CASE 5923: EL PASO NATURAL GAS COMPANY FOR UNDERGROUND GAS STORAGE, SAN JUAN COUNTY, NEW MEXICO

Case Number

5923

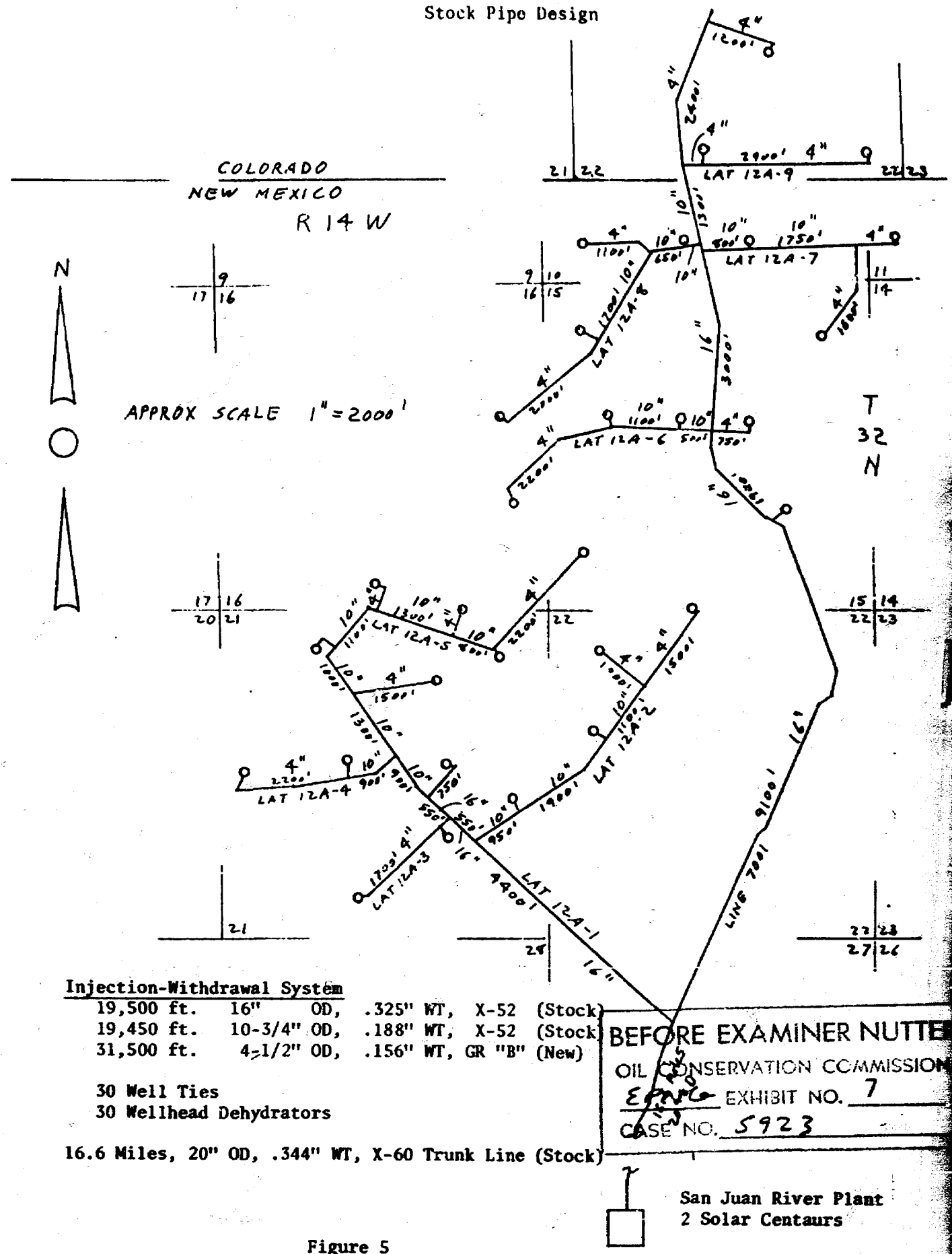
Application

Trascripts

Small Exhibits

ETC.

Stock Pipe Design



Injection-Withdrawal System

19,500 ft.	16"	OD,	.325" WT,	X-52 (Stock)
19,450 ft.	10-3/4"	OD,	.188" WT,	X-52 (Stock)
31,500 ft.	4-1/2"	OD,	.156" WT,	GR "B" (New)

30 Well Ties
30 Wellhead Dehydrators

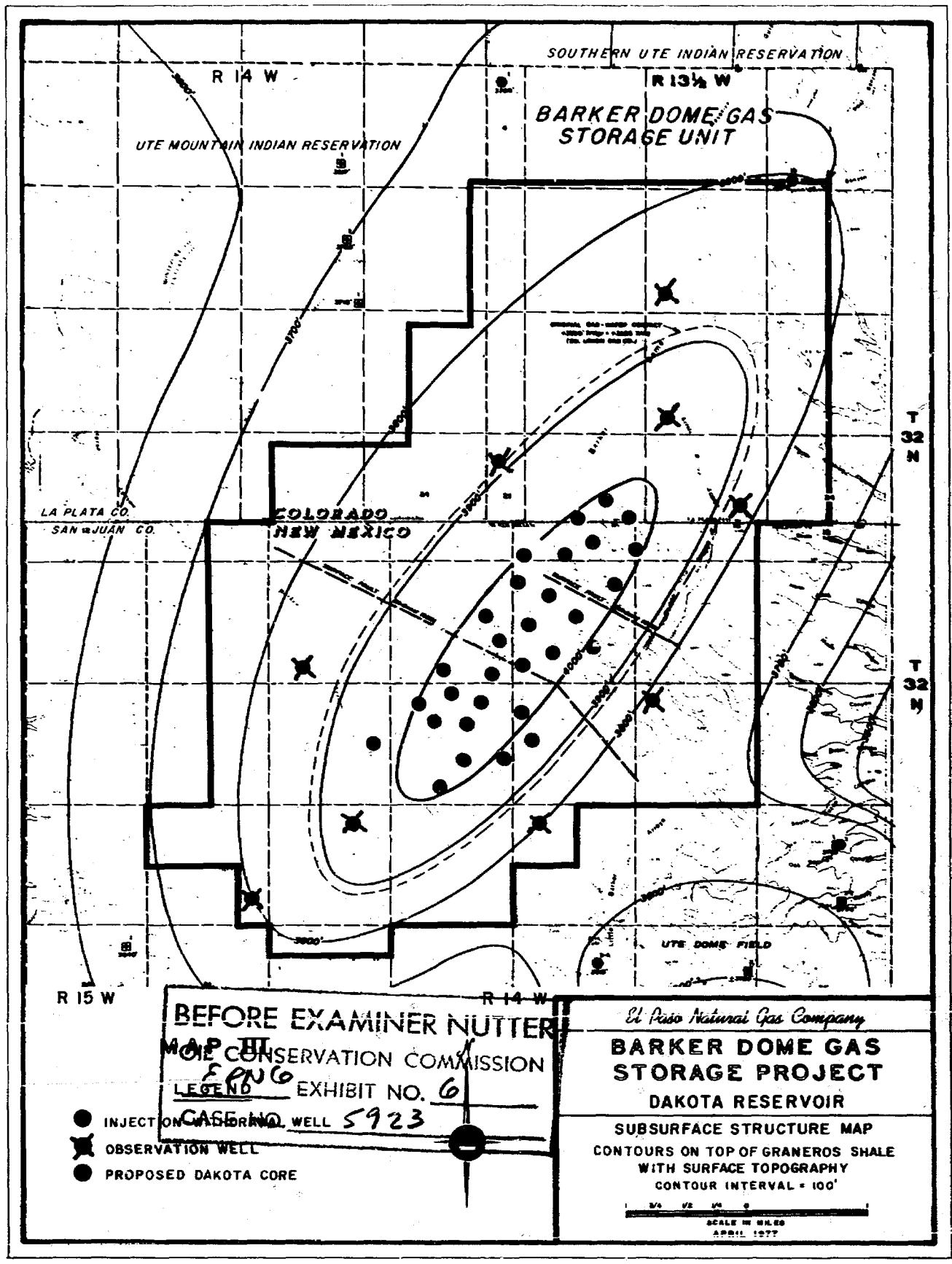
16.6 Miles, 20" OD, .344" WT, X-60 Trunk Line (Stock)

