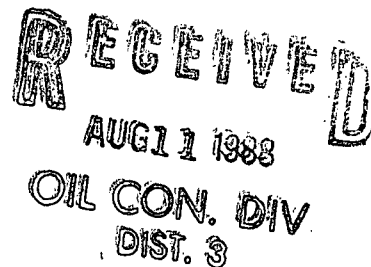
Should you fail to find an approvable wellsite in any of the standard location windows we understand that you must be allowed to drill your lease, and will consent to the unorthodox location at that time.

Very truly yours,

John C. Corbett
Vice President - Exploration

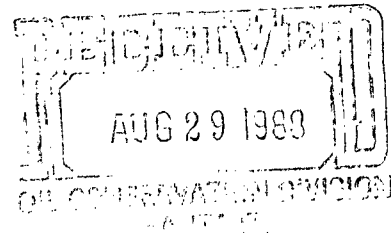
JCC/plc

xc: Mr. Frank Chaves
New Mexico Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, NM 87410



August 26, 1988

Mr. David Catnach
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088



Subject: Unorthodox Location
Lindrith B Unit No. 75
1290' FSL, 2100' FEL
Section 35, T25N, R3W
Rio Arriba Co., NM

Dear Mr. Catnach:

Thank you for forwarding the archaeological report on the referenced well. After reviewing the area surveyed and comparing it to the legal locations for West Lindrith Gallup-Dakota wells in section 35, it appears that there are several options for orthodox locations that have not been investigated. While our desire is not to be obstructive, we would appreciate some further study before we consent to the unorthodox location.

Our experience in a similar situation was that, even though surface conditions would seem to merit administrative approval, if an orthodox location within the same proration unit was at all possible to drill, the well must be placed there. We were told that if the basis for not drilling in an acceptable window was a reservoir condition, the case would require a hearing. We eventually drilled the less desirable location because administrative approval of our unorthodox location was denied. (Please refer to the attached correspondence between Hixon Development and the NMOCD.)

As stated, if an orthodox location free of cultural resources cannot be found, we will have no objection to Mobil's proposal.

Very truly yours,

John C. Corbett
Vice President - Exploration

JCC/das

Enclosures

Post Office Box 2810
Farmington, New Mexico 87499
505/326-3325

HIXON DEVELOPMENT COMPANY

P. O. BOX 2810

FARMINGTON, NEW MEXICO 87401

January 20, 1984

Mr. Joe D. Ramey, Director
Energy and Minerals Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Re: Request of Exception to Standard Location
A.P. Hixon Well No. 2
NE/4 of Sec. 21, T25N, R11W
San Juan County, New Mexico

Dear Mr. Ramey:

Hixon Development Company requests administrative approval of an exception to a standard Basin Dakota location for the subject well on the basis of topographic and reservoir conditions. The proposed well is to be drilled to the Dakota Formation and will test both the Basin Dakota and Bisti Lower Gallup.

Per the attached map we desire to drill the well at 1730' FNL, 2110' FEL, Sec. 21, T25N, R11W. The drilling window nearest the well falls directly on a 50' hill of bentonitic shale. The eastern two drilling windows are thought to be wet. The southern of these two was drilled in April of 1982 and produced water. The well was subsequently abandoned. The northwestern window is 184' from the Skelly Oil Company Navajo K No.1 which produced for several years before being abandoned. It is believed that the Navajo K No. 1 depleted the Gallup in its vicinity.

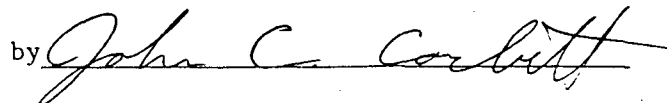
The adjacent leases in section 16, the north half of section 21, and the south half of section 21 are operated by Hixon Development Company. They are held by production from Mudge #6, A.P. Hixon Com No. 1, and Irene Whitney Com No. 1, respectively.

We would appreciate your earliest convenient consideration of this request.

Sincerely,

Hixon Development Company

by



for: Aldrich L. Kuchera
Executive Vice President

JCC:jja

Attachment

MAILED
JAN 23 1984

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-102
Revised 10-1-79STATE OF NEW MEXICO
OIL AND MINERALS DEPARTMENT

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

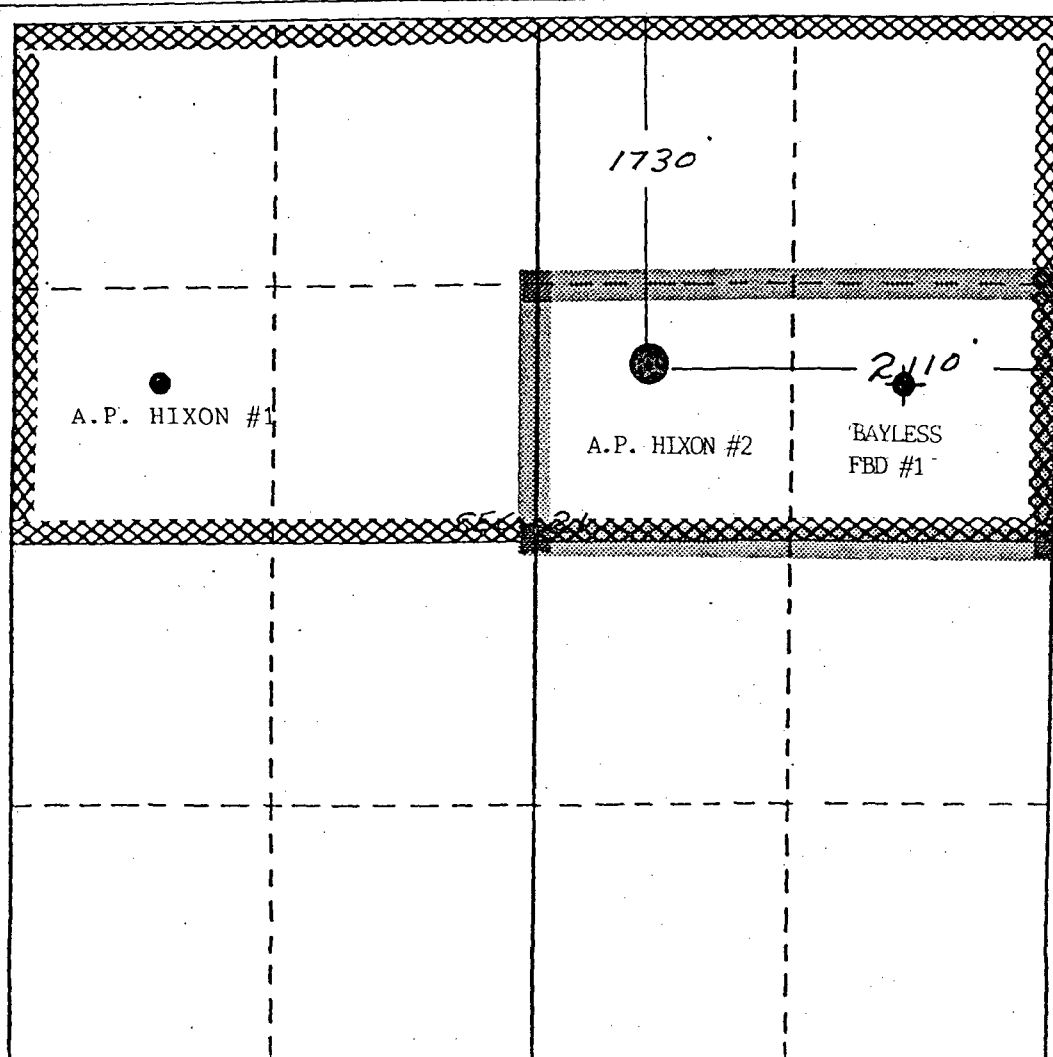
Operator Hixon Development Company			Lease A. P. Hixon		Well No. 2
Unit Letter G	Section 21	Township 25 North	Range 11 West	County San Juan	
Actual Footage Location of Well:					
1730	feet from the	North	line and	2110	feet from the East line
Ground Level Elev. 6450	Producing Formation Lower Gallup/ Dakota		Pool Bisti Lower Gallup/ Basin Dakota	Dedicated Acreage: 80/320 Acres	

