STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

June 27, 1980

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

Amoco Production Company
Amoco Building
17th & Broadway
Denver, Colorado 80202

Attention: Mr. R. B. Giles

Administrative Order NSL-1223

Gentlemen:

Reference is made to your application for approval of a non-standard location for your Gallegos Canyon Unit Well No. 228E located 2320 feet from the North line and 1800 feet from the West line of Section 21, Township 28 North, Range 12 West, NMPM, Basin Dakota Pool, San Juan County, New Mexico.

By authority granted me under the provisions of Rule 3 of Order No. R-1670, the above-described unorthodox location is hereby approved.

Sincerely,

JOE D. RAMEY,
Director

JDR/RLS/dr

cc: Oil Conservation Division - Aztec
Oil & Gas Engineering Committee - Hobbs
U. S. Geological Survey - Farmington

OIL CONSERVATION COMMISSION
S E DISTRICT

OIL CONSERVATION COMMISSION
BOX 2088
SANTA FE, NEW MEXICO

DATE June 24, 1990

RE: Proposed MC _____
Proposed DHC _____
Proposed NSL ✓
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated June 23, 1990

for the Amoco Prod. Co. Gallegos Canyon Unit #229E F-21-28N-12W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours very truly,

Frank T. Chavez

Amoco Production Company

Denver Region
Amoco Building
17th & Broadway
Denver, Colorado 80202

Southern Division
303-830-4040

June 19, 1980

Joe D. Ramey, Director (3)
Department of Energy and Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

File: HAS-216-986.511

Dear Mr. Ramey:

Application for Right to Produce
Basin Dakota Gas from Gallegos Canyon
Unit Well No. 228E at an Unorthodox Well
Location, NW/4 of Section 21-T28N-R12W
San Juan County, New Mexico

By this verified application submitted in triplicate, Amoco, Unit Operator of the Gallegos Canyon Unit with a 51.7% working interest, requests approval to produce gas from the Basin Dakota formation in the Gallegos Canyon Unit Well No. 228E, a Basin Dakota infill well, at the unorthodox location of 2,320' FNL and 1,800' FWL of Section 21-T28N-R12W.

A Form C-102 showing the reason for this unorthodox location is enclosed. A large lithic site, which has considerable archaeological significance, was discovered which prevented us from staking the well in a standard location. The well site is an exception because the permissible location for a Basin Dakota infill well must be at least 790' from the outer boundary line of the undrilled quarter section of the 320-acre proration unit, and be at least 130' from any quarter quarter section line or subdivision inner boundary.

As shown on both the Verification and Affidavit that is a part of this application and the enclosed plat, there are no offset operators to notify because this unorthodox

location is offset by other Gallegos Canyon Unit wells completed in the Basin Dakota pool. If you have no objection to this application, we shall appreciate receiving your administrative approval.

Very truly yours,

R. B. Giles

RBG/mlm

Enclosures

cc:
Frank Chavez, Supervisor District III
New Mexico Oil Conservation Commission
1000 Rio Brazos Road
Aztec, NM 87410

James Simms
United States Geological Survey
P. O. Box 965
Farmington, NM 87401

CX133

VERIFICATION AND AFFIDAVIT

STATE OF COLORADO)
: ss.
COUNTY OF DENVER)

R. B. Giles, of lawful age, being first duly sworn on his oath, deposes and says:

That he is employed in an engineering capacity by Amoco Production Company in its Denver, Colorado, office; that he has been qualified as an expert engineering witness by the New Mexico Oil Conservation Division and his qualifications have been made of record; that he has testified numerous times before the New Mexico Oil Conservation Division on well spacing matters; that Amoco's application for approval to produce gas from the Basin Dakota formation in Gallegos Canyon Unit Well No. 228E in San Juan County, New Mexico, at the unorthodox location described in the application, which is offset by other Gallegos Canyon Unit wells completed in the Basin Dakota formation, was prepared under his direction and supervision; that the matters and things therein set forth are true and correct to the best of his knowledge and beliefs.

R B Giles
R. B. Giles

Subscribed and sworn to before me this 19th day of June, 1980.