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 7
CASE NO. 5923

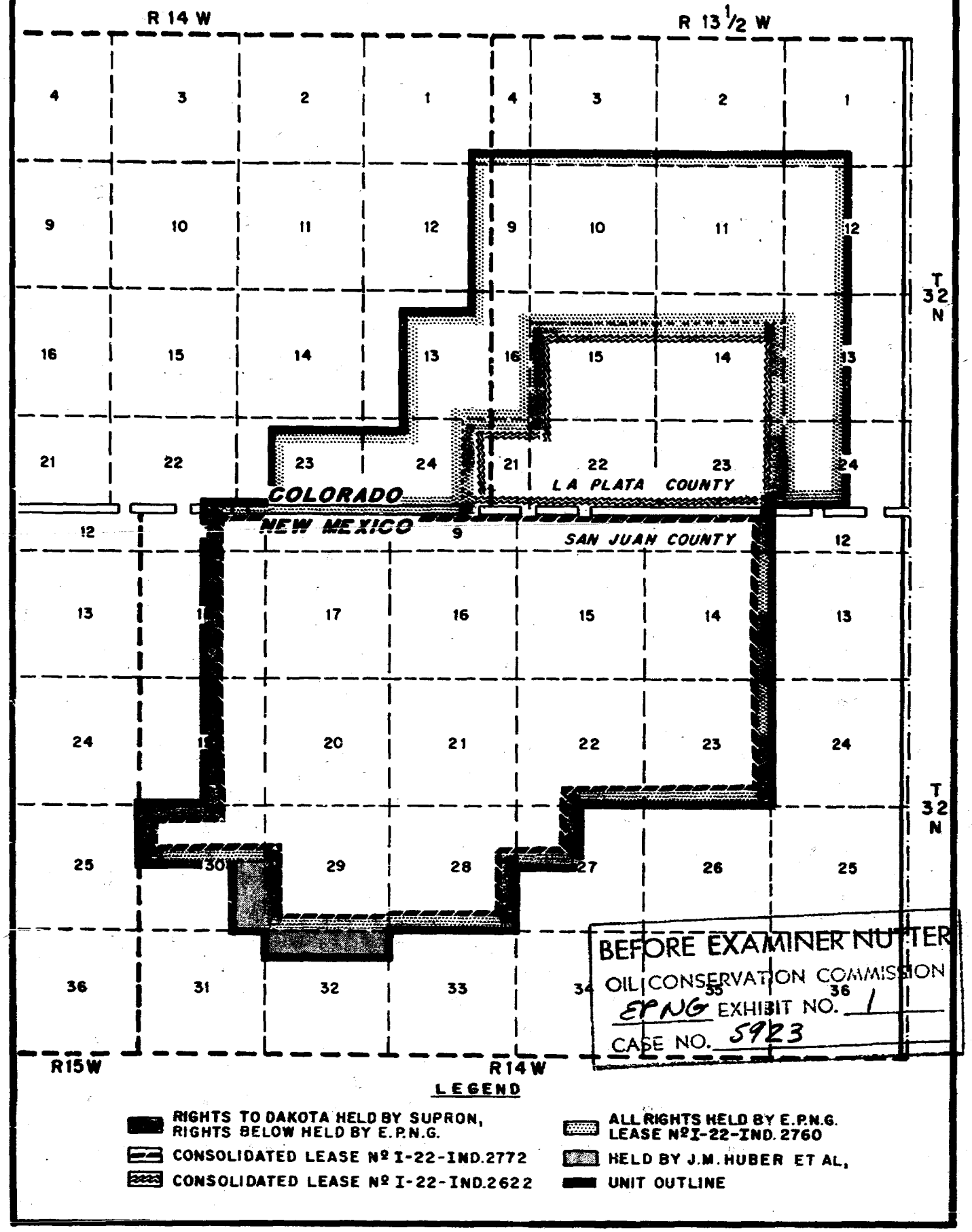
San Juan River Plant
2 Solar Centaurs

Figure 5

4/28/77


SOUTHERN UTE INDIAN RESERVATION
R 14 W
R 13½ W
BARKER DOME GAS STORAGE UNIT
UTE MOUNTAIN INDIAN RESERVATION
T 32 N
T 32 N
LA PLATA CO.
SAN JUAN CO.
COLORADO
NEW MEXICO
UTE DOME FIELD
R 15 W
R 14 W
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 6
CASE NO. 5923
LEGEND
INJECTION / WITHDRAWAL WELL
OBSERVATION WELL
PROPOSED DAKOTA CORE
El Paso Natural Gas Company
BARKER DOME GAS STORAGE PROJECT
DAKOTA RESERVOIR
SUBSURFACE STRUCTURE MAP
CONTOURS ON TOP OF GRANEROS SHALE WITH SURFACE TOPOGRAPHY
CONTOUR INTERVAL = 100'
SCALE IN MILES
APRIL 1977

BARKER DOME GAS UNIT OUTLINE MAP



LEGAL DESCRIPTION OF NEW MEXICO LANDS

COVERED BY BARKER DOME GAS UNIT

SAN JUAN COUNTY, NEW MEXICO

1. Ute Mountain Tribal Lease bearing Contract No. I-22-Ind. 2772 containing approximately 8400 acres of unsurveyed land described as follows:

a. covering lands formerly embraced in lease bearing Contract No. I-22-Ind. 2485, all of which lands, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described by legal subdivisions as follows: All of Sections 15, 16, 17, 20, 21 and 22, the North 1/2 of Section 29, the Northwest 1/4 of Section 28, and those portions of Sections 8, 9 and 10 which lie south of the boundary line between the States of New Mexico and Colorado, all in Township 32 North, Range 14 West, N.M.P.M., containing 4960 acres, more or less;

b. covering lands formerly embraced in lease bearing Contract No. I-22-Ind. 2746, all of which lands, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described by legal subdivisions as follows: That portion of Section 11 lying south of the New Mexico-Colorado state line and all of Sections 14 & 23, Township 32 North, Range 14 West, N.M.P.M., containing 1440 acres, more or less,

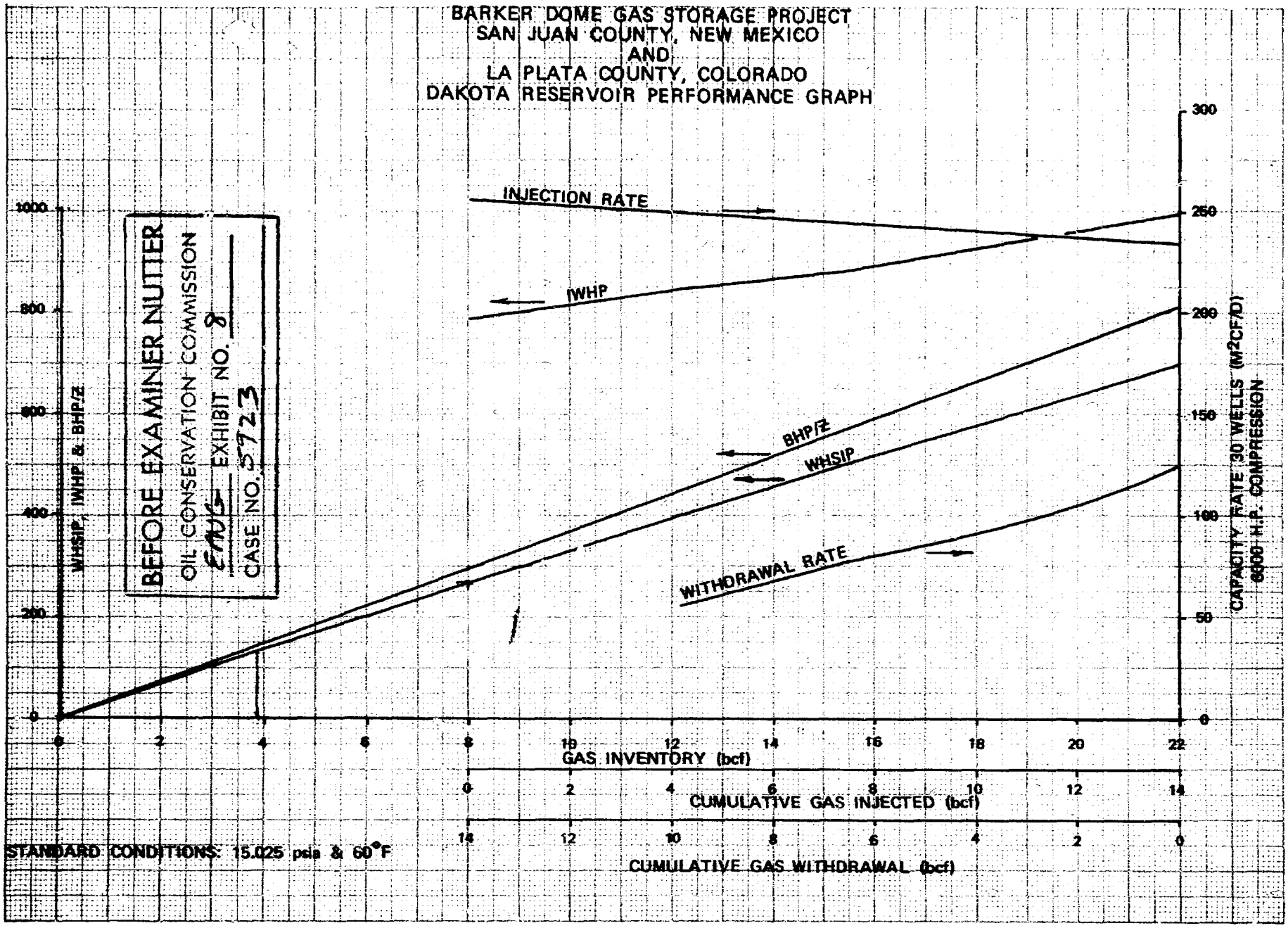
c. covering lands formerly embraced in lease bearing Contract No. I-22-Ind. 2747, all of which lands, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described by legal subdivisions as follows: That portion of the Southeast 1/4 of Section 7 which is south of the New Mexico state line; East 1/2 of Section 18; East 1/2 of Section 19; Northwest 1/4 of Section 27; South 1/2 and Northeast 1/4 of Section 28; South 1/2 of Section 29; North 1/2 of Section 30, Township 32 North, Range 14 West, N.M.P.M., containing 2000 acres, more or less.

2. Ute Mountain Tribal Lease bearing Contract No. MOOC-1420-1708 covering unsurveyed lands insofar, and only insofar, as said lease covers the following described lands which, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described as follows:

Township 32 North, Range 14 West, N.M.P.M.
Section 30: E/2 SE/4
Section 32: N/2 N/2
Containing 240 acres, more or less;

BARKER DOME GAS STORAGE PROJECT
SAN JUAN COUNTY, NEW MEXICO
AND
LA PLATA COUNTY, COLORADO
DAKOTA RESERVOIR PERFORMANCE GRAPH

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EMUS EXHIBIT NO. 8
CASE NO. 5723



STANDARD CONDITIONS: 15.025 psia & 60°F

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 11, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of El Paso Natural Gas Company for underground gas storage, San Juan County, New Mexico. CASE 5923

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Lynn Teschendorf, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: Rand C. Schmidt, Esq.
Associate Counsel
and
David T. Burleson, Esq.
Principal Counsel
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas

MONTGOMERY, ANDREWS & HANNAHS
Attorneys at Law
325 Paseo de Peralta
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EXHIBIT INDEX

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MR. NUTTER: The hearing will come to order. The first case this afternoon will be Case Number 5923.