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

☐ Yes ☐ No If answer is "yes," type of consolidation _____

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

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



CERTIFICATION

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

Name

Aldrich L. Kuchera

Position

Petroleum Engineer

Company

Hixon Development Company

Date

December 21, 1983

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

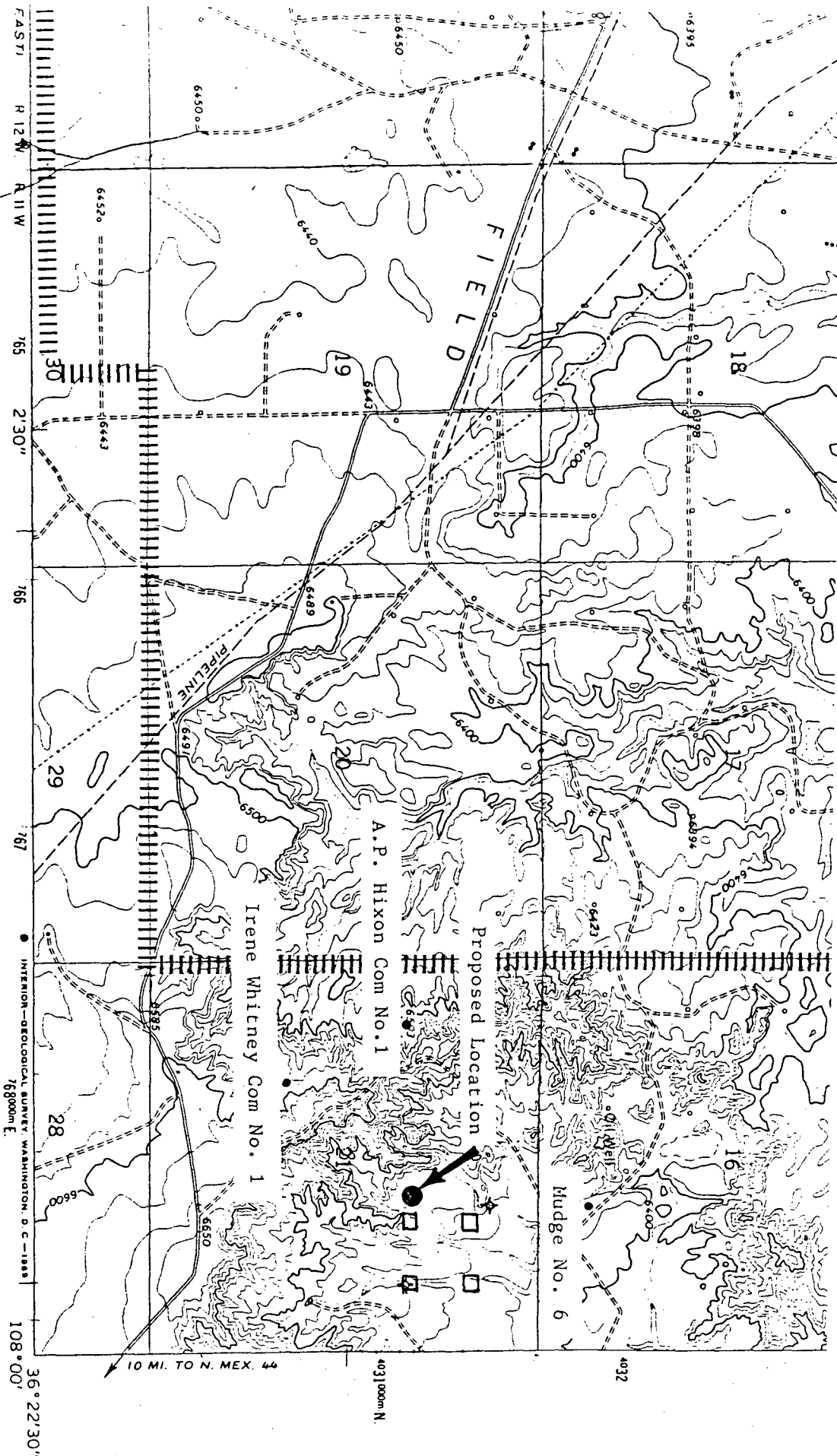
Date Surveyed

December 13, 1983

Registered Professional Engineer
and/or Land Surveyor

Certificate No. 5979

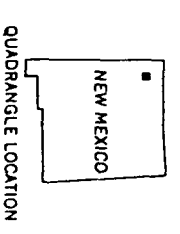
Edgar L. Risenhoover, L.S.



000

4000 5000 6000 7000 FEET
1 KILOMETER

AL 20 FEET
SEA LEVEL



CARSON TRADING POST, N. MEX.

N 3622.5—W 10800/7.5

1966

AMS 4356 I NE—SERIES V881

ROAD CLASSIFICATION

Light duty ————— Unimproved dirt =

TRADING POST SW
(HUEFANO
4456 IV SW)

MAP ACCURACY STANDARDS
OLORADO 80225, OR WASHINGTON, D. C. 20242
D, SYMBOLS IS AVAILABLE ON REQUEST

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ well gas ☒ well other2. NAME OF OPERATOR
Hixon Development Company3. ADDRESS OF OPERATOR
P.O. Box 2810, Farmington, New Mexico 874994. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1650' FNL, 1650' FEL, Sec. 21,
AT TOP PROD. INTERVAL: T25N, R11W
AT TOTAL DEPTH:16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE,
REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO: SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF	<input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	<input type="checkbox"/>
(other) Change well location		

5. LEASE
N00-C-14-120-52426. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
A.P. Hixon9. WELL NO.
1-E10. FIELD OR WILDCAT NAME
Basin Dakota11. SEC., T., R., M., OR BLK. AND SURVEY OR
AREA
Sec. 21, T25N, R11W, NMPM12. COUNTY OR PARISH 13. STATE
San Juan New Mexico

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
6455' GLE(NOTE: Report results of multiple completion or zone
change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

It is proposed to changed the location of the subject well from 1650' FNL, 1650' FEL, Sec. 31, T25N, R11W to 790' FNL, 790' FEL, Sec. 21, T24N, R11W. The present location is situated in an area of extreme topography and possible cultural resources. Please note that the well has not yet been drilled.

MAILED
MAY 3 1984

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED William H. Anderson TITLE Petroleum Engineer DATE 5/2/84

(This space for Federal or State office use)

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

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

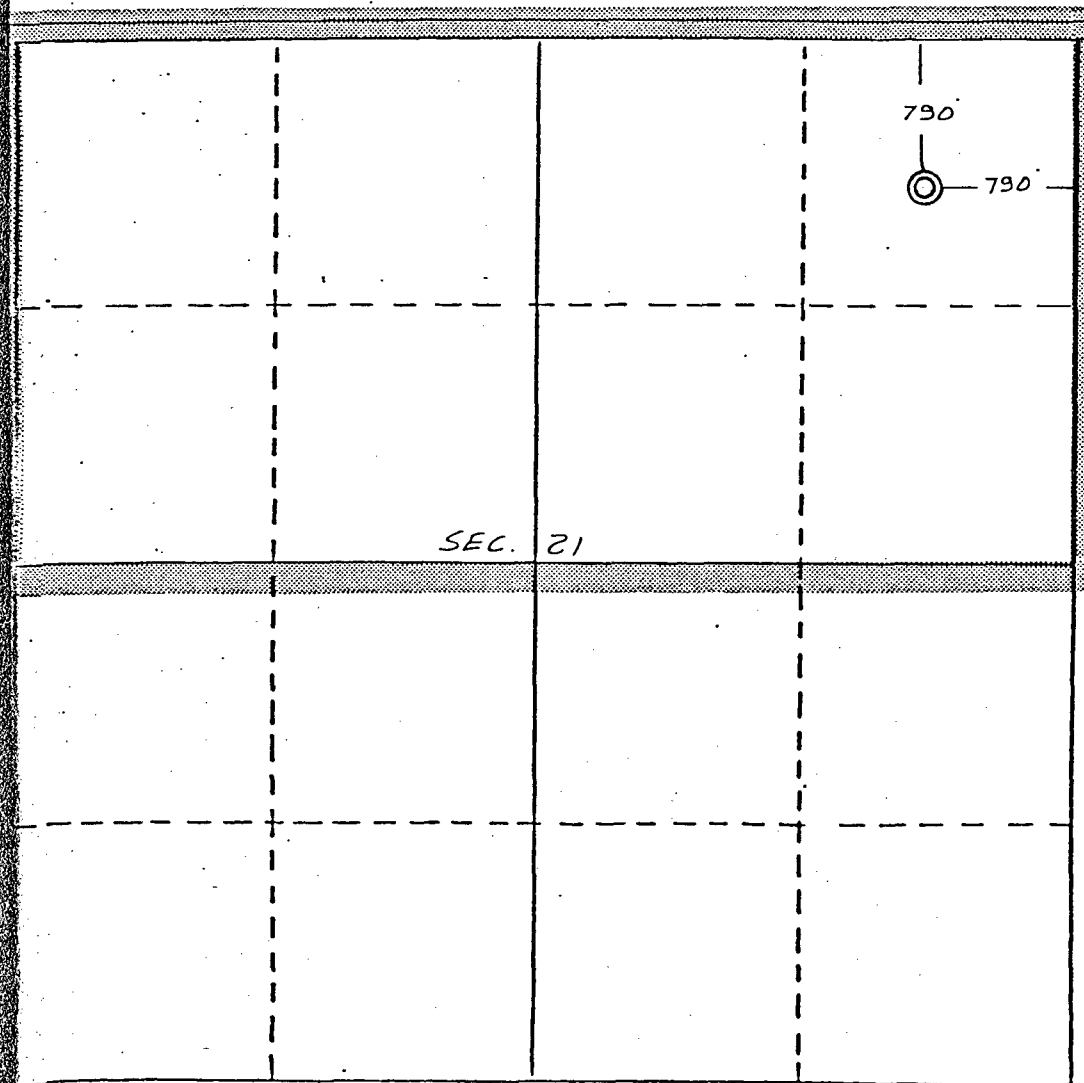
Hixon Development Company			Lease A. P. Hixon		Well No. 1E
Section A	Section 21	Township 25 North	Range 11 West	County San Juan	
Actual Footage Location of Well: 790 feet from the North line and 790 feet from the East line					
Ground Level Elev. 6432	Producing Formation Dakota		Pool Basin Dakota		Dedicated Acreage: 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 interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