Sylvia J. Seaman
NOTARY PUBLIC

My Commission expires:
8-15-80

CX134

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-107
Revised 10-1-78

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

Operator	Lease	Well No.
AMOCO PRODUCTION COMPANY	GALLEGOS CANYON UNIT	228E

Unit Letter	Section	Township	Range	County
F	21	28N	12W	San Juan

Actual Footage Location of Well:
2320 feet from the North line and 1800 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
5544	Dakota	Basin Dakota	320 Acres

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

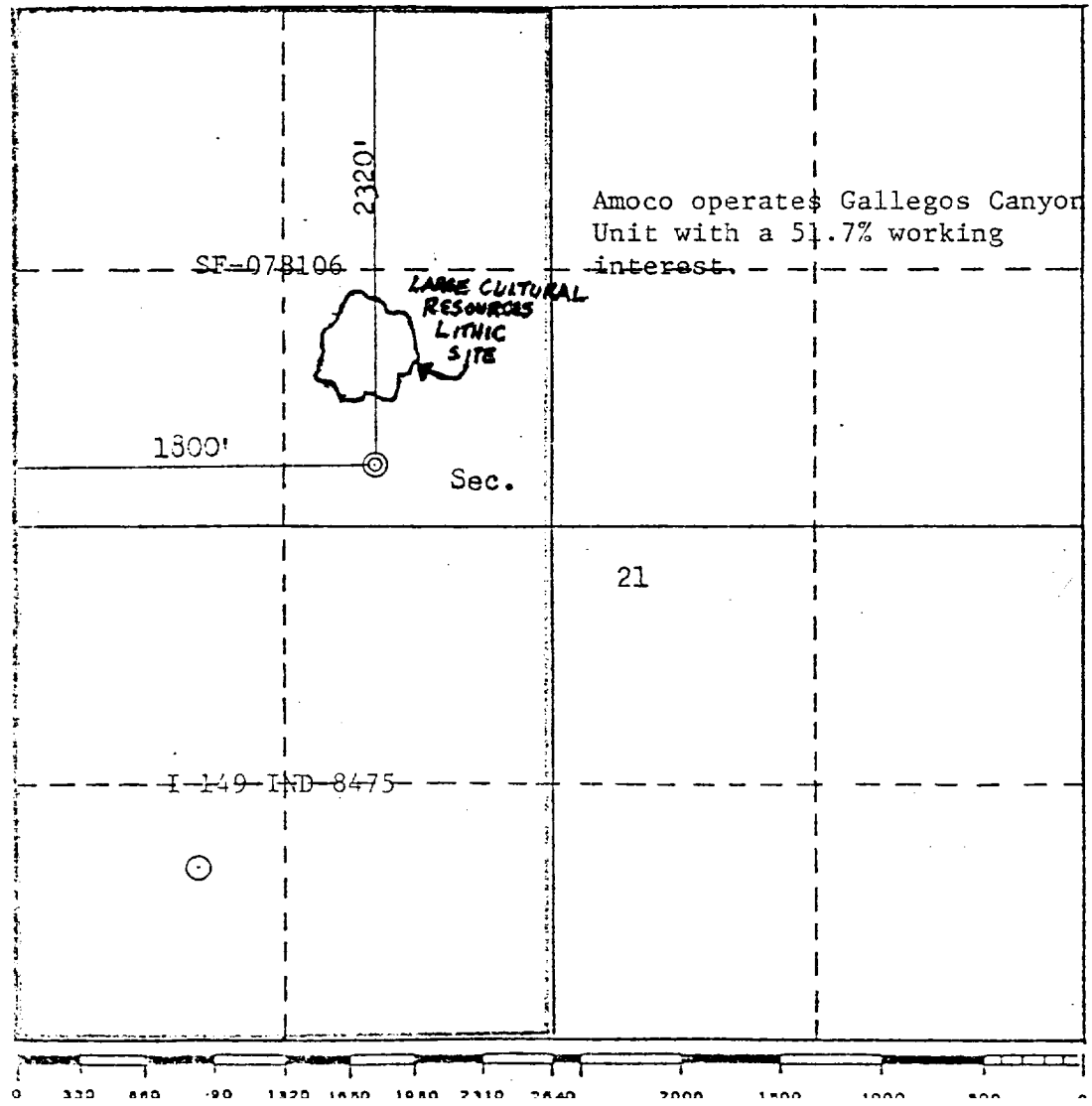
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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 Unitization (Gallegos Canyon Unit)

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.