MS. TESCHENDORF: Case 5923, application of El Paso Natural Gas Company for underground gas storage, San Juan County, New Mexico.

MR. SCHMIDT: My name is Rand Schmidt, I'm from El Paso Natural Gas Company, Office of General Counsel, and I'm representing El Paso here today at this hearing. Mr. David Burleson on my right is also from the Office of General Counsel and is acting as co-counsel today.

I have a letter associating both Mr. Burleson and myself with the local Montgomery, Andrews and Hannahs firm for the purposes of presenting this case.

I have a brief opening statement. El Paso Natural Gas Company proposes to construct and operate certain gas injection and withdrawal facilities so as to convert the Dakota formation of the Barker Dome Gas Field underlying portions of San Juan County, New Mexico and La Plata County, Colorado to a gas storage reservoir. This storage reservoir will be utilized to store gas volumes which would otherwise be delivered to El Paso's low priority east of California customers. This gas will then be used to protect the requirements of El Paso's high priority east of California customers during periods of peak demand.

It is presently anticipated that if required approvals

have been obtained construction of El Paso's facilities will commence in July of this year and initial injections of gas will commence on or about August 15th, 1977.

El Paso has requested this hearing for three reasons. First, El Paso desires to inform the Commission about this project and requests that the Commission raise any objection it may have to the project as proposed by El Paso.

Secondly, El Paso seeks the Commission's approval for El Paso's proposed well completion program which will be described for you shortly. El Paso would ask that the Commission make an expressed finding that this proposed completion program will protect aquifers in the Barker Dome area.

Third, El Paso recognizes that the New Mexico Oil Conservation Commission will be acquiring jurisdiction over natural gas storage projects in the near future. El Paso would request that the Commission issue such authorization and approval as the Commission deems necessary to permit El Paso to implement this project.

I have five witnesses who will testify today, would you like to swear them at this time?

MR. NUTTER: All of them, please.

Are there any other appearances in this case?

(THEREUPON, the witnesses were duly sworn.)

MR. SCHMIDT: My first witness today is Mr. James Permenter.

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JAMES PERMENTER

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SCHMIDT:

Q. Would you please state for the record your name and where you reside?

A. My name is James Permenter and I reside in El Paso, Texas.

Q. By whom are you employed and in what capacity?

A. I'm employed by El Paso Natural Gas Company as Manager of Land Contracts and Titles.

Q. Mr. Permenter, have you had the opportunity to testify previously before this Commission or one of its Examiners?

A. Yes, I have.

Q. Were you qualified as an expert witness at that time?

A. No, I don't think so.

Q. Mr. Permenter, would you please briefly state for the benefit of the Examiner your educational background and employment experience?

A. I have a Bachelor of Arts degree from the University of Texas which I acquired in February of 1955 and an LLB degree

in February of '57. I'm a member of the State Bar of Texas. Since February of '57 I have been employed in the Land Department of El Paso Natural Gas. During this period I worked almost exclusively with oil and gas leases and contracts pertaining thereto.

My present title is Manager of Land Contracts and Titles and among my responsibilities are the examination and approval of titles to oil and gas leases which are purchased by El Paso.

MR. SCHMIDT: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

Q. (Mr. Schmidt continuing.) Will you please describe the area that is to be encompassed by El Paso's proposed Barker Dome Gas Storage Project?

A. The project encompasses approximately fourteen thousand seven hundred and twenty acres of land located in San Juan County, New Mexico and La Plata County, Colorado. Of the total acreage approximately eight thousand six hundred and forty acres are located in New Mexico and the remainder is located in Colorado.

Q. Have you prepared an exhibit showing the geographical area to be included in the Barker Dome Project?

A. Yes, I have.

Q. What was this exhibit prepared from?

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A. It was prepared from information contained in our lease maps. The land descriptions are from the actual oil and gas leases themselves.

Q. Would you please explain this exhibit which is marked for identification as El Paso's Exhibit Number One?

A. As you can see the exhibit shows an outline of the project. In addition the various leases of Indian land contained within the boundaries of the project are shown. There are two leases showing lands in New Mexico, an eighty-four hundred acre oil and gas lease from the Ute Mountain Tribe is outlined in blue and an additional oil and gas lease of two hundred and forty acres also from the Ute Mountain Tribe which is colored in gray on Exhibit One.

In addition this exhibit contains a complete legal description of the land which is encompassed by the project. The land has not actually been surveyed and consequently the legal description is of necessity a description showing what sections of land would be affected if the land were in fact surveyed and platted according to the protracted survey diagram of June 30, 1959.

Q. Were these legal descriptions actually taken from the oil and gas leases that are described on this map, is that correct?

A. That is correct.

MR. SCHMIDT: Mr. Nutter, do you desire that we read

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this legal description into the record?

MR. NUTTER: This is going to be an exhibit, I don't think it will be necessary, just generally refer to it as the lands described by the exhibit.

MR. SCHMIDT: All right.

Q. (Mr. Schmidt continuing.) As I understand it, Mr. Permenter, this exhibit presents a general overview of the area covered by the project, is that correct?

A. Yes, sir.

Q. In your position as Manager of Land contracts and Titles, do you maintain or do you have available to you complete records and descriptions of the ownership of the lands that are encompassed by this project?

A. Yes, we have title opinions and abstracts on all of these lands.

Q. Have you had an opportunity to examine these records?

A. Yes, I have.

Q. In your opinion what is the ownership of the surface and mineral rights of the land encompassed within the proposed boundaries of this storage project insofar as said lands that are located within the State of New Mexico?

A. In my opinion the surface and mineral rights are owned entirely by the Ute Mountain Tribe with the exception of a small portion of Sections 30 and 32 and 32 North, 14 West. Oil and gas rights covered by leases are owned entirely by

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Supron Energy Corporation above the base of the Dakota formation and by El Paso Natural Gas Company below the base of the Dakota.

The oil and gas rights in the portions of Sections 30 and 32 colored in gray on the exhibit are under lease to J. M. Huber Corporation.

Q. Has El Paso approached any of the owners of the surface and mineral rights within the area of this project?

A. Yes, we have.

Q. What agreements have been reached with the owners?

A. Well, we are presently negotiating an agreement with Supron, pursuant to which we will acquire all of the rights in the Dakota underlying the acreage affected. Additionally we are in the process of negotiating an agreement with the Ute Mountain Tribe for a gas storage lease agreement. We met with the Tribal Council in Towaoc, Colorado and representatives of the BIA and USGS in Albuquerque. We believe that we are very close to reaching a final agreement on contract. Once this is achieved we will still need to procure approval of the appropriate representative of the Secretary of the Interior in Washington. We will then have the contract executed by the Ute Mountain Tribe.

Under this agreement El Paso will be compensating the Utes for the use of the surface and for storage rights in the Dakota formation.

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We have yet to hold any discussions with Huber.

Q. Mr. Permenter, do you have anything further you would like to present in this case?

A. No, I do not.

Q. Was Exhibit Number One prepared by you or under your direction?

A. Yes.

MR. SCHMIDT: Mr. Nutter, I would like to move that El Paso Exhibit Number One be admitted into evidence at this time and I have no further direct questions of the witness.

MR. NUTTER: El Paso Exhibit One will be admitted into evidence.

(THEREUPON, El Paso Exhibit One was admitted into evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Permenter, you mentioned that the negotiations with the tribe were for the use of the surface and the installation of a gas storage project. Now, there is some gas remaining in the formation there, are you also negotiating with them for the payment of the royalty due them on the remainder of the gas that is in the reservoir?

A. That's part of the lease.

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MR. NUTTER: Are there any other questions of Mr. Permenter? He may be excused.

(THEREUPON, the witness was excused.)

MARVIN L. MATHENY

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SCHMIDT:

Q. Would you please state your name and where you reside?

A. My name is Marvin L. Matheny and I reside in Farmington, New Mexico.

Q. By whom are you employed and in what capacity?

A. I am employed by El Paso Natural Gas Company as a Senior Geologist.

Q. Have you previously qualified before this Commission or one of its Examiners as a geologist?

A. No, I have not.

Q. Would you please state your educational background and experience as a geologist?

A. I was graduated from the University of New Mexico in 1952 with a Bachelor of Science degree in geology. I began my professional career with El Paso Natural Gas Company as a

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geologist in 1954. In 1957 I was transferred to El Paso Products Company and remained with them through 1968, at which time I was transferred back to the Gas Company. During that time I served as Eastern Division Geologist in the area of Lake Erie and the Appalachian Basin supervising and conducting exploration and development for oil and gas. I also served as Western Division Geologist doing approximately the same thing in the Rocky Mountain area.

Q. You are a Certified Petroleum Geologist and a Certified Professional Geological Scientist, is that correct?

A. Yes, I hold Certificate Number 829, a Certified Petroleum Geologist in the AAPG and Certificate Number 3393 from the APGS.

MR. SCHMIDT: Mr. Nutter, are the witness' qualifications acceptable?

MR. NUTTER: Yes, they are.

Q. (Mr. Schmidt continuing.) Mr. Matheny, do you have an exhibit which sets forth the general geology and the topography of the Barker Dome area?

A. Yes, I do.

Q. What have you used to prepare this exhibit?

A. Electrical logs, scout tickets, cable tool drillers' records, topographic maps, aerial photographs, photo-geologic maps and previously constructed surface and subsurface geologic maps.

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Q. Would you please explain this exhibit for us?

A. This exhibit is labeled El Paso Exhibit Number Two and as you can see, this is a general subsurface structural map of the Barker Dome and Ute Dome areas. The heavy lines are structural contours on top of the Graneros shale. The contour interval is one hundred feet. The light lines in the background are surface topographic contours. The contour interval is forty feet.

You will note the legend in the lower left-hand corner of the map. This sets forth the existing wells and the type of completion.

MR. NUTTER: Before you go any further, Mr. Matheny, the light lines you say represent the surface topography?