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

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



CERTIFICATION

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

Aldrich L. Kuchera
Name

Aldrich L. Kuchera

Position

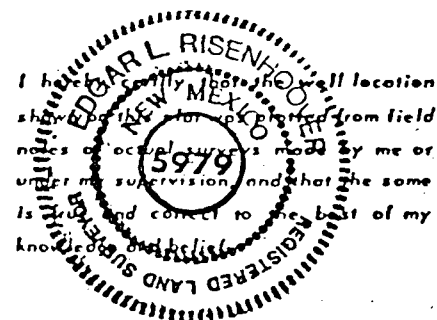
Petroleum Engineer

Company

Hixon Development Company

Date

5/2/84



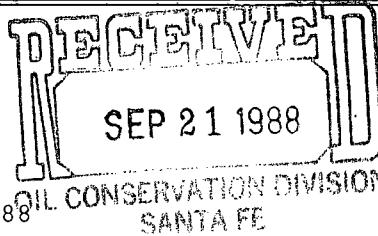
Date Surveyed

April 27, 1984

Registered Professional Engineer
and/or Land Surveyor

Edgar L. Risenhoover
Certificate No. 5979

Edgar L. Risenhoover, L.S.



September 20, 1988

Mr. David Catanach
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504-2088

Subject: Proposed Unorthodox Location
SE/4 Section 35, T25N, R3W
Rio Arriba Co., NM

Dear Mr. Catanach:

After our conversation today I was not certain that you understood our position in this matter. Please allow me to provide some background and try to explain.

Faced with a similar situation in 1984 when attempting to stake the A. P. Hixon Well No. 1-E, Hixon Development Company sought OCD approval of an unorthodox location on the basis of surface conditions. In our case topographic conditions precluded building a location in the two most desirable windows in our proration unit. At that time we were informed that before an unorthodox location could be approved we would have to demonstrate why we could not drill in the other two windows. It made no difference that our proposed unorthodox location was greater than the minimum setback footages from the lease boundaries or that the offset lease belonged to Hixon Development. We were told that we must move our location to an alternate window or demonstrate why either reservoir or surface conditions made all of the possible orthodox locations impracticable. Because there was not adequate data to debate reservoir conditions, we ultimately were forced to drill in one of the less desirable windows. There is no substantial difference between our case and the one Mobil is now facing.

*Talked to Mr. Corbett
9-21-88*

*They are going to drop
objection*

Mr. David Catanach
September 20, 1988
Page 2

I believe that Hixon Development is asking no more than the consistent application of the Oil and Gas Rules of the State of New Mexico. I also believe that it is not our responsibility to demonstrate why these rules should be enforced.

Very truly yours,

A handwritten signature in cursive script that reads "John C. Corbett". The signature is fluid and written in dark ink.

John C. Corbett
Vice President - Exploration

JCC/plc

Enclosure

Release Date:
Sept 21, 1988

34 DMC

Do not willdemonobtain

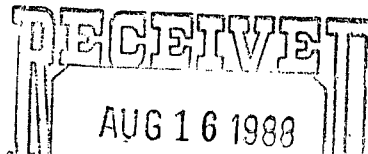
MOBIL EXPLORATION & PRODUCING U.S. INC.

P. O. Box 5444
Denver, Colorado 80217-5444

August 9, 1988

*USL-2584
RULE-104 F(2)*

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088



*West hindrith
Gallup Dakota
Pool
160-Acre dcd
SE 1/4
Section 35*

APPLICATION FOR EXCEPTION
UNORTHODOX LOCATION
LINDRITH B UNIT WELL NO. 75
RIO ARriba COUNTY, NEW MEXICO

Gentlemen:

6

Mobil Producing Texas & New Mexico, Inc. requests administrative exception for the unorthodox location 1290' FSL and 2100' FEL of section 35, T25N, R3W, NMPM, in the Lindrith B Unit, Rio Arriba County, New Mexico. This unorthodox location is required for the preservation of antiquities found in the proximity of any normal location in the Southeast quarter of section 35.

Hixon Development Company is the Lessee of Record of offsetting Gallup-Dakota properties. Copy of the letter informing them of this application is enclosed. They have voiced an objection to our site selection but, as indicated in the archeological report, a suitable location is difficult to locate within this quarter section.

Copies of the original C-102, Survey Plat of the Location, and the topographic map of the immediate area are contained in the archeological survey report which is enclosed.

If you have any questions regarding this request, please contact W. E. Landry at the above address or by telephone, (303) 298-2620.

Yours Truly,

B. R. Maynard
Regulatory Compliance Manager

WEL/att

CC: Energy and Minerals Department
Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, New Mexico 87410

MOBIL EXPLORATION & PRODUCING U.S. INC.

P. O. Box 5444
Denver, Colorado 80217-5444

August 9, 1988

Hixon Development Company
P. O. Box 2810
Farmington, N. M. 87499
Attention: Mr John C. Corbett

APPLICATION FOR EXCEPTION
UNORTHODOX LOCATION
LINDRITH B UNIT WELL NO. 75
RIO ARriba COUNTY, NEW MEXICO

Gentlemen:

Thank you for your prompt reply to our letter request for your approval of the unorthodox location for this well. Unfortunately, we are unable to change this well location due to the antiquities on the surface and the topography of the area.

Yours Truly,



B. R. Maynard
Regulatory Compliance Manager

WEL/att

CC: Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

CC: Energy and Minerals Department
Oil Conservation Division
1000 Rio Brazos Rd.
Aztec, New Mexico 87410

2

DIVISION OF CONSERVATION ARCHAEOLOGY

San Juan County Museum Association
Farmington, New Mexico

An Archaeological Survey of
the Lindrith B Unit Well No. 75
Proposed Well Pad, Access Road, and
Pipeline, Rio Arriba County, New Mexico

for

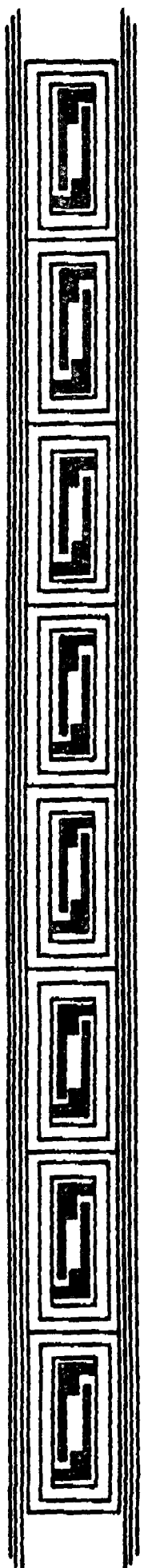
Mobil Oil Corporation

by

Gary M. Brown
Supervisory Archaeologist

Technical Report No. 1359

July 22, 1988



3

Project No. 84-88-C

Cultural Resource Use Permit
7-2920-87-D (NM BLM)

An Archaeological Survey of
the Lindrith B Unit Well No. 75
Proposed Well Pad, Access Road, and
Pipeline, Rio Arriba County, New Mexico

for

Mobil Oil Corporation

by

Gary M. Brown
Supervisory Archaeologist

Submitted by

Byron P. Johnson
Director

DIVISION OF CONSERVATION ARCHAEOLOGY

Technical Report No. 1359
San Juan County Archaeological Research Center and Library

July 22, 1988

4

ABSTRACT

On July 6 and 13, 1988, the Division of Conservation Archaeology of the San Juan County Museum Association completed an archaeological survey of the proposed well pad for the Lindrith B Unit Well No. 75 and an associated access road and pipeline for Mobil Oil Corporation. The survey area is located north of Gavilan Canyon approximately five miles northwest of Lindrith, New Mexico and is privately owned with minerals under the jurisdiction of the Bureau of Land Management. Approximately 43.5 acres were intensively inventoried.

Nine sites and 12 isolated loci were recorded in attempting to find a location which should not adversely affect significant cultural resources. The nine sites include 13 Anasazi components, four of which could be assigned to the early Rosa Phase (ca. A.D. 780-750) and five to the Gallina Phase (ca. A.D. 1000-1300). Most of these comprise a clustered site complex on a ridge north of Gavilan Canyon. Two historic Euro-American components were also identified including a homestead occupied during the early-mid twentieth century by the Welch family whose descendants still reside in the area.

The documentation of the isolates in the field has exhausted their research potential. Archaeological clearance is recommended with the following stipulations: The original well location cannot be used without destroying DCA-88-159. A new location therefore was surveyed. The proposed access road also had to be relocated to move it away from significant sites.

5

INTRODUCTION

On July 6 and 13, 1988, the Division of Conservation Archaeology (DCA) of the San Juan County Museum Association conducted an archaeological survey for Mobil Oil Corporation of Cortez, Colorado. Clyde Benally of Mobil Oil requested the survey on July 5, 1988 and Richard Floyd administered the project for Mobil Oil Corporation. 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 Policy 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 7-2920-87-D (NM BLM).