CERTIFICATION

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

R.A. Downey

Name: R.A. DOWNEY

Position: DISTRICT ENGINEER

Company: AMOCO PRODUCTION COMPANY

Date: MAY 28, 1980

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: May 20, 1980

Registered Professional Engineer and/or Land Surveyor

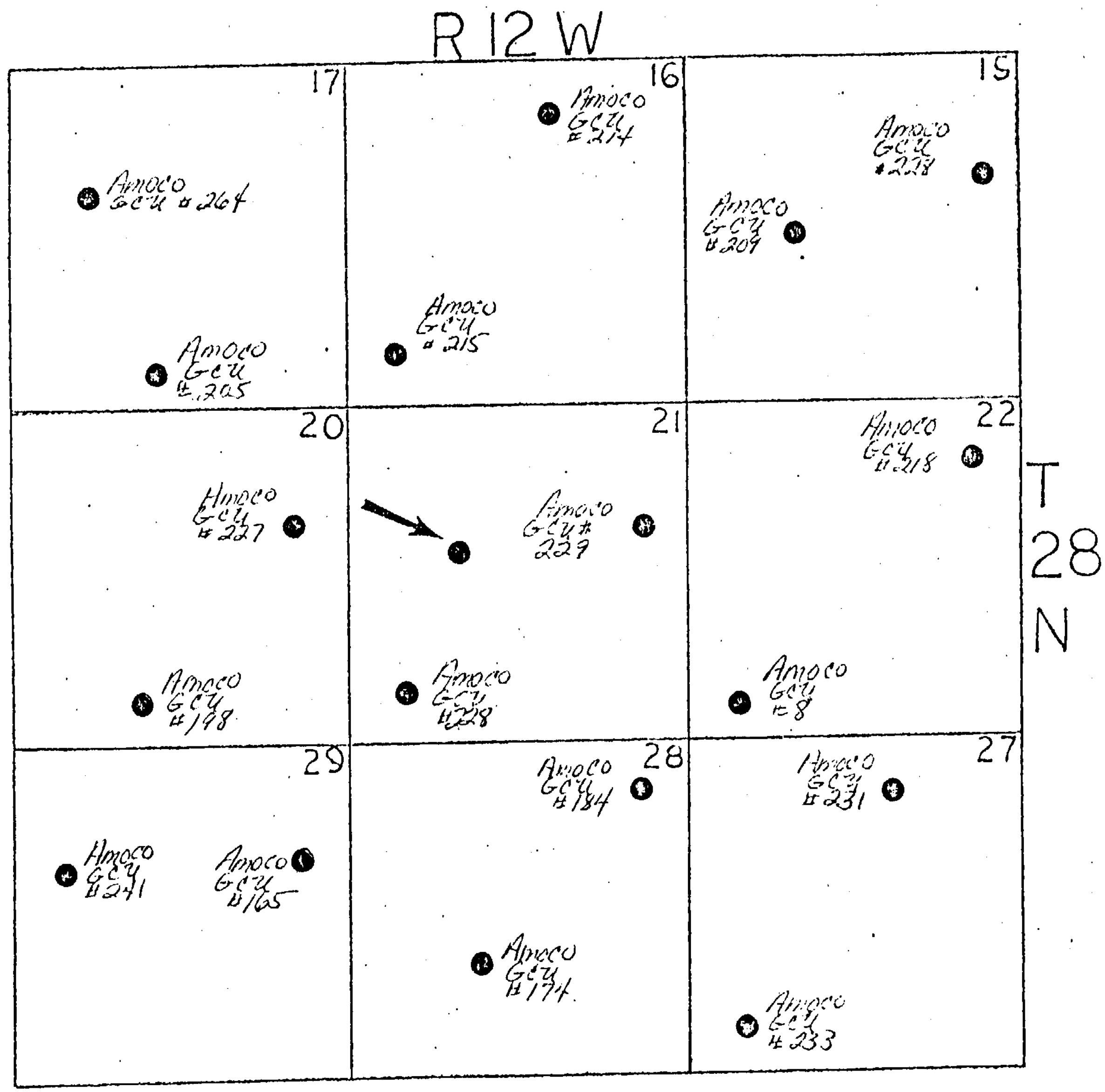
Fred B. Kerr Jr.