A. That's a mat. It was superimposed upon the film.

MR. NUTTER: Well, now, is Barker Dome a surface feature, can you see Barker Dome on the surface?

A. Yes, it's a breached anticline and you can see the beds dipping away in different directions.

MR. NUTTER: Well, now, those surface topography lines are not evident in the area of the Dome, however?

A. It did not come through on this reproduction, sir.

MR. NUTTER: Normally you would be able to see the Dome there on the topography also?

A. The surface will not appear as a dome because the dome has been breached and there is a valley right across the

middle of these anticlines.

MR. NUTTER: But you can see some kind of a relief there anyway?

A. Yes, you would just see the topography, the elevation. The map was designed that way, incidentally, to be used for the facility of the people actually working in the field that could pick an elevation while looking at structural contours and give them a better feel for the geology.

MR. NUTTER: Okay.

Q. (Mr. Schmidt continuing.) Now, you also have a legend on this map that indicates the type of wells, is that correct?

A. That's correct. The square symbols indicate Dakota wells and the hexagon shaped symbols indicate Paradox wells.

Q. Mr. Matheny, in your opinion, based on your study of this area, is the Barker Dome structure described on this map a closed reservoir system?

A. Yes, it is.

Q. What evidence do you have to support that?

A. The structure contours indicate approximately three hundred feet of closure on the Graneros shale datum and on the reservoir horizons immediately below. This structural trap prevents horizontal migration of fluids and the overlying Graneros shale prevents vertical migration of fluids.

Q. I notice on your Exhibit Two that there are a number

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of faults indicated to exist in the area of the Barker Dome. In your opinion do these extend down into the Dakota formation itself?

A. As you will notice on the exhibit, these faults are labeled as surface faults. No, in my opinion these faults do not necessarily extend down to the Dakota formation. Even if they did I don't think they present much of a problem because there is seventeen hundred feet of Mancos shale which would tend to seal them. None of the wells which have been drilled in the area of these faults are indicative that these faults extend down to the Dakota formation.

Q. Would it be correct to say that the purpose of this Exhibit Two is to show that Barker Dome structure is, according to El Paso's geological interpretation a closed structure suitable for use as a storage reservoir?

A. Yes.

Q. Do you have anything further that you would like to present in this case?

A. No.

Q. Was Exhibit Number Two prepared by you or under your direction?

A. Yes.

MR. SCHMIDT: Mr. Nutter, I would like to move that Exhibit Number Two be admitted into evidence at this time and I have no further questions of the witness.

MR. NUTTER: Exhibit Number Two will be admitted into evidence.

(THEREUPON, El Paso Exhibit Number Two was admitted into evidence.)

MR. NUTTER: Are there any questions of Mr. Matheny? He may be excused.

(THEREUPON, the witness was excused.)

JOHN H. CHURCH

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SCHMIDT:

Q. Would you please state your name and where you reside?

A. My name is John H. Church and I reside in El Paso, Texas.

Q. By whom are you employed and in what capacity?

A. I'm employed by El Paso Natural Gas Company as a Reservoir Geologist.

Q. Mr. Church, have you previously qualified before this Commission or one of its Examiners as a Reservoir Geologist?

A. No.

Q. Would you please state your educational background

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and experience as a Reservoir Geologist?

A. In 1950 I received a Geological Engineering degree from the Colorado School of Mines. In 1951 to 1953 I worked for Rotary Engineering Company as a well logging engineer and from 1953 to 1955 I worked for various companies in the uranium exploration business and in 1955 to 1960 I worked for Pacific Northwest Pipeline Corporation as district geologist and then as assistant manager of the geology department. I was responsible for geological evaluations and reserve determinations as the direction of the department manager. From 1960 to present I have worked for El Paso Natural Gas Company and I'm presently a Reservoir Geologist in that department in which capacity I have performed both geology studies and reserve studies which involved reservoir engineering in one phase or other. From late in 1963 to the time of divestiture of Northwest Pipeline Corporation, in February of 1954 about fifty percent of my work load was involved with El Paso's natural gas storage facility at Chehalis, Washington.

Q. You mentiond the devestiture occurring in 1954, you meant February of 1974?

A. '74, that is correct.

MR. SCHMIDT: Mr. Examiner, are the witness' qualifications acceptable to you?

MR. NUTTER: Yes, they are.

Q. (Mr. Schmidt continuing.) Mr. Church, do you have

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any information regarding the production history of Barker Dome?

A. Yes, I do.

Q. Would you please state that history for us?

A. Gas production on Barker Dome anticline was discovered by Gypsy Oil Company in 1925 when they drilled a cable tool well to three, three hundred and twenty-five feet in the northeast of Section 16, Township 32 North, Range 14 West, San Juan County, New Mexico. The well was completed in the Dakota formation at an estimated rate reported by various sources to be between ten thousand and thirty thousand MCF per day. It was plugged due to market or lack of market and the lease was surrendered and Southern Union Gas Company took the lease in 1930 but again it reverted to the Ute Mountain Indian Tribe. Southern Union later regained the lease and between 1942 and 1947 drilled most of the Dakota wells shown on Exhibit Two.

Q. That is the exhibit that was previously admitted, that's correct.

A. Production was established from the Paradox formation in 1945 and later Delhi acquired deep rights and drilled several Paradox wells. In 1947 Southern Union began using the Dakota reservoir for storage of excess Paradox gas after it had been sweetened and in 1950 added the final three Dakota injection wells.

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Meanwhile, El Paso had acquired Delhi's deep rights and beginning in 1950 drilled the remaining Paradox wells in the area. El Paso's new transmission line to California took all of the available gas and eliminated Southern Union's need for storage. The last use of the reservoir for that purpose was March of 1957. Shut-in surface pressure at that time was approximately five hundred psia.

In addition to the discovery well a total of fourteen additional wells were drilled by Southern Union with cable tools, eleven of these wells were completed natural in the open hole and three of the wells were shot with nitroglycerine. The wells had initial potentials ranging from two thousand MCF per day to eleven thousand MCF per day. Cumulative production for the Barker Dome Dakota field as of January 1st, 1977 was approximately twenty-four point two BCF which included ten point one BCF of stored gas and fourteen point one BCF native gas. Production during 1976 averaged about eleven hundred MCF per day. Shut-in wellhead pressures were taken in January of 1977 for the five current producing Dakota wells and those pressures ranged from a hundred and ninety-seven psia to three hundred and fifteen psia.

Q. Let me try to clarify one point here, Mr. Church. You said that the production during 1976 averaged about eleven hundred MCF per day, is that per well?

A. That is the total for the five wells.

Q. That is the total for the five wells, all right.

A. Uh-huh.

Q. As I understand your answer, when Southern Union abandoned the use of the Dakota formation for gas storage in 1957, it did so simply for the reason that it no longer had need of that storage and not because of any difficulties that were encountered in using the formation for purposes of storage is that correct?

A. Yes, that's right.

Q. Mr. Church, I understand that you have two exhibits setting forth the stratigraphy of the Barker Dome area, is that correct?

A. Yes.

Q. And these are labeled as El Paso Exhibit numbers Three and Four for purposes of identification. What material have you used to prepare these exhibits?

A. These exhibits labeled Three and Four are also labeled cross sections AA.

Q. I'm sorry, let me go back just a moment. What material have you used to prepare these exhibits?

A. These exhibits are based on Mr. Matheny's geological interpretation and on well data from the various wells listed on each exhibit.

Q. Okay, would you now explain Exhibits Three and Four for us?

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A. Well, Three and Four, they are also labeled cross sections AA and BB and these exhibits offer the detailed cross-sectional views of the stratigraphy of the Graneros Dakota interval. The gas storage interval indicated in red on these exhibits consists of marine offshore sandstones and, therefore, shows consistency in thickness and character. The upper sand unit of the storage interval averages about twenty-five feet in thickness and it is slightly silty and shaley in the immediate area and has less reservoir quality as compared to the lower sand unit which is the main gas pay in the Barker Dome field. This unit consists of clean, porous and permeable marine sandstone with thickness ranges from ten to twenty-five feet in the immediate area but the changes are gradual and uniform. The total interval usually contains two lenses and part of the local variation in thickness is due to the lower pinching out of the sand as it approaches the tidal inlet to the south and east. The units below the gas storage interval are erratic in both occurrence and thickness. They consist of a mixed fluvial facies containing fine to course grained poorly sorted sandstone with variable porosity, permeability and fluid saturations. Number two, they also contain siltstones, shale and coal. The latter three lithologies are normally thin and interbedded, as well as extremely lenticular. They apparently represent the levee and interchannel flat deposits in a major stream system with a general northeasterly flow

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direction. Extremely thick sandstone bodies which were deposited in the main channels of these streams reflect the flow direction and sediment transport capabilities. Thinner sandstone bodies were deposited by the many distributary streams of various sizes.

Q. Okay. Mr. Church, what do these two exhibits tell us about the structure of Barker Dome?

A. Well, the Barker Dome anticline is a northeast trending elongate anticlinal structure which is slightly asymmetrical to the southeast. In regional setting it is one of a series of elongate anticlines which are aligned along the east edge of the Four Corners platform parallel to the adjacent hogback monocline as it dips sharply into the San Juan Basin to the east. All of these structures have produced hydrocarbons from both Cretaceous and Pennsylvanian rocks and there is approximately three hundred feet of closure on top of the Dakota horizon.

Exhibit Three shows the detailed subsurface structure in the Barker Dome and Ute Dome fields as mapped on top of the Graneros shale. The original gas-water contact at plus thirty-eight twenty on top of the Dakota as reported by Southern Union Gas Company is corrected to plus thirty-eight ninety to match the top of the Graneros shale datum of Exhibit Two.

Q. You stated that Exhibit Three shows a detailed sub-

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surface structure?

A. I sure did. That's Exhibit Two.

Q. Is that Exhibits Three and Four both rather than just Exhibit Three?

A. Exhibits Three and Four both show it, right.

Q. Do you have another exhibit which has been labeled for purposes of identification as El Paso Exhibit Number Five, which sets forth El Paso's proposed well workover program for the Barker Dome area?