Gary Brown and Jerry Williams, DCA archaeologists, surveyed the project area for cultural remains. Richard Floyd of Mobil Oil Corporation accompanied the archaeologists during the survey.

METHODS

The area was surveyed by walking consecutive parallel transects spaced 30 to 50 ft apart across the proposed well pad. This area was expanded greatly when the effort to find an area of suitable size devoid of cultural resources resulted in the discovery of a dense concentration of sites. A buffer zone of 100 ft around the perimeter of the ultimate location also was inspected for cultural resources. 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 DCA and the Bureau of Land Management (BLM), Farmington Resource Area offices to determine if any sites had been recorded in the project area. Site and project records required by the BLM and the NMHPD were completed.

The records search revealed the presence of 23 previously recorded sites within a one mile radius of the project area (BLM Supplement 1-A). Only one previously recorded site is located within 1000 ft of the area surveyed.

PROJECT DESCRIPTION

Lindrith B Unit Well No. 75, Access Road, and Pipeline

Legal Description: T25N, R3W, Section 35, S 1/2 NW 1/4 SE 1/4
N 1/2 SW 1/4 SE 1/4 (well location
with
alternates)
T25N, R3W, Section 35, NE 1/4 NW 1/4 SE 1/4
E 1/2 SW 1/4 NE 1/4 (original
access road)
T25N, R3W, Section 35, W 1/2 NW 1/4 SE 1/4
SE 1/4 SE 1/4 NW 1/4 (alternate
access road)
T25N, R3W, Section 35, SW 1/4 NW 1/4 SE 1/4
All NE 1/4 SW 1/4
All SW 1/4 NW 1/4
S 1/2 NW 1/4 NW 1/4 (pipeline)
T25N, R3W, Section 35, 1800' F/SL, 1900' F/EL (original
location)
T25N, R3W, Section 35, 1290' F/SL, 2100' F/EL (final
location)
N.M.P.M., Rio Arriba County, New Mexico

Map Source: U.S.G.S. 7.5' Lindrith, New Mexico (1963)

Land Jurisdiction: Private Land with BLM Mineral Rights

Project Area: 265' x 300' (well pad)

Surveyed Area: 265' x 300' (original well pad)
850' x 100' (original access road with buffer)
1200' x 900' (alternate well pads with buffers)
2100' x 100' (alternate access road with buffer)
4400' x 100' (pipeline with buffer)
43.49 Acres

Description: The survey area is located in mesa country north of Gavilan Canyon approximately five miles northwest of Lindrith, New Mexico. The proposed well location is on a southeast-trending ridge system between two intermittent tributaries of Gavilan Canyon (Figure 1). Elevation is 7100 ft (2165m) above sea level. Several locations were surveyed due to a relocation of the well pad predicated by the presence of cultural resources in the original location. Similarly, two prospective rights-of-way were inspected because the original access route coincided with an abundance of cultural resources.

The original well location is on the west side of the main southeast-trending ridge. The area has a moderate slope toward the west and is dominated by pinyon (Pinus edulis) and juniper (Juniperus sp.) woodland with a sparse understory consisting of sagebrush (Artemisia tridentata), rabbitbrush (Chrysothamnus nauseosus), and various grasses. There are also several localized stands of Gambel oak (Quercus gambelii). Ground surface is

covered approximately 30-40% by the plant cover. The ridge is underlain by a light-colored sandstone of the San Jose Formation which outcrops in a few eroded places, but is generally capped by fairly deep deposits of eolian silt. Surficial sediments range from silt to fine sand.

Additional areas were inspected to the southeast on the eastern side of the ridge when the preliminary survey showed that the original location was not feasible. The ridgeline runs approximately north/south through the survey area between the two locations. The eastern side has been chained and seeded, though it too was originally pinyon-juniper woodland. An access route was designated through this area north toward an existing road. The archaeologist inspected this proposed right-of-way along a 850 ft segment north as far as a fenceline which divides the north and south halves of the section, but this endeavor was abandoned due to the abundance of cultural resources on the east side of the ridge.

A consultation between the archaeologists and Mobil field representative Richard Floyd followed these preliminary frustrations. A location west of the ridge, to the southwest of the original location, was selected as a possible place for the well pad. A cursory inspection showed this location to be feasible. Surveyors from San Juan Engineering Co., Farmington, staked the alternate location on July 13. This location is on a gentle west-northwest-facing colluvial slope which has been plowed and seeded as grazing pasture. Originally, the location probably marked the transition between pinyon-juniper woodland on the ridge and meadow grassland in the small valley to the west. This valley is drained by an intermittent stream into Gavilan Canyon a mile to the south.

The proposed access road for the location extends northwest along the transition between woodland and grassland communities at the foot of the ridge to connect with a two-track road on the west side of a north/south fenceline which divides the east and west halves of the section. The two-track traverses a pinyon-juniper woodland for a short distance before intersecting with an existing access road. The total length of the route which would need to be upgraded is 2100 ft about equally divided between the existing two-track and presently undeveloped land.

Finally, a pipeline right-of-way is also needed for the proposed oil well. This right-of-way extends northwest up the small valley for approximately three-fourths mile before tying into an existing pipeline. The valley is alluviated and contains a deep silty loam. Vegetation is predominantly grassland with shrubs such as sagebrush, rabbitbrush, and saltbush (Atriplex canescens) and a variety of forbs. Plant cover is about 25-30%.

Cultural Resources

The survey resulted in the discovery of an abundance of cultural resources. Nine archaeological sites and 12 isolated artifact locations were distinguished by the cultural resource inventory. The density of cultural resources made it difficult to identify individual sites. It would be possible to split or lump the cultural resource locations in different ways. The approach taken sought a balance between project management concerns and

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the definition of meaningful units of archaeological space to be incorporated into the archaeological data base. The evidence of multiple occupations at differing time periods in the project area made the latter task difficult to achieve. The occupations appear to overlap and there is an abundance of isolated materials scattered amongst those areas that were actually inhabited.

The nine sites are all situated along the top and sides of a south-trending ridge system which divides two intermittent tributaries of Gavilan Canyon to the south (see Figure 1). Although much of the area has been chained, all of the sites are located in pinyon-juniper woodlands or chained woodland environments. Anasazi cultural materials are predominant but there are also two historic Euro-American properties. Among the Anasazi materials the Gallina Phase (ca. A.D. 1000-1300) is best represented, though several early Rosa Phase (ca. A.D. 700-750) components were also identified.

DCA-88-159

This large Anasazi site was discovered in the western half of the originally proposed well pad location. It is a fairly extensive artifact and fire-cracked rock scatter associated with features and obvious subsurface cultural deposits on the west side of the ridge system. Surface observations yielded an estimate of roughly 300 sherds and 40 lithic items including two utilized flakes, a hammerstone, and three obsidian projectile points (Figure 2). Ceramic materials are predominantly plain graywares, many of them classifiable as Gallina Plain Gray. Some are probably earlier types and approximately 30 brownware sherds appear to be Rosa Brown. About one-third of the sherds are Gallina Black-on-gray, but two true whitewares were also noted. Both the ceramic assemblage and the projectile points suggest a Rosa Phase occupation prior to the main occupation during the Gallina Phase.

Features at the site include two rectilinear rock alignments which appear to be single-room structures and another linear alignment interpreted as a checkdam associated with agricultural production. Two rather extensive midden areas also are present, one associated with one of the probable structures. The other midden has a vague cluster of oxidized rocks within it but no other associated features, though there appears to be substantial buried cultural deposits. The second midden also contains most of the Rosa Phase materials, along with Gallina materials, while the other features appear to be related exclusively to the Gallina occupation. Both components evidently represent habitations, though no Pueblo I structures were identified.

DCA-88-160

The northeast edge of this extensive Anasazi site was encountered during inspection of the buffer zone around the final well pad location. The artifact scatter originally encountered was followed upslope onto a finger ridge to the southeast where a heavy to moderate scatter associated with features was discovered. A second concentration of artifacts and features was found farther east where the finger ridge intersects the main south-trending ridge at a moderate rise in the main ridgeline. Cultural resources also extend downslope to the east of the main ridgeline as well as south along the ridge. The extensive surface scatter of artifacts and fire-cracked rock includes an estimated 1000 sherds and 350 lithic items. A large, worn-out two-hand mano, three one-hand manos, and a small basin metate (possibly a

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shallow mortar) comprise the groundstone assemblage accompanied by three hammerstones and a bifacially worked sandstone tablet.

Chipped stone tools consist of two bifacial drills, six biface fragments, one flake tool, and two core tools. The ceramic assemblage is about half plain grayware and one-third Gallina Black-on-gray with the remainder consisting of a few dozen brownwares and several true whitewares including a probable Cibola whiteware with a Pueblo I design (Piedra style). Most of the graywares appear to be Gallina Plain Gray, but there are several sand-tempered specimens which are most likely Rosa Gray. About five of the latter examples are classic Pueblo I neckbanded sherds, while several others are punctuated.