Certificate No. 3950

GALLEGOS CANYON UNIT #228E

EXISTING DAKOTA WELLS ●

UNORTHODOX LOCATION ●



Project No. 27-80-MK

Permit No. 79-NM-178
Navajo Nation #46

An Archaeological Clearance Survey of Eight Dakota Inline Well Locations in the Gallegos Canyon Area, Northwestern New Mexico

for

Amoco Production Company

Locations

GCU-174E	GCU-166E
GCU-184E	GCU-204E
GCU-185E	GCU-219E
GCU-186E	GCU-228E

by

Wayne P. Williams

Submitted by
Meade F. Kemrer, Ph.D.
Principal Investigator

Division of Conservation Archaeology

Contributions to Anthropology Series No. 266

San Juan County Archaeological Research Center and Library

May 23, 1980

Abstract

On May 15, 1980, an archaeological clearance survey was conducted by the Division of Conservation Archaeology of the San Juan County Archaeological Research Center and Library, located at Salmon Ruins, New Mexico. The survey involved eight well pads located on lands under the jurisdiction of the Navajo Nation. The survey was conducted for Amoco Production Company, Farmington, New Mexico.

Cultural resources encountered included one lithic site, DCA-80-24, at well pad GCU (Gallegos Canyon Unit) -228E which was resurveyed for necessary realignment. No other archaeological sites were surficially evident; therefore, provided the realignment stipulation is met, archaeological clearance for all locations is recommended.

Introduction

The Division of Conservation Archaeology of the San Juan County Archaeological Research Center and Library conducted a survey of eight well pads on May 15, 1980, at the request of Amoco Production Company of Farmington, New Mexico. The eight Dakota inline well pads are located on the north end of Gallegos Mesa in northwest New Mexico. The involved lands are part of the Navajo Indian Irrigation Project Block 1 area, administered by the Navajo Agricultural Products Industries, and consists of agricultural and Class 6 (non-irrigatable) land classifications.

The survey was initiated on May 6, 1980 by Mr. Len Hughes of Amoco Production Company, and was administered by Mr. Bob Inskeep of Amoco and by Dr. Meade F. Kemrer, Principal Investigator for the Division of Conservation Archaeology.

In recognition of the limited, non-renewable nature of archaeological remains, federal and state governments have enacted legislation that is designed to conserve and protect these resources. The principal federal legislation includes the Antiquities Act of 1906 (PL 52-209), the Historic Preservation Act of 1966 (PL 89-665), 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 states of Arizona, New Mexico, Colorado and Utah 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 for purposes of compliance with these statutes.

The field work was performed by Wayne Williams, Assistant Archaeologist, under the aegis of the Federal Antiquities Act Permit No. 79-NM-178 and a Consent to Issuance of Antiquities permit #46 from the Navajo Nation. The coordinator of the Navajo Nation Cultural Resources Management Program was duly notified two weeks prior to the survey. Mr. Bob Inskeep was present in the field with the archaeologist.

Field Procedures

According to standard Amoco procedures, a 300' x 300' impact area for well pad construction is planned. The proposed well sites were 100% surveyed on foot at parallel intervals of ten meters. All cultural resources in and adjacent to the impact area were recorded.

Access to the well pad impact area in all cases coincided with existing roads. In addition to archaeological data accumulation, other environmental data, such as botanical, zoological and geological information, were observed and recorded.

GCU-228E

Legal Description: 2320' F/NL 1800' F/WL, Section 21, T28N, R12W, NMPM, San Juan County, New Mexico

UTM: Zone 12, 4059680N, 757560E

Map Source: USGS 7.5' Horn Canyon Quadrangle (1965)

Land Jurisdiction: Navajo Nation

Area Surveyed: 700' x 1000' (proposed impact area)

Description: (realignment area and site location)
The proposed impact area is positioned on a colluvial bench, with a north to south aspect overlooking the confluence of Gallegos Wash to the west and an unnamed tributary arroyo to the north. Dunal activity is semi-stabilized to bench edges where aeolian activity increases. Bench fingers jut toward Gallegos Wash and are a probable source of naturally occurring lithic materials. The soil is predominantely aeolian sand above the Nacimiento Formation. Access to this Class 6 land is by existing roads on the eastern boundary of the proposed well site which connect to N-4006, one mile distant. Juniper is the dominant vegetation. Other sparse vegetative growths include rabbitbrush, snakeweed, wolfberry (Lycium pallidum) and alkali sacaton (Sporobolus airoides).