A. Yes, I do.

Q. Okay. What information did you use to prepare this Exhibit Number Five?

A. Well, this is based on my own proposed workover program for the Barker Dome.

Q. Would you please explain this exhibit to us?

A. Well, this exhibit is labeled Exhibit Five and as you can see this exhibit contains an outline of the Barker Dome Project, superimposed over the contour intervals of the Barker Dome structure. This exhibit also shows the Dakota wells which El Paso plans to plug and abandon. In addition it shows the existing Paradox wells and one water disposal well. As you can see, it is planned that the sixteen existing Dakota wells will be plugged and abandoned. However, the five existing Paradox wells will continue on production until such time as their continued production is no longer economically

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feasible.

Q. Okay, now, do you have another exhibit setting forrth El Paso's planned development program for Barker Dome?

A. Yes, I do.

Q. This exhibit is labeled for purposes of identification as El Paso Exhibit Number Six. What material did you use to prepare this Exhibit Number Six?

A. Well, this is based on my own proposed development program in the Barker Dome.

Q. Would you please explain this exhibit?

A. This exhibit is labeled as El Paso Exhibit Six and as you can see this exhibit sets forth the locations of El Paso's proposed injection and withdrawal wells. These wells are highlighted in red on the exhibit. It also sets forth the location of El Paso's planned observation wells and these are highlighted in green.

El Paso plans to drill and complete thirty Dakota injection-withdrawal wells at the locations shown, five of which are to be cored through the Dakota storage interval. In addition El Paso will drill and complete nine Dakota observation wells, two of which are to be cored through the Dakota storage interval.

Q. Mr. Church, who is responsbile or who was responsible for selecting the locations that are shown on this exhibit?

A. I selected the locations myself.

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Q. These locations are actually tentative locations, is that correct?

A. Yes, the actual locations may vary somewhat as the project proceeds, depending on the actual geography encountered

Q. What were the major determing factors in selecting these particular tentative locations?

A. These locations were selected to be near the top of the structure. With this well arrangement we have the maximum capability for confining the gas to the highest portion of the structure within the highest contour interval. This lessens the possibility of productive problems.

Q. Once the injection-withdrawl wells and the monitoring wells have been completed I assume you plan to put a gathering system in?

A. Yes, that is correct.

Q. Do you have an exhibit which has been labeled for purposes of identification as El Paso Exhibit Seven which shows the gathering system, is that correct?

A. Yes, I have an exhibit here which is labeled El Paso Exhibit Number Seven. This exhibit was prepared by our Engineering Department and sets forth the preliminary sketch of our proposed gathering system that will connect the injection-withdrawal wells. The exhibit shows that it is presently planned that two Solar Centaur compressors will be attached to the gathering system.

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Q. As I understand it, Mr. Church, that gathering system diagram is based on the well locations that you have indicated on Exhibit Six but the actual design of the gathering system is dependent upon the final well locations?

A. That's right.

Q. You have an exhibit, do you not, labeled for purposes of identification as El Paso Exhibit Eight which sets forth the manner in which the gas storage field will operate once the wells have been drilled and the gathering system has been connected?

A. Yes, I do.

Q. What did you use to prepare this exhibit?

A. Well, this exhibit has been prepared using the average well back pressure curve, fitted to a set of compressibility curves from our Engineering Department and cumulative production records of the operator have also been used.

Q. Would you please explain this exhibit?

A. Well, this exhibit is labeled Number Eight and it is also labeled Dakota Reservoir Performance Graph. The graph relates the wellhead shut-in pressure curve (WHSIP) and the bottom-hole pressure divided by the compressibility factor curve, labeled BHP divided by Z to the gas inventory expressed in billions of cubic feet.

The second scaled line at the bottom of the graph labeled cumulative gas injected (BCF) is related to the

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injection wellhead pressure curve, labeled on the curve IWHP and the injection rate curve measured in millions of cubic feet per day, labeled on there M squared CF per day and this bottom scaled graph may also be related to the wellhead shut-in pressure curve and the bottom-hole pressure divided by z curves.

The third scale line at the bottom of the graph labeled cumulative gas withdrawl (BCF) is related to the withdrawal rate curve, M squared CF per day. It may also be related to the wellhead shut-in and BHP/z curve.

The injection rates and the withdrawal rates are plotted as capacity rates assuming that all thirty wells are on production and utilizing six thousand horsepower of compression.

The curves really serve as a guide to the maximum amount of gas that theoretically could be injected or withdrawn during one day of operation using compression facilities of six thousand horsepower as related to the gas inventory at that time.

The curve also gives us the design capacity for the project. For the injection phase, the first day injection rate is two hundred and fifty-six M squared CF per day. The last day injection rate is two hundred and thirty-four M squared CF per day and the top pressure at that time was seven hundred -- the wellhead shut-in pressure at that time was seven

hundred psia. In the withdrawal phase, the first day withdrawal rate is a hundred and twenty-four M squared CF per day and the last day withdrawal rate is fifty-six M squared CF per day. Working gas is approximately nine point nine BCF and the base pressure is four hundred psia.

Q. What is the maximum amount of gas you presently plan to store in Barker Dome?

A. Fourteen point one billion cubic feet.

Q. Is it correct that injecting these volumes of gas will bring the reservoir back to approximately its original condition?

A. Yes.

Q. With the exception of Exhibit Seven which is gathering system diagram, were Exhibits Three through Eight prepared by you or under your supervision?

A. That is correct.

MR. SCHMIDT: I have no further questions of this witness, however, I would like to move that Exhibits Three through Eight be admitted into evidence.

MR. NUTTER: El Paso Exhibits Three through Eight will be admitted into evidence.

(THEREUPON, El Paso Exhibits Three through Eight were admitted into evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

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Q. Mr. Church, on Exhibit Number Two and also on Exhibits Five and Six it's indicated that the original gas-water contact was at thirty-eight ninety?

A. That is as it would be if it was converted to the Graneros datum. The actual top of the Dakota is seventy feet lower so it would be thirty-eight twenty in the storage interval.

Q. Well, I don't understand that. The original gas-water contact being at thirty-eight ninety would be thirty-eight ninety feet above sea level, wouldn't it, plus thirty-eight ninety?

A. Plus thirty-eight ninety.

Q. Then why is it thirty-eight twenty on the cross sections, I don't see why it would be different if it is the Graneros contact as opposed to the storage interval.

A. Well, we're estimating the gas-water contact in the Dakota formation at plus thirty-eight twenty.

Q. And where was this original gas-water contact?

A. In the Dakota formation it was at thirty-eight twenty.

Q. And this thirty-eight ninety was in what?

A. That's converting the gas-water contact in the Dakota to the structural datum used on the structure map there. See the Dakota is seventy feet lower.

Q. Yes. And this Exhibit Six is a contour map on the

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top of the graneros. This is really not the gas-water contact at all as shown on this plat?

A. Well, no.

Q. This is where it would be in the Graneros if there had been a gas-water contact in the graneros?

A. Right.

Q. But there wasn't any gas in the Graneros originally and there isn't now, is there?

A. The Graneros is a shale, you know.

Q. Right. So is the gas-water contact now the same as it was under original reservoir conditions?

A. As near as we can tell this is not a water drive reservoir. The reservoirs perform as a gas expansion type.

Q. And you feel that the gas-water contact then has stayed right there in the Dakota at approximately thirty-eight twenty?

A. Approximately that depth, I can't say that it hasn't moved any.

Q. But you don't see any signs that there have been any significant changes?

A. Well, the five current producing wells El Paso tested in January of this year to gain shut-in pressure data and there was very little water reported by our testing crew. Some of the separators dumped but --

Q. Well, I notice on Exhibit Five, however, and on some

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of these others, we have a well up in section 1 that is marked WD and then the code or the legend would say that is a water disposal well, where is that water produced from, the Paradox?

A. That is from the Paradox production, yes.

Q. And it is your proposal now to plug all of the existing Dakota wells that have not been plugged?

A. That's right, we are not only going to plug them we are going to replug those that have been plugged and plug the five existing producing wells.

Q. And you will utilize some of the old Paradox wells for storage or withdrawal, is that it?

A. No, sir, the Paradox will remain on production, we are not going to disturb them.

Q. Well, now, as I look at your monitor wells indicated with green dots on Exhibit Six, it would appear that some of the monitor wells are at the same locations as some of these Paradox wells?

A. They are, sir, and we are going to utilize those existing pads.

Q. Just the pad, but there will be a separate well drilled there?

A. Yes, sir, there will be a separate well there.

Q. So all of these injection wells and withdrawal wells on Exhibit Six will be new wells?

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A. Yes, all thirty with the red dots there will be a well.

Q. And all of these green dots are new wells?

A. That's right.

Q. Although they correspond to the location of some others?

A. Yes, but we are going to use the existing pads where we can. It's pretty rough country.

Q. Now, looking at Exhibit Seven, the pipeline map, are any of these observation wells connected with those pipelines?

A. No, sir, they are strictly out there to monitor the reservoir.

Q. And these pipelines are to the red dots only then?

A. There should be thirty dots on their map corresponding to mine.

Q. Now, you mentioned that you think the capacity of this thing is going to be fourteen point one billion cubic feet of storage. Now, you also stated that the cumulative production out of the reservoir has been twenty-four point two billion, I think, of which fourteen point one was native gas?

A. Yes, sir.

Q. And then the ten point one was gas injected and withdrawn?

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A. Gas that was stored there and withdrawn.

Q. It was foreign gas that was put in there?

A. Yes, sir.

Q. So what you are saying then is that the capacity of your reservoir for storage purposes is equal to the native gas withdrawn?