Two apparent habitation structures were identified. One is a masonry single-room structure on the crest of the main ridge and is associated with a rich midden deposit containing Gallina Phase pottery. The other structure is more amorphous with only a vague rock alignment and upright slab suggesting the presence of a perishable square or rectangular superstructure. A slab-lined roasting pit and a heavy surface artifact scatter are associated with this structure, but there is no definite midden deposit. This may be due to heavy slope erosion west of the structure which has washed artifacts downslope toward the proposed well pad. Both Rosa Phase and Gallina Phase pottery occur on this part of the site, though the structure is assumed to be Rosa Phase. An additional midden on the east side of the site also seems to have mixed Rosa Phase and Gallina Phase materials. Cultural depth at the site appears to be substantial, thus it is possible that discrete components could be separated through excavations. The site displays great potential for further investigations.

DCA-88-161

This large but sparse and diffuse sherd and lithic scatter was encountered during inspection southeast of the originally proposed well location in attempting to find a suitable area lacking significant cultural resources. Although the surface scatter is generally light, soil deposition is deep and buried cultural resources are likely. The site area has been chained to clear off the natural pinyon-juniper woodland, making the site somewhat difficult to assess. There is a circular depression on top of a rise in the center of the site which may be a buried pithouse.

Most of the artifacts and fire-cracked rocks are scattered on the slopes surrounding the rise marking the intersection of a finger ridge on the northeast with the main ridge system. Downslope from the rise, northeast along the finger ridge, is the only real concentration of cultural materials, including lithic debitage and a core along with Rosa Gray and Rosa Brown ceramics. One of the latter has thumbnail-impressed designs, but the pottery is generally plainware. The general surface scatter contains Gallina Plain Gray and Gallina Black-on-gray, a biface tip, and a well-made side-notched arrow point (see Figure 2). The point and other Gallina Phase materials seem to be derived from a minor, probably as a limited activity locus related to the surrounding Gallina Phase sites. The main occupation, however, seems to have been early in the Rosa Phase. The probable pitstructure suggests that the site was occupied as a habitation during this time. The total surface assemblage consists of an estimated 100 sherds and 50 lithics.

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DCA-88-162

This small Anasazi site is located down the finger ridge northeast of DCA-88-161. It was found when this area was inspected as a possible alternative location for the proposed well pad. It is a similar site, consisting of a light to moderate surface scatter of pottery, lithics, and one groundstone fragment. A core and a hammerstone also were noted. Like DCA-88-161, a ceramic assemblage dominated by plain gray and brownwares appears to reflect a Rosa Phase occupation. The surface assemblage is small, consisting of 25-30 sherds, thus interpretation of the site is tentative. Moreover, the area has been chained making assessment of the site still more difficult. There are two possible pithouse depressions which suggest habitation. The site also shows additional indications of subsurface cultural resources and likely excavation potential. It may have been occupied at the same time as DCA-88-161 or be a similar hamlet inhabited at a different time in the same general interval. In any event, there is an area of nearly 100m along the finger ridge between the two sites in which only a single piece of groundstone recorded as an isolate (see below) could be found.

DCA-88-163

This sparse and diffuse sherd and lithic scatter is situated on another northeast-trending finger ridge on the east side of the main ridgeline. Like DCA-88-161, the finger protrudes northeast from a slight knoll on top of the main ridge and a circular depression which could indicate a pithouse is located on top of the rise. A second possible pithouse depression is situated downslope to the east. The proposed access road for the originally proposed well location extended north/south through the site, but it was cancelled. Like the entire east side of the ridge, the site area has been chained and is hard to assess.

The surface scatter consists only of about five plain grayware sherds, a groundstone fragment, two hammerstones, a serrated projectile point midsection (see Figure 2), a core, and few flakes. The surface assemblage is too scarce to allow a specific temporal assignment for the site. However, it is possible to interpret the site as a small Anasazi habitation. Additional cultural materials most likely are buried and it seems likely that excavations could recover much additional information on the age and exact function of this small site.

DCA-88-164

The access route to the originally proposed well location extended through this small Anasazi site in the chained woodland environment on the east side of the main ridge which extends south through the project area. The site is situated on the sloping top of an east-trending finger ridge overlooking Gavilan Canyon to the southeast. There are scattered artifacts around the surrounding slopes, but the site itself is a discrete scatter of sherds, lithics, groundstone, and fire-cracked rock. The total number of artifacts in the surface assemblage is only about 20 items. The only tool is a complete one-hand mano, ovoid in shape. Chipped stone consists mainly of chert and chalcedony interior flakes. Most of the sherds are Gallina Plain Gray, but there is one Gallina Black-on-gray sherd. There is a probable pithouse depression on the west end of the site and additional indications of

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construction and occupation of the site did evidently occur during the historic period. According to informant information, the homestead was inhabited by the Welch family, now residing in Lindrith, New Mexico, but had been abandoned by the time of the informant's arrival in the area 25 years ago (Jack Bechtol, personal communication). Most of the debris associated with the homestead is 30-45 years old, but a few items are clearly historic in age. These include several fragments each of purple and aqua glass indicative of pre-World War I manufacture, and one wire-hinged tobacco tin of 1910-1944 manufacture. Bottles and tins may be curated items, but these artifacts along with the condition of some of the structures suggest an initial occupation of the homestead during the early part of the twentieth century.

The Welch homestead is located to the north of the existing road, though a few items are located south of the road and east of the two-track road to be upgraded for access to the proposed well pad. Historic cultural resources in the access road survey area include two horse-drawn plows. Two corrals are located to the north, across the existing road. Both have livestock shelters and one has a loading chute. The latter is mainly of barbed wire stretched between trees, while the other corral is made of logs. Both have collapsed. A third corral on the west end of the site was made of leftover materials including logs, lumber, barber wire, and chicken wire. A reservoir to the south still holds water.

The homestead itself is centrally located between the corrals. An outhouse occurs to the north and there is a chicken coop at the far north end of the site. There are three standing structures within the central part of the site, each associated with a refuse area. What appears to be the most recent of the structures is built of commercial lumber on a log foundation. It is a single-story four-room house with a front porch and a partially fenced yard with a well. Portions of the roof have caved in and it is in a state of disrepair. A partially dug-out log cabin to the northeast may have been the original residence. It is made of notched juniper logs with a log and dirt roof which has collapsed at the north end. The structure has a porch on the south and two interior rooms. A single-room log structure farther northeast may have been a shed or some other type of outbuilding.

Thousands of pieces of metal, glass, rubber, leather, wood, china, and miscellaneous other items are scattered around the general area. There are hundreds of rusted sanitary cans, but no hole-in-top food cans, suggesting that occupation prior to World War I did not occur. Similarly, there are hundreds of pieces of clear glass and only a dozen or so fragments of purple and aqua glass. Two complete bottles were found, but most bottles were recently collected and used for target practice behind the homestead. The complete bottles include a 1920-64 Hazel Glass Co. maker's mark and a 1940-54 Owens-Illinois mark. Several tires of roughly 30-40 year old vintage also occur. Taken as a whole, the main occupation was evidently during the 1940s and 1950s, but the homestead was likely occupied initially during the 1930s or perhaps as early as the 1920s. It seems likely the log dug-out was the original residence and the second house was built after World War II.

In addition to the abundant Euro-American material culture, a few artifacts indicate prehistoric activity. These include several chert flakes

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and a sherd of plain gray pottery. This material is probably derived from limited activity use of the area by Anasazi inhabitants of one of the numerous prehistoric sites in the general area.

Isolated Loci

In addition to the nine archaeological sites recorded during the cultural resource inventory, 12 isolated locations with prehistoric materials were encountered. These cultural resources were designated "isolated loci" and are documented in Table 1. (Their locations are shown in Figure 1.) Most of the isolates occur as scattered artifacts between the densely clustered sites found in the project area. Some are probably artifacts displaced by slopewash or gullying during erosion of the sites, but some may represent ephemeral activities conducted around the sites. It also is possible that buried sites are present in the project area.

The isolated loci contain sherds, chipped stone debitage, and/or stone tools. They range from one to five objects. Like the sites, they reflect substantial prehistoric use of the area during the Rosa and Gallina Phases. Unlike most of the sites, there is no potential for further investigations to yield additional, significant information beyond that produced by the data presented in Table 1.

Recommendations

The cultural resource inventory presented in this report has documented a heavy concentration of prehistoric sites within and adjacent to the project area. Although not a random sample of the area, the results of the survey indicate a density of sites of roughly 135 per square mile. BLM site records suggest that a high site density comparable to this figure might be expected in much of the area around Gavilan Canyon, especially on ridges like that which extends through the present project area. Moreover, many of the sites are extremely large, sites such as DCA-88-160 (3.8 hectares or 9.3 acres) not being unusual. The abundance and richness of the cultural resource base in the area places obvious constraints on modern development projects.

An area of more than 25 acres was inspected by the archaeologists before a tract large enough for well pad construction was found that was devoid of cultural resources. The cooperation and flexibility of Mobil Oil Corporation in attempting to find a suitable location which would not adversely affect significant cultural resources is greatly appreciated. The original proposal had to be cancelled after DCA-88-159 was discovered in the proposed well pad and DCA-88-163 and DCA-88-164 were found along the proposed access route. DCA-88-160, DCA-88-161, and DCA-88-162 were discovered and recorded during the inspection of alternative well locations. A location finally was found 600 ft toward the southwest which did not contain cultural materials. Two isolated loci are present in the buffer zone on the northwest and northeast sides, but these are not significant cultural resources. A very light artifact scatter on the southeast side has evidently resulted from slopewash erosion on the northwest end of DCA-88-160. All intact cultural resources at the site appear to be located upslope to the southeast, well beyond the proposed construction zone. This alternate location, shown in Figure 1, therefore would not damage

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the site. White and blue striped flagging has been placed along the eastern edge of the alternate location and construction should avoid this area (Figure 3).