Cultural Resources: A large lithic site consisting of three lithic scatters, two possible hearths and ground stone occurs about 200' north of the original proposed well pad center. Deflated dunal exposure at the bench edges is recent, thus erosion has not totally disturbed in situ deposits. No temporally diagnostic tools other than a high percentage of ground stone occurs. Artifact flake utilization and concentration appears high. The total site area is approximately 100m x 100m. The condition of the site is relatively good, with abundant additional information retrievable.

Recommendation: Considering factors that determine cultural significance, testing or collection would greatly enhance the evaluation of the temporal or functional aspects for this site. In order to avoid disturbance, the well pad was moved 500' south of the original proposed location, thus placing the site, DCA-80-24, at least 700' north of the proposed impact area. The southern boundary of the site was marked by flagging.

Providing that disturbance does not occur north of the existing flagged line, archaeological clearance is recommended.

Cultural History

The area surveyed for this report is located within an archaeologically sensitive region. Gallegos Canyon is part of the San Juan Basin, an area that has occupied the attention of archaeologists for nearly a century. Archaeologists have defined four major cultural periods within the region.

Paleo-Indian Period

The earliest cultural materials found in the San Juan Basin date to the Folsom period, about 10,000 years old (Hewett 1977). The mode of human adaptation at that time is believed to have been primarily specialized big game hunting, particularly the exploitation of now-extinct species of bison, Bison antiquus and Bison occidentalis. The activities were performed in the context of cool and moist climatic conditions which prevailed in the American Southwest at that time (Haynes 1966).

Archaic Period

Associated with warmer and drier climatic conditions approximating that to today, human exploitation activities appear to have diversified into various types of hunting and food collecting systems (Irwin-Williams 1973). Exactly how these adaptive systems operated and changed is poorly understood. The Archaic period is estimated to have persisted from as early as 9500 B.C. to approximately 100 B.C. (Irwin-Williams and Haynes 1970).

Anasazi Period

Native American plant domesticates such as beans, squash and corn were introduced to the American Southwest from Mexico perhaps as early as 2000 B.C. The impact upon human energy capturing systems, however, appears to have been gradual (Irwin-Williams 1967, 1973). By at least A.D. 1, however, farming was an integral part of human subsistence. The Anasazi period is probably the most familiar Southwestern prehistoric manifestation, for this is the period when masonry or adobe pueblos were constructed. The San Juan Basin contains examples of the more spectacular types of Puebloan architecture at the Aztec National Monument and the Salmon Ruins, near Farmington. The prehistoric Anasazi inhabitants of the region appear to have been abandoned the area ca. A.D. 1300 (Wormington 1970). The reasons for the depopulation of the San Juan Basin constitutes a problem that archaeologists have examined for nearly fifty years without conclusive results.

Navajo Period

Exactly when the Navajo migrated into the northwestern New Mexico region is another unsolved problem. Early Spanish accounts would suggest that the Navajo were in the area by the 1500's, but they may have arrived from the plains to the east by as early as A.D. 1000 (Kluckhohn and Leighton 1946). Late 17th and 18th century

Navajo sites have been found and excavated in the vicinity of Largo and Gobernador Canyons (Keur 1941, Carlson 1965). The Navajo gradually migrated westward into northeastern Arizona beginning in the 18th century (Hester 1962). Abandonment of the San Juan Basin area was completed by 1863. A number of factors have been identified as contributing to Navajo migration, including adverse climatic conditions (Brugge 1972) and avoidance of attack by Spanish, Mexican and later American military forces (Kemrer 1974). The Navajo have always exhibited adaptive flexibility with economic diversification increasing through time as different resources and modes of resource exploitation,such as farming, herding, trade and wage labor, were made available to them (Brugge 1964).