A. The native gas withdrawn.

Q. And you will store gas in there up to the original reservoir pressures?

A. We will take it back to the original conditions of seven hundred pounds, that's right.

Q. Do you have an estimate on the amount of gas that is in the reservoir at the present time?

A. Well, we've estimated eight billion or seven point nine billion cubic feet remaining, that's gas in place.

Q. Down to what pressure?

A. That's down to zero pounds.

Q. That's down to zero pounds, that would not be recoverable then?

A. No, sir.

Q. When they ceased producing this, what were the pipeline pressures at which the wells were producing gas?

A. Well, as I --

Q. I think you mentioned that they abandoned it, originally it had five hundred pounds shut-in wellhead pressure

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didn't it?

A. About 1957 the average pressure was about five hundred pounds, that was the time of abandonment from storage or taken out of storage and it has declined from that pressure to, well, we measured a hundred and ninety-one pounds to three hundred and fifteen pounds on the five current producing wells in January of this year.

Q. And those wells will make a total of eleven hundred MCF?

A. That's the total for the five wells to a central meter, it was measured around eleven hundred, maybe a little more during the test period but they averaged that in 1976.

Q. Now, what were they producing against?

A. I think we measured the pressure there, about a hundred pounds line pressure.

Q. Do you have an estimate of how much recoverable gas remains in this reservoir at, say, an abandonment pressure of a hundred pounds in the reservoir?

A. Well, there have been several estimates made. My best estimate is four billion cubic feet of gas in place.

Q. And you figured there was about eight something?

A. Seven point nine.

Q. Seven point nine?

A. Yes, sir.

MR. NUTTER: Are there any further questions of this

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witness? He may be excused.

(THEREUPON, the witness was excused.)

JOHN A. DISCH

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SCHMIDT:

Q. Would you please state your name and where you reside?

A. My name is John A. Disch, I reside in El Paso, Texas.

Q. By whom are you employed and in what capacity?

A. I'm employed by El Paso Natural Gas Company and I am Supervisory Drilling Engineer.

Q. Have you testified before this Commission at previous hearings as a petroleum engineer?

A. Yes, sir, about ten years ago.

Q. Were you qualified as a witness at that time?

A. Yes, sir.

MR. SCHMIDT: Mr. Examiner, do you desire that he be re-qualified or are his qualifications acceptable to you?

MR. NUTTER: If he was qualified then he is still qualified.

MR. SCHMIDT: All right.

Q. (Mr. Schmidt continuing.) Mr. Disch, will you

generally describe what drilling operations El Paso proposes to conduct in its Barker Dome Project?

A. We propose drilling thirty new withdrawal-injection wells and nine new observation wells. In addition we propose plugging five existing Dakota wells and eleven abandoned Dakota wells. The eleven abandoned Dakota wells will be reentered and replugged to insure the integrity of the reservoir seal.

Q. Do you have a diagram depicting your proposed casing and drilling plan for withdrawal-injection wells?

A. Yes, I do.

Q. What have you used to prepare this exhibit?

A. This is my own well design based on the geology of the area and applicable rules and regulations.

Q. This exhibit has been labeled as El Paso Exhibit Number Nine for purposes of identification, would you please explain this exhibit for the Commission?

A. This exhibit is labeled Number Nine and as the exhibit shows, the withdrawal-injection wells will be fluid drilled to the surface shoe depth, nine and five-eighths surface pipe will be set through all fresh water bearing formations and forty feet into the Mancos shale and cemented to surface. Production casing hole will be air drilled four feet into the top of the Dakota formation. Seven inch casing will be run and set into the top of the Dakota and cemented approximately four hundred feet above the shoe. The Dakota will then be air

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drilled through the upper two sands and completed open hole. As an alternate to open hole completion, if analysis of the coring and logging of the first seven wells so indicate, we may run casing through the storage interval, cement and perforate. Two and three-eighths inch tubing will be run and landed ten to fifteen feet off bottom, depending on the spacing.

Q. This Exhibit Number Nine actually shows an average withdrawal-injection well, is that correct?

A. Yes.

Q. I notice that your proposed casing plan does not include a packer, is that correct?

A. Yes, in my opinion a packer can serve no useful purpose. All fresh water zones are well protected. There is no corrosion of any kind in this area. Using annular flow we can use the well much more efficiently. Also, there is cost to consider. Larger tubing and a packer to handle our gas volumes will cost approximately eighteen thousand dollars per well.

Q. Mr. Disch, you indicated that you planned to use an annular withdrawal-injection procedure. I would like to ask you several questions about that. First, will you have an annular between the production casing and the surface casing which will be monitored for leaks?

A. Annular withdrawal-injection will be between the

two and three-eighths tubing and the seven inch casing plus inside the two and three-eighths tubing. We will monitor the annulus between the seven inch casing and the nine and five-eighths casing for leaks. This annulus will be open from the top of the cement to the surface and will be excellent for detection of leaks.

Q. Will the surface casing be protected by cement to the surface?

A. Yes, and I might add that we have overdesigned this casing. It is nine and five-eighths, thirty-six pound, K-55, with a burst of three thousand five hundred and twenty psi with seven hundred psi wellhead shut-in pressure, this gives a safety factor of over three.

Q. In your opinion, will this annular injection endanger any underground drinking water sources?

A. No, sir, because of the pipe design and the cementing program the ground waters are more adequately protected.

Q. Is the casing program which you have proposed for these injection wells sufficient to withstand any pressures which may be encountered?

A. Yes, I have described the surface casing specs. The production casing is seven inch, twenty pound, K-55, two thousand five hundred pound collapse and a burst of three thousand seven hundred and forty psi. With maximum injection of approximately one thousand psi this gives us a safety factor of over four.

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Q. What corrosion problems will you encounter in this area?

A. None, we have a regular corrosion program which has been in effect for fourteen years. The last casing inspection log, run in April of this year on the Ute No. 2, a Paradox well, still confirms no metal loss.

Q. Is the gas that you will be injecting into this formation also non-corrosive?

A. Yes, this is pipeline quality gas.

Q. Do you have any information regarding the surface injection pressures that will be used during this project?

A. We anticipate a maximum injection wellhead pressure of approximately one thousand psi.

Q. In your opinion, will operations in this pressure range preclude the possibility of fracturing the confining strata?

A. Yes.

Q. In your opinion, will your cementing program assure that there is no migration of injected gas above or below the injection zone?

A. Yes.

Q. Has your casing program been designed to comply with the proposed EPA Rules that were published in the Federal Register on August 31, 1976?

A. Yes.

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Q. In your opinion, does your proposed casing program fully protect any groundwater which may exist in the Barker Dome area?

A. Yes, as I previously testified a nine and five-eighths inch surface pipe will be set through all fresh water bearing formations and forty feet into the Mancos shale and cemented to surface. In my opinion, this procedure will prevent any damage to fresh water bearing formations.

Q. You have an exhibit, do you not, which has been labeled El Paso's Exhibit Number Ten for purposes of identification, which depicts the proposed observation wells?

A. Yes.

Q. Does this exhibit also represent your own well design based on the geology and on applicable rules and regulations?

A. Yes.

Q. Will you please explain this exhibit for us?

A. This Exhibit Number Ten depicts an average proposed observation well. Our proposed observation well will be fluid drilled to total depth. A seven inch surface pipe will be set through all fresh water bearing formations and forty feet into the Mancos shale and cemented to surface. A four and one-half inch production casing will be set through the two Dakota sands and cemented approximately four hundred feet above the shoe. The wells will then be perforated opposite the

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storage interval.

Q. This procedure also omits the use of a packer, is that correct?

A. Yes. it does. In my opinion, all fresh water bearing formations will be adequately protected by again setting surface pipes through all fresh water bearing formations and forty feet into the Mancos shale and cementing to surface. In addition, the observation wells will never be used for injection or withdrawal of gas.

Q. Are there any other hydrocarbon bearing formations which would be transected by your proposed observation and withdrawal-injection wells?

A. No.

Q. In the event that another hydrocarbon bearing formation were encountered would your well casing program or well completion program protect that formation?

A. Yes.

Q. Mr. Disch, do your two exhibits represent the completion program for which El Paso seeks Commission approval today?

A. Yes, El Paso would like Commission approval for this proposed program and an express Commission finding that this proposed completion program will adequately protect any aquifers in the area against contamination.

Q. What plugging operations do you propose with regard

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to the sixteen existing Dakota wells that will be plugged?

A. Plugging operations will consist of cleaning the holes out to the top of the Dakota. The existing casings will then be perforated opposite the Graneros shale and squeeze cemented. A fifty foot cement plug will be set opposite the existing surface shoe and a ten foot cement plug set at the surface with a dry hole marker.

Q. Do you have anything further you would like to present in this case?

A. Yes, I do. I propose we name the wells as follows: As an example, Barker Dome WI No. 9, meaning withdrawal-injection well No. 9. Barker Dome O No. 34, meaning observation well No. 34.

Q. Mr. Disch, were Exhibits Nine and Ten prepared by you or under your direction?

A. Yes.

MR. SCHMIDT: Mr. Nutter, I would like to move at this time El Paso Exhibits Nine and Ten be admitted into evidence and I have no further questions of this witness.

MR. NUTTER: El Paso Exhibits Nine and Ten will be admitted.

(THEREUPON, El Paso Exhibits Nine and Ten were admitted into evidence.

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CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Disch, on Exhibit Number Nine, this typical well right here shows the top of the Dakota being at twenty-seven hundred feet and the seven inch pipe landed at twenty-seven hundred feet. Is that the intent to just set the pipe right at the top of the Dakota or will it be in it somewhat?

A. Well, it would be in it about two or three feet.

Q. And then you would drill down and open hole the thing for -- how far would your open hole interval be, a hundred and twenty-five feet on this particular drawing?

A. Yes, sir, the average on this would be approximately a hundred and twenty-five feet open hole.

Q. Now, when you are withdrawing you will be coming up the annulus and up the tubing both?

A. Yes.

Q. And when you are injecting will you be going down both?

A. Yes.

Q. What is the reason for even having the tubing if you are going to be using it simultaneously with the annulus in and out?

A. Well, we would like to put the string of tubing in because we will periodically be running bottom-hole pressure bombs, items like that, and to keep the holes from being junked

up. It is a lot easier to fish out of tubing than than it would be out of open hole, as an example.