Once a feasible well location was identified, a new access route was flagged toward the northwest where it joins an existing two-track road and then the main access road farther north which has already been improved. Inspection of this right-of-way resulted in the discovery of sites DCA-88-165, DCA-88-166, and DCA-88-167 and isolates IL-10 and IL-11. The proposed access road and cattle guard were moved toward the southwest to avoid DCA-88-165 which might contain significant buried cultural resources. The site area was flagged with blue and white streamers for avoidance during road construction.

DCA-88-166 is a very minimal site which has been largely destroyed by the existing two-track road and fencelines through the site. The site does not appear to be significant and clearly does not warrant rerouting the access road off the existing two-track. Instead, DCA-88-166 was classified as a Class I site in which no further scientific value would be gained by avoidance or mitigation of further impacts. Upgrading the existing two-track would, at any rate, probably result in no new damage to the site.

The third site on the proposed access road, DCA-88-167, is located where the two-track intersects an existing access road which has been bladed and will require no upgrading. The homestead is north of this road and will not be affected by the proposed project, though some historic materials do extend across the road to the southeast. In particular, there are two horse-drawn plows east of the two-track road which should not be disturbed during road upgrading. The elimination of impacts to any of the cultural resources in proximity to the access right-of-way can be assured by confining construction activities to the south and the west of the existing two-track.

Finally, the proposed project includes a pipeline which would link the oil well with an existing pipeline. The right-of-way extends up the small valley northwest from the well location and was devoid of cultural resources except for an isolated flake in the buffer zone of the proposed well location where the pipeline would enter the well pad and an isolated sherd at the opposite end on the edge of an abandoned well. These isolates, like all of the isolated loci documented in the project area, have been recorded and have no additional scientific value. Archaeological clearance for the proposed pipeline and access road rights-of-way, therefore, is warranted.

Despite the abundance of cultural resources in the immediate area, locations were found that will not jeopardize significant archaeological sites. Clearance is recommended for the final well pad location, access road, and pipeline. Care should be taken to confine construction activities within the staked areas and avoid those areas marked with white and blue flagging.

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Table 1. Isolated Loci Recorded in the Project Area

IL #	Legal Description				UTM Coordinates (Zone 13)	Elevation	Veg. Land-		Description
	T	R	Sec.	1/4 1/4 1/4			Zone	form	
1	25N	3W	35	SE NW SE	4024880N, 310610E	7120	1	1	Biface tip, possibly a dart point, of translucent banded grayish-black obsidian and one fossiliferous white chert secondary decoration flake.
2	25N	3W	35	SE NW SE	4024860N, 310620E	7115	1	1	Semi-translucent black obsidian utilized core reduction flake and one plain gray body sherd.
3	25N	3W	35	SE NW SE	4024840N, 310580E	7110	2	2	Three plain gray body sherds.
4	25N	3W	35	SE NW SE	4024600N, 310700E	7110	1	1	Unifacially ground fragment of gray sandstone slab.
5	25N	3W	35	SE NW SE	4024900N, 310660E	7100	1	2	Semi-translucent black obsidian utilized core reduction flake.
6	25N	3W	35	SW NW SE	4024800N, 310500E	7100	1	2	White chert hammerstone and two plain gray body sherds.
7	25N	3W	35	SW NW SE	4024780N, 310420E	7070	3	2	White fossiliferous chert secondary decoration flake.
8	25N	3W	35	NE NW SE	4025020N, 310630E	7110	1	3	One Rosa Black-on-white bowl rim sherd.
9	25N	3W	35	NE NW SE	4025100N, 310620E	7100	1	2	One Rosa Brown jar rim sherd with single rim flake.

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Table 1. Continued

IL #	Legal Description				UTM Coordinates (Zone 13)	Elevation	Veg. Zone	Land- form	Description
	T	R	Sec.	1/4 1/4 1/4					
10	25N	3W	35	SE SE NW	4025200N, 310230E	7110	2	2	Three plain gray sherds in disturbed area pushed off road by bulldozer. One chert biface fragment and one chert interior flake fragment occur along the north edge of the road farther east.
11	25N	3W	35	SE SE NW	4025260N, 310220E	7110	2	2	One Rosa Brown sherd, one plain gray, and one small groundstone fragment along east edge of road.
12	25N	3W	35	SE NW NW	4025620N, 309740E	7150	2	2	One plain gray body sherd.

KEY

Vegetation: 1 = chained woodland (pinyon-juniper with sage understory)

2 = pinyon-juniper woodland with sage understory

3 = meadow grassland

Landform: 1 = ridge top

2 = colluvial slope

3 = intermittent drainage

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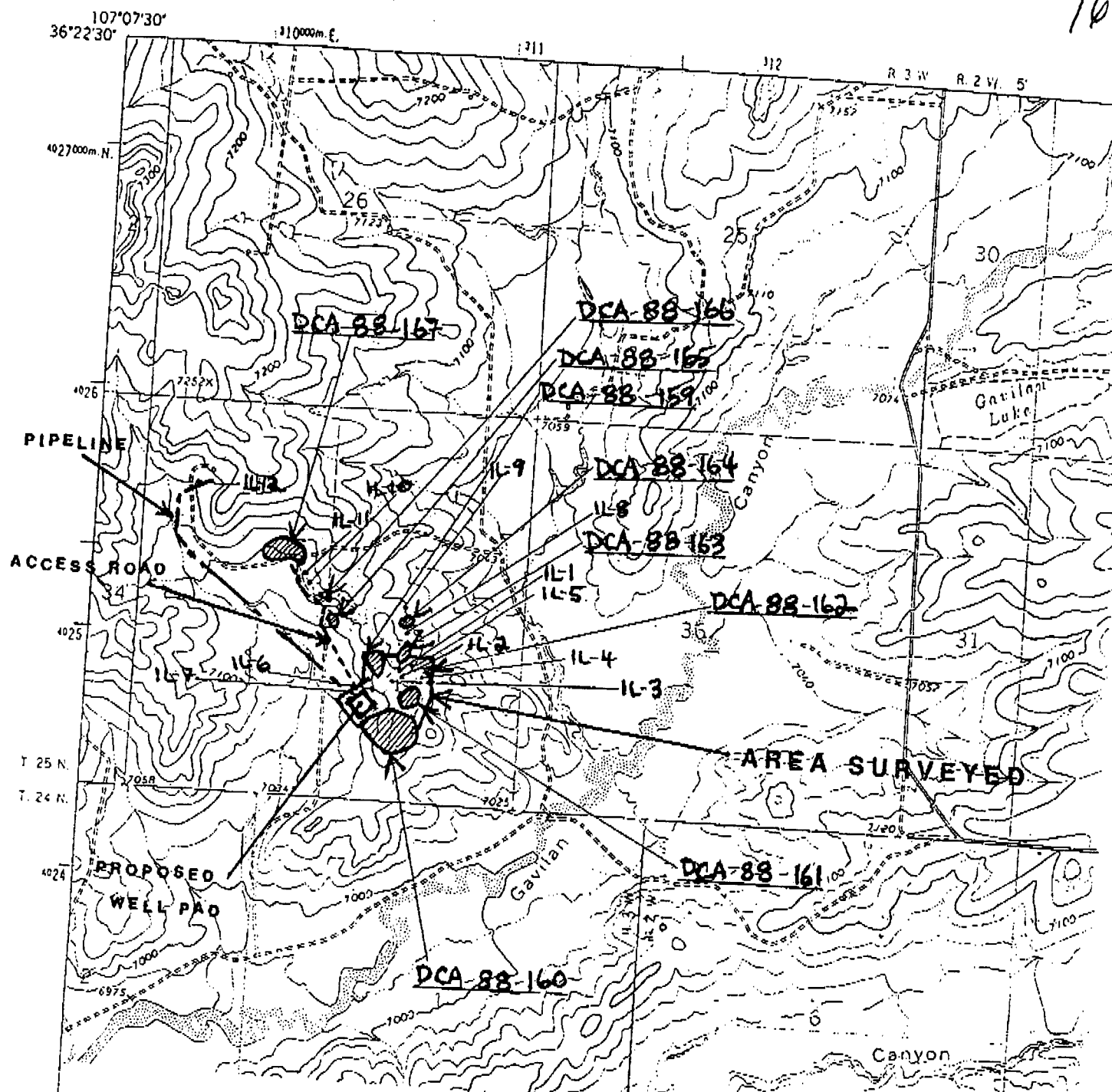


Figure 1. Proposed well pad, access road, and pipeline right-of-way for Lindrith B Unit Well No. 75, Rio Arriba County, NM

LINDRITH, N. MEX.