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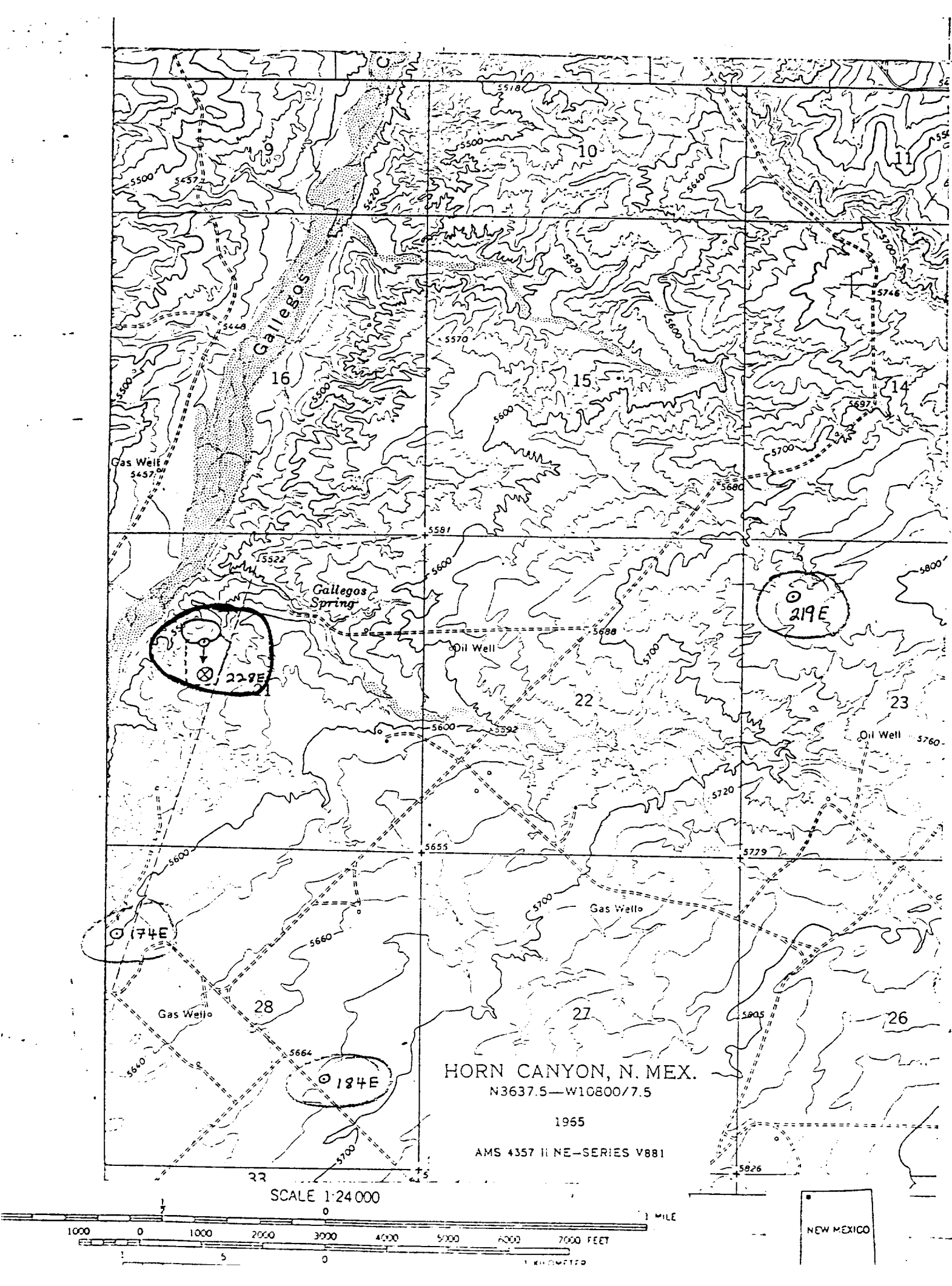
Gallegos
Gallegos Spring
Gas Well
Oil Well
Gas Wells
219E
229E
174E
184E
HORN CANYON, N. MEX.
N3637.5—W10800/7.5
1965
AMS 4357 II NE—SERIES V881
SCALE 1:24 000
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER
NEW MEXICO