Q. But on a daily basis that tubing is doing nothing except taking up space in the well if you are using it for injection and withdrawal?

A. That's right, sir.

Q. Now, when you said that the annulus between the nine and five and the seven inch would be monitored, you said it would be open so you could detect leaks, do you mean open to the atmosphere?

A. No, sir.

Q. Equipped with a gauge?

A. With a gauge, a pressure gauge.

Q. Now, you also mentioned that this gas going in would be pipeline quality gas but that gas will be commingled with native gas in the reservoir, will it not?

A. Yes, sir, but it's sweet gas.

Q It is?

A. Yes, sir.

MR. NUTTER: We have one more witness, Mr. Schmidt, what is he going to testify to?

MR. SCHMIDT: Well, I would put Mr. Manning on and in general he's going to talk about the monitoring of these wells. He is going to propose a reporting form for use by the Commission.

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MR. NUTTER: What I was going to get into if it was not going to be covered, now, Mr. Church said that these were his recommended locations but that they may or may not be the specific locations and now Mr. Disch has given us a numbering system for the wells, is it going to be desirable or even possible if it were desirable for the Commission to specify the well names and locations in an order if we don't have a little further description than that. I just wondered what your intent was.

MR. SCHMIDT: Mr. Manning has indicated that he will discuss that if you want to direct that question to him.

MR. NUTTER: All right, fine. Are there any other questions of Mr. Disch? He may be excused.

(THEREUPON, the witness was excused.)

E. R. MANNING

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SCHMIDT:

Q. Would you please state your name and by whom you are employed?

A. E. R. Manning and I'm employed by El Paso Natural Gas Company.

Q. And you reside in El Paso, Texas, is that correct?
A. Yes, sir.
Q. In what capacity are you employed?
A. As Chief Proration Engineer.
Q. You have previously testified, have you not, before this Commission and been qualified as a proration engineer?
A. Yes, I have.
Q. Okay, and you are familiar with El Paso's application in this case?
A. Yes, sir.
MR. SCHMIDT: Mr. Examiner, are the witness' qualifications acceptable to you?
MR. NUTTER: Yes, they are.
Q. (Mr. Schmidt continuing.) Mr. Manning, I have a number of questions to ask you that cover quite a few different subjects and we are going to be skipping around from one to another. First I would like to ask you, how do you propose that the production from these wells be monitored?
A. Well, each withdrawal-injection well will be equipped with two meters, one meter to measure the injected gas and the other meter to measure the gas withdrawn.
In this project gas can only be injected or withdrawn at any one time. The condition does not exist whereby gas can be injected into some wells and withdrawn from others at the same time.

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Q. Do you have a proposal for reporting this production to the Commission?

A. Yes, sir, I have a copy of a form which, although we are not married to it, we would like to propose if the Commission adopts it, it's marked as Exhibit Number Eleven. This form provides spaces for company name, company address, name of storage project and then it has some boxes on the right-hand side there, type of project, whether it be natural gas or liquified petroleum gas, LPG. It has a column for well name and number, location, such as unit, section, township and range. I might suggest here that somewhere up around the name of the storage project possibly could be the county in which the project is located.

It has a column for injection in MCF and you could possibly put in there barrels if it is an LPG storage project and strike the one that is not applicable. And it has also a column for wellhead pressure, psig, and then it has another column for the withdrawal with the same suggestions that it be an MCF and barrels and strike the one non-applicable one.

And at the bottom of this form it has totals for the injection and the totals for the withdrawal. Also it has in a little box to the right there, it has the total capacity in MCF and again I would like to see barrels put in there and X out the one that did not apply. It also has beginning storage, net change and ending storage.

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Q. Now, this form could be utilized either as a computer prepared form or could be filled out manually, is that right?

A. Yes, sir. This would work very well as a computer form or it can be prepared manually.

Q. Now, do you have a proposed number for this form?

A. Well, we would probably propose something like 131, storage form, something to that effect.

Let me talk to counsel.

(THEREUPON, a discussion was held off the record.)

Q. (Mr. Schmidt continuing.) Let me skip to another subject for just a moment. Mr. Manning, will you please tell the Examiner what El Paso's target date is for commencing the injection of gas in the storage project?

A. Well, El Paso's target date is August 15th, 1977. That is what we are shooting for.

Q. For whose benefit is this gas storage project being proposed?

A. This project is for the benefit of El Paso's high priority east of California customers.

Q. Are some of the people within the State of New Mexico included within El Paso's east of California high priority customers?

A. Yes, they are.

Q. What is the source of the gas that is going to be

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stored?

A. Gas which is curtailed from El Paso's low priority east of California customers is to be stored.

Q. When would you propose to withdraw this gas from storage and utilize it?

A. El Paso plans to use the stored gas during any high demand period for use by its high priority east of California customers and we hope we can start utilizing the stored gas during the coming heating season, if necessary.

Q. If I may summarize what you have just said. This gas is for the sole use of high priority east of California customers during periods of high demand for gas, is that correct?

A. Yes, sir, that is correct.

Q. Mr. Manning, in your opinion, do the conventional rules regarding well spacing, well locations, potential testing, annual testing and injection reporting have any application to this sort of project?

A. No, sir, they do not and for this reason we prefer to see some rules and regulations to such an extent that we can place these wells to our best engineering dictates and also if we need to move one for the purpose of topography and we would like to have that flexibility and not be tied to any specific place. Now, we would propose that this be administratively, of course, we certainly would not drill one without notifying

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the Commission of the change in location.

Q. Mr. Manning, when you talked about wanting to see these rules and regulations adapted to this sort of project, you are now talking about possible rules the Commission may choose to adopt in the future?

A. Possible future rules that they may adopt on this but we certainly do want what latitude we can get in this project on moving the wells around.

Q. Mr. Manning, in your opinion, will this gas storage project violate correlative rights or cause waste in any way?

A. No, sir, this will not violate correlative rights nor cause waste.

Q. Okay, as a matter of interest can you tell us what the total estimated cost of this project is?

A. Yes, sir, we are estimating this project is going to cost El Paso approximately eighteen million dollars.

Q. Okay. Do you have anything further you would like to present in this case?

A. Yes, in view of the early target date for the project, I would like to request that an expedited consideration of this case be made by the Commission.

MR. SCHMIDT: Mr. Examiner, I have no further questions of this witness and I would like to ask that El Paso Exhibit Number Eleven be admitted into evidence at this time and I'm sure, however, that you will want to ask him the question again

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about well numbers.

MR. NUTTER: All right, El Paso's Exhibit Number Eleven will be admitted into evidence.

(THEREUPON, El Paso Exhibit Number Eleven was admitted into evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Manning, we don't know the specific location you said, but you might want to move it because of topography, is that what you said, but there are thirty little dots there that are colored red and they are located in a total area probably not more than twelve hundred and eighty acres, there is no specific or no general description could be put on where these wells would be authorized to be drilled or is there some system that could be worked out whereby the location could be given and then subject to change if it was deemed necessary or advisable?

A. Well, as I testified previously, Mr. Nutter, we believe that a storage project such as this is just almost a necessity to have the latitude to move these wells and place them where you think they will best benefit you and for that reason I don't believe I could make a recommendation pinning them down very much closer than that.

Q. I think you should have complete flexibility in the

locating of these things, it's just that if they are going to be covered in an order, the order ought to know where they are, just say we are authorized thirty red dots, twenty-seven in San Juan County because there are three in Colorado, is not very specific.

A. Well, I think, Mr. Nutter, they will be in the very general area that we have here on our exhibit but as far as to whether they will be on a quarter-quarter section line or on a governmental section line or something like that we want the flexibility to put it there if its necessary.

Q. Mr. Manning, how about taking a look at your location maps at home and seeing if we could at least pinpoint a forty acre tract that each well would be located on and have a well number for that well. That would preclude putting it on a line but one inch into a forty acre tract is off the line.

A. Well, still, although that is possible to do that, I think it would be just for administrative purposes only.

Q. That's all, that's all that we would need.

A. We would like certainly the flexibility to move it. We are going to have a storage area here where we are going to put gas into it.

Q. Right.

A. And we would like to put the gas in the optimum place and also withdraw it from the optimum place. I'm not saying that we couldn't devise some sort of a forty acre but

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I think it would be cumbersome and probably -- I really other than just -- another thing, Mr. Nutter, this farm here is designed also or we are also talking about perhaps LPG and as you know, those LPG wells, they may be ten feet from each other You may have two there within a one acre tract.

Q. Well, your form here has unit letter for the location of the well?

A. Yes, sir.

Q. That's what I was thinking that maybe the order could specify the unit letter also, it could be subject to change, I guess.

A. What I think I'm asking for here is that we be given really complete freedom on where to drill these wells.

MR. NUTTER: Yes, sir, Mr. Kendrick.

CROSS EXAMINATION

BY MR. KENDRICK:

Q. Mr. Manning, is it your intent to drill any well closer to the outer boundary of this project than seven hundred and ninety feet which is standard gas well footage in the San Juan Basin, even a pressure well?

A. You are asking me seven hundred and ninety feet from the boundary of the Barker storage as we have outlined it here or a section?

Q. Of the storage project so you are not pushing any

neighbor?

A. I don't think so, no injection well, there may be some observation wells drilled over there but I don't think we would drill any injection wells that close.

Q. Would you object to being restrained from drilling closer than seven hundred and ninety feet without special --

A. Mr. Kendrick, I fail to see the importance of the restraining, I think, because here we are trying to get -- in respect we are looking for a big balloon under the ground and we want to put the straws in it wherever we want to, we don't want to say, well, you can't put a straw in it over here.

Q. I'm only talking about the perimeter of the project, I'm not talking about the interior boudaries, I'm talking about the perimeter of the project.