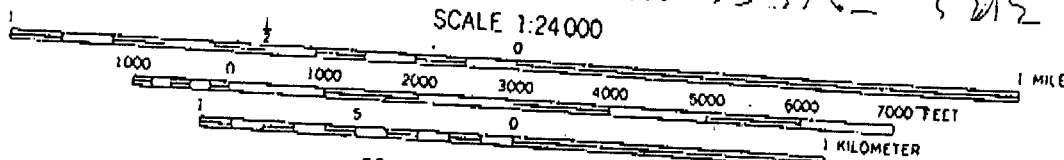
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1963

AMS 4355 I SE-SERIES V881



QUADRANGLE LOCATION



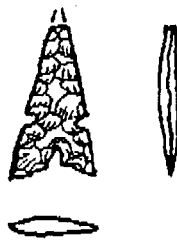
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL

17

SCALE 1:1



PP-1



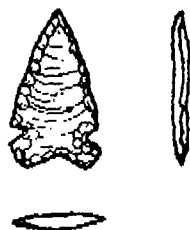
PP-2



PP-3

DCA-88-159

OBSIDIAN



DCA-88-161



DCA-88-163

WHITE CHERT

Figure 2. Projectile Points found in the project area.

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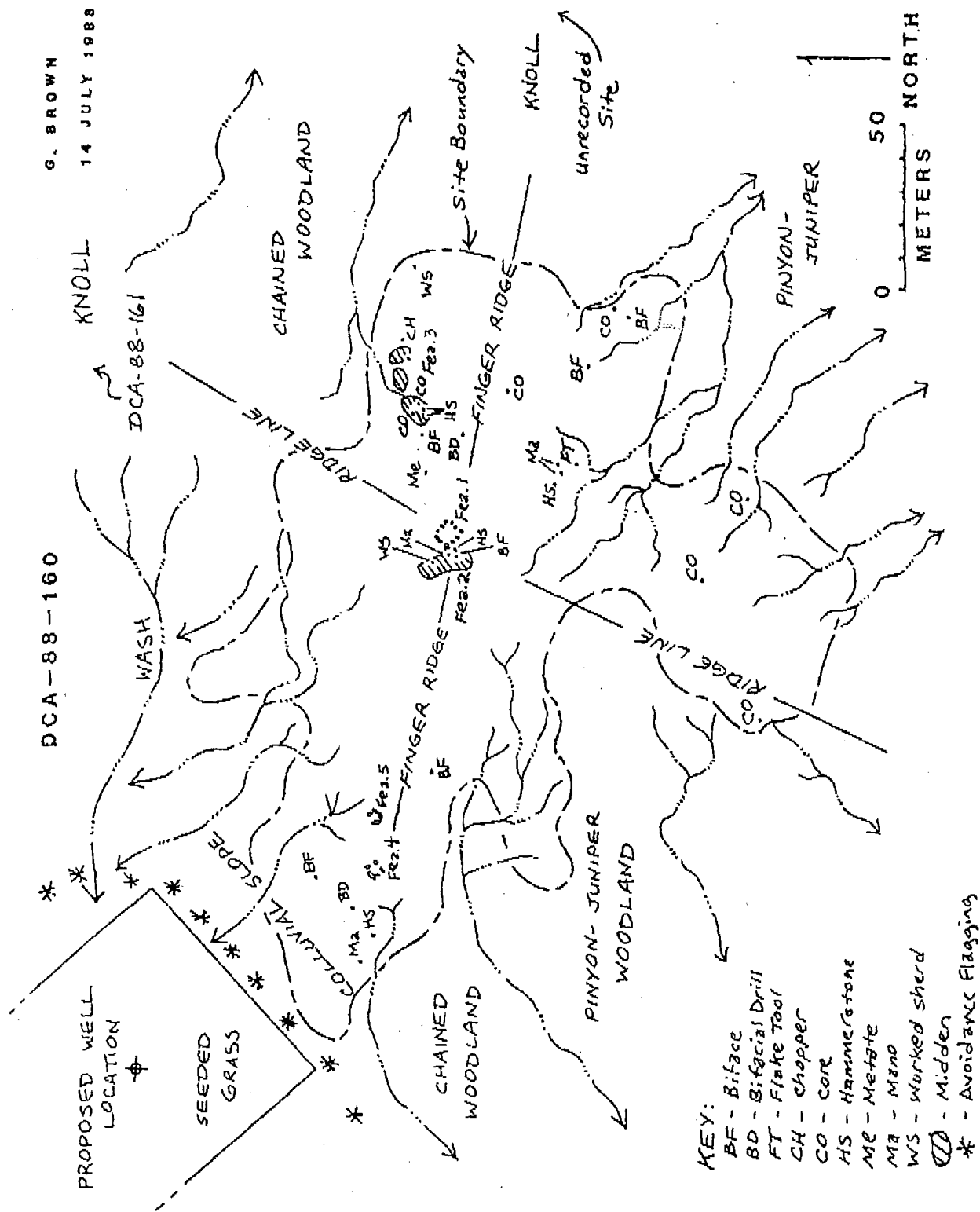


Figure 3. Map of DCA-88-160 showing its relationship to the proposed well pad.

Aug 09, 88 07:35 147050

NEW MEXICO OIL CONSERVATION COMMISSION WELL LOCATION AND ACREAGE DEDICATION PLAT

 Form C-1
Superseded
Effective

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

Operator MOBIL OIL CORPORATION			Lease MOBIL		Well No. B-75
Unit Letter J	Section 35	Township 25 NORTH	Range 3 WEST	County RIO ARriba	
Actual Postage Location of Well: 1800 feet from the SOUTH line and 1900 feet from the EAST line					
Ground Level Elev. 7110	Producing Formation		Pool		Dedicated Acreage

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

☐ Yes ☐ No If answer is "yes," type of consolidation _____

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

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

SECTION 35	
MOBIL B-75	
1800'	
1900'	

CERTIFICATION

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

Name

Position

Company

Date

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

Date Surveyed

JULY 5, 1988

 Registered Professional Engineer
and/or Land Surveyor

J. ROGER M. PROFESSIONAL LAND SURVEYOR

Certificate No.

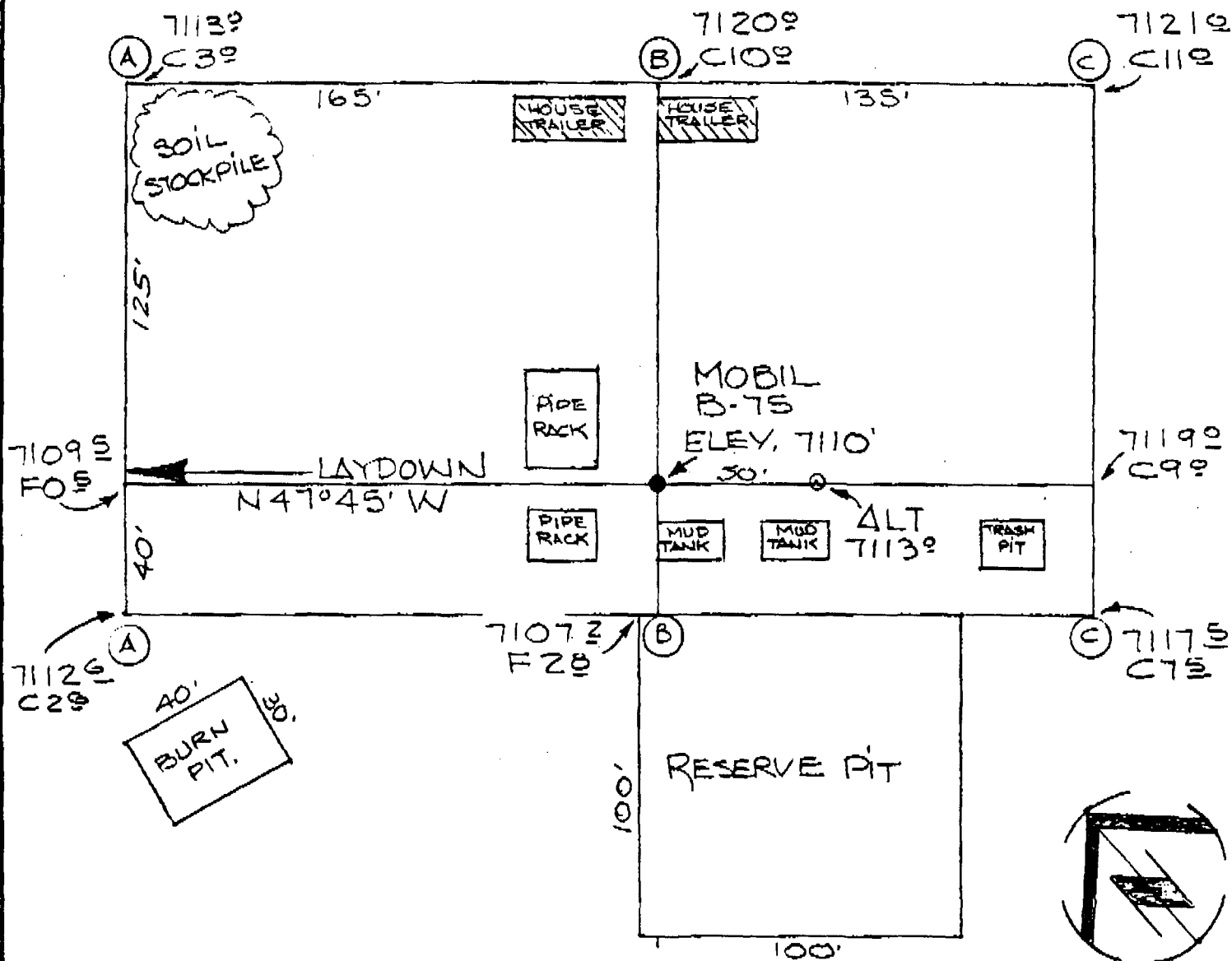
20

WELL PAD LAYOUT FOR

MOBIL OIL

MOBIL B-75

1800 F/SL-1900 F/EL. SECTION 35,
T25N, R3W, N.M.P.M, RIO ARRIBA CO.
NEW MEXICO.



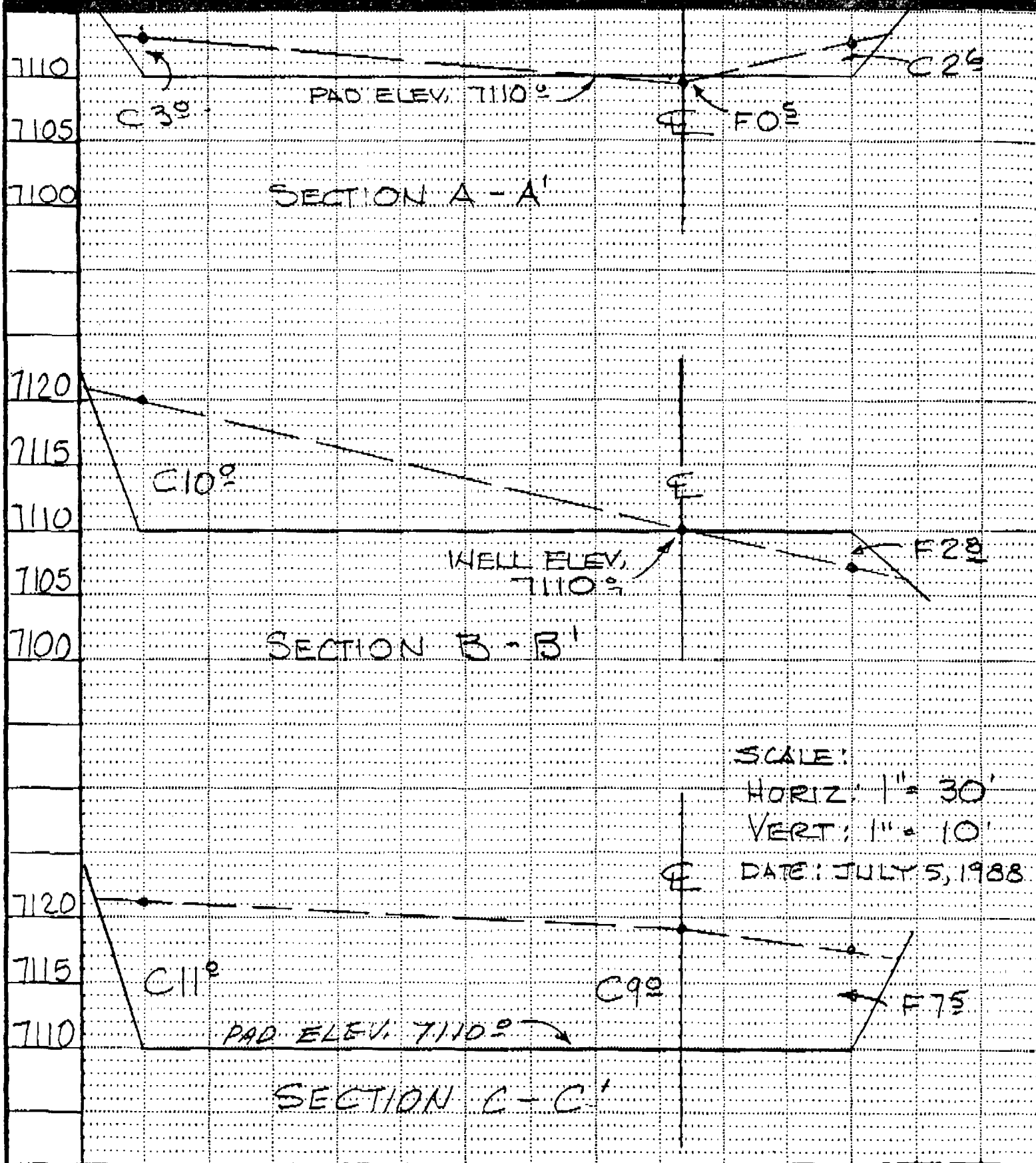
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WELL PAD CROSS SECTIONS
FOR

MOBIL OIL

MOBIL B-75, 1800 F/SL-1900 F/EL SEC. 35,
T25N, R31W, N.M.P.M., RIO ARriba COUNTY
NEW MEXICO.

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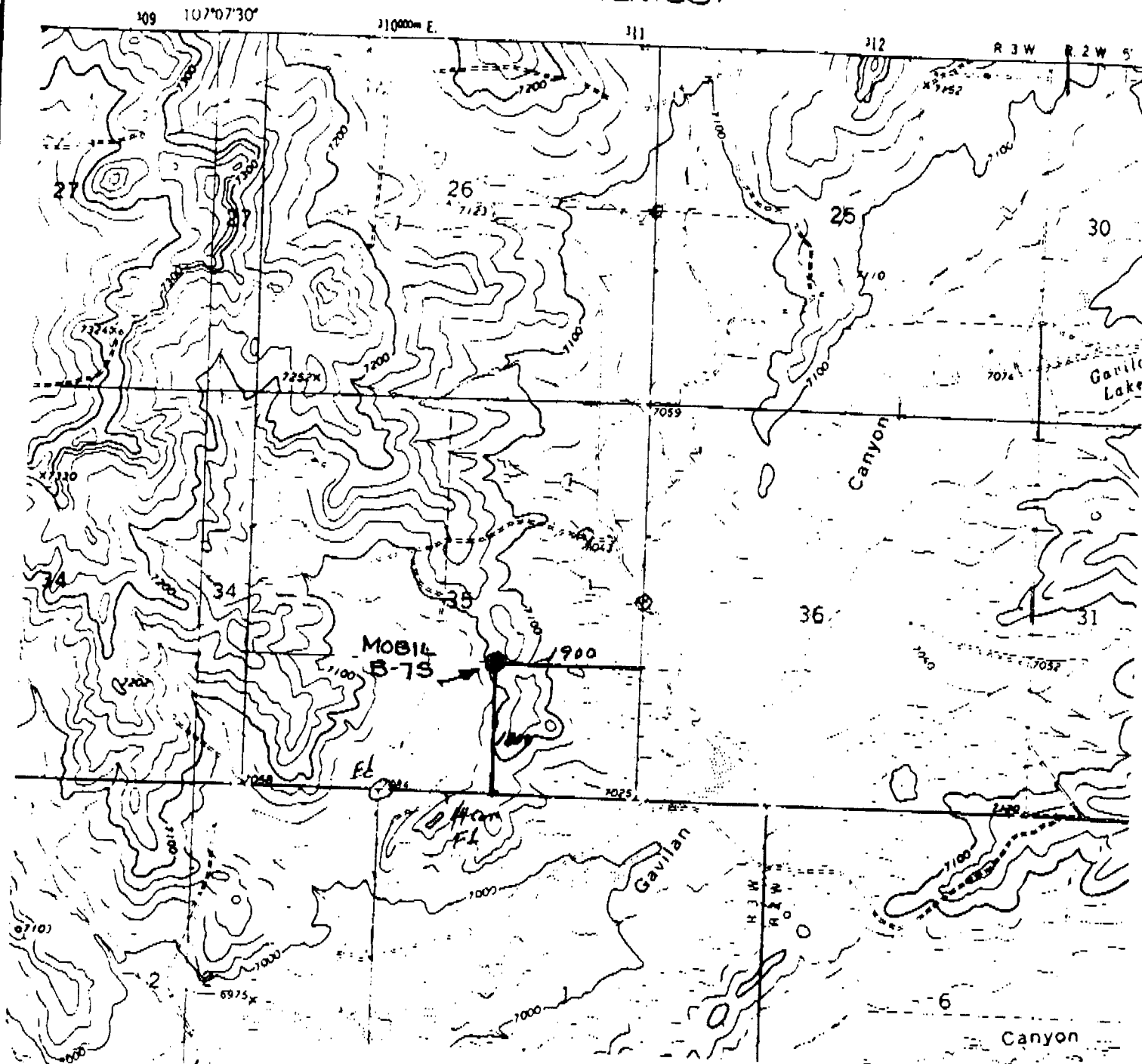


WELL LOCATION MAP MOBIL OIL

B-75

1800F/SL-1900F/EL SEC. 35
T25N, R3W, N.M.P.M. RIO ARriba CO.
NEW MEXICO.

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MOBIL OIL CORPORATION
Mobil B-75
NW 1/4 Sec. 35, T25N, R3W, N.M.P.M.,
Rio Arriba County, NM

SCALE: 1" = 2000'
DATE: JULY 5, 1988