A. Well, I'm sure we could live with something such as Mr. Nutter has proposed here on the forty acres but --

MR. BURLESON: Mr. Kendrick, perhaps Mr. Church might be the proper witness to address this to. He studied the way this project is to work and I think he can probably better answer those questions and perhaps we can put him on and he can address himself to that. I don't know that he can answer it but I think he's made the study that would give him the basis for addressing himself to the question.

MR. NUTTER: I think part of the problem is that this map that shows the locations of the wells is on such a

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small scale, that's less than an inch to the mile and it is pretty difficult to tell where a well is when it is less than an inch to the mile.

MR. BURLESON: Yes, sir, I am informed by Mr. Church and again we will put Mr. Church on and you can ask further questions concerning this but I am informed that he can, given a little time, submit for the record a forty acre tract on which each well is to be situated.

MR. NUTTER: That's fine. I don't think, contrary to what Mr. Manning might have got the impression, I don't think we want to restrain the location of these wells in any manner. I think you should have complete freedom of selection of the locations. As you drill you are going to encounter situations and experience is going to dictate moving a well once in awhile from what you originally proposed but if the original order could be just specific enough -- to be more specific than saying twenty-seven red dots in San Juan County, that's about all we can go by so far.

MR. BURLESON: We can put Mr. Church on in a moment and address that question to him if he could not come up with a plat which would situate each well on a forty acres.

MR. NUTTER: I don't think that should delay the expeditious consideration of the case as Mr. Manning requested.

MR. BURLESON: Thank you,sir.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Now, Mr. Manning, with regard to the numbering system, I think it was mentioned that the well would be, the red dots are going to be WI 1, WI 2, WI 3, and so forth, is that correct?

A. Yes, sir, that is correct.

Q. And the green dots would simply be O 1, O 2, O 3?

A. This is just a suggestion on our part.

Q. All right, just for identification?

A. For identification.

Q. So we will know which ones are green and which ones are red in case we don't have a colored map in front of us?

A. Yes, sir, that's right.

MR. NUTTER: Are there any further questions of Mr. Manning? He may be excused.

(THEREUPON, the witness was excused.)

MR. BURLESON: We might recall Mr. Church and address several of these matters to him.

(THEREUPON, Mr. Church was recalled.)

MR. BURLESON: Mr. Church, you are still under oath, of course. The Examiner was interested in determining at least the forty acre tract in which El Paso proposes tentatively to situate the twenty-seven wells which are proposed to be situated in New Mexico and I would like to ask you if you could

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prepare a listing of these locations indicating the forty acre tract on which they would be situated so that we could submit it for the record, within, say, a week?

MR. NUTTER: Any time.

MR. CHURCH: You mean like northeast-northeast?

MR. NUTTER: Yes, a forty acre tract to conform to the manner in which they would be identified on the later reporting by unit letter. You are acquainted with our unit letter system, aren't you, Mr. Church, A, B, C, D?

MR. CHURCH: Yes, sir. Yes, I think that could be accomplished within the week and probably in the order that we have decided to number these wells.

MR. NUTTER: I was wondering next if you had already given them tentative numbers?

MR. CHURCH: Yes, several times, it changes, yes, sir.

MR. BURLESON: It was my understanding of the Examiner's position that he wasn't trying to fix us in the precise situation of all of these wells but he wanted to know initially, at least, what our proposal is, was that correct?

MR. NUTTER: That's correct, Mr. Burleson, and if you will ask me to I promise you I will put a provision in the order that you could move if it becomes necessary.

MR. BURLESON: Mr. Kendrick, I think you had some questions with respect to the location of wells within the area, within certain distances of the proposed perimeter of

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the project area and you might address that question to Mr. Church.

MR. KENDRICK: Mr. Church, is there any real objection to being restricted from drilling within seven hundred and ninety feet to the perimeter of the project without special exceptions for any well?

MR. BURLESON: You are including observation wells?

MR. KENDRICK: Observation wells or injection wells.

MR. CHURCH: Well, I don't think we will ever be down there with injection-withdrawal wells, not the way I see it but I see no objection --

MR. BURLESON: What about observation wells, John, do you have observation wells, the proposed locations?

MR. CHURCH: I have maybe one conflict there but maybe we can --

MR. KENDRICK: Would you spell out those dispensations on the list of wells that you provide for locations to Mr. Nutter, asking for special dispensation for any well that would be closer than seven hundred and ninety feet to the perimeter?

MR. CHURCH: You are talking about the unit boundary?

MR. KENDRICK: Yes. The outside boundary of the project, so that you wouldn't be crowding your neighbor.

MR. CHURCH: So noted if there is an exception.

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MR. KENDRICK: That's all of the questions I have.

MR. NUTTER: Are there any further questions of Mr. Church? He may be excused again.

(THEREUPON, the witness was excused.)

MR. NUTTER: Did you have anything further, Mr. Schmidt?

MR. SCHMIDT: No, I did not.

MR. NUTTER: Mr. Burleson?

MR. BURLESON: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 5923?

MR. WILSON: Mr. Examiner?

MR. NUTTER: Yes, sir.

MR. WILSON: My name is Charles Wilson of Southern Union Company and I'm a Gas Contract Representative and my responsibilities include acquiring gas supply and contract negotiations on behalf of various divisions, including Gas Company of New Mexico. On behalf of Gas Company of New Mexico I wish to support the application of El Paso Natural Gas Company in Case Number 5923 for underground gas storage in the Barker Dome Gas Storage Project by utilizing certain wells for injection into and withdrawal of gas from the Upper Dakota formation as specified in the application.

Gas Company of New Mexico supports El Paso Natural's application because this project will benefit New Mexico gas users by allowing El Paso Natural Gas to place gas in storage

for later use by customers of El Paso Natural Gas.

Gas Company of New Mexico is a purchaser of gas from El Paso and thus would have peaking gas supply available for resale to high priority gas customers of the Gas Company of New Mexico.

MR. NUTTTER: Thank you, Mr. Wilson.

Does anyone else have anything? We will take Case Number 5923 under advisement.

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REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings to the best of my knowledge, skill and ability.

Sidney F. Morrish, C.S.R.

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BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 5923
Order No. R-5457

APPLICATION OF EL PASO NATURAL
GAS COMPANY FOR UNDERGROUND GAS
STORAGE, SAN JUAN COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 11, 1977, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 14th day of June, 1977, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, El Paso Natural Gas Company, proposes the establishment of an underground gas storage project in San Juan County, New Mexico, and La Plata County, Colorado, to be known as the Barker Dome Gas Storage Project.

(3) That the applicant has conducted geological and engineering studies to confirm the existence and areal extent of a geological structure underlying all or portions of Sections 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, and 24, Township 32 North, Range 13 1/2 West, NMPM, and Sections 13, 23, and 24, Township 32 North, Range 14 West, NMPM, La Plata County, Colorado, and all or portions of Sections 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 28, 29, 30, and 32, Township 32 North, Range 14 West, NMPM, San Juan County, New Mexico, and to determine the suitability of said structure for the underground storage of natural gas.

(4) That gas storage within said structure would be in the Dakota formation immediately beneath the Graneros Shale and down to the shales overlying the Morrison formation.

(5) That the aforesaid vertical interval from the base of the Graneros Shale down to the top of the shales overlying the Morrison formation beneath the following described lands:

SAN JUAN COUNTY, NEW MEXICO
TOWNSHIP 32 NORTH, RANGE 14 WEST, NMPM
Partial Sections 9, 10, and 11: All
Sections 14 through 16: All
Section 17: E/2
Sections 20 through 22: All
Section 23: NW/4
Section 27: NW/4
Section 28: N/2
Section 29: All

is a gas reservoir in New Mexico, having been designated by the Commission as the Barker Dome-Dakota Gas Pool by Commission Order No. R-13, dated March 15, 1950.

(6) That said Barker Dome-Dakota Gas Pool is essentially depleted of native natural gas.

(7) That the applicant, El Paso Natural Gas Company, has acquired the rights to the remaining gas in said Barker Dome-Dakota Gas Pool, and to the use of the above-described structure underlying the lands described in Finding No. (3) above for gas storage purposes.

(8) That the applicant proposes to re-enter all existing wells penetrating the proposed gas storage project and to plug or re-plug the same in order to ensure that there will be no leakage of gas from its proposed gas storage project.

(9) That the applicant proposes to drill and complete some 30 injection/withdrawal wells in the proposed gas storage project, of which 27 would be located in the State of New Mexico and three would be located in the State of Colorado.

(10) That the applicant also proposes to drill and complete some nine observation wells on the outer flanks of the gas storage structure to permit the detection of any migration away from the project of gas placed in storage, five of which would be located in the State of New Mexico and four of which would be located in the State of Colorado.

(11) That the location of the injection/withdrawal wells and the observation wells to be drilled in New Mexico is proposed as follows:

WELL NO.	LOCATION	SECTION
Injection/Withdrawal Wells		
WI 01	2525' from North line, 1689' from East line	21
WI 02	1608' from South line, 1630' from East line	21
WI 03	2184' from South line, 670' from East line	21
WI 04	824' from North line, 843' from East line	21
WI 05	1103' from North line, 1965' from East line	21
WI 06	880' from North line, 1555' from West line	21
WI 07	102' from North line, 1594' from East line	21
WI 08	877' from South line, 602' from West line	15
WI 09	2144' from North line, 894' from West line	15
WI 10	2137' from North line, 714' from East line	16
WI 11	670' from North line, 689' from West line	22
WI 12	2004' from North line, 747' from West line	22
WI 13	2485' from North line, 1994' from West line	21
WI 14	440' from South line, 2448' from West line	16
WI 15	68' from South line, 2273' from West line	15
WI 16	1571' from South line, 1540' from East line	15
WI 17	619' from North line, 938' from West line	15
WI 18	1001' from North line, 812' from East line	15
WI 19	610' from South line, 2113' from West line	10
WI 21	2268' from North line, 75' from West line	21
WI 22	656' from South line, 2192' from West line	21
WI 23	1700' from South line, 817' from East line	16
WI 24	2015' from North line, 2459' from East line	15
WI 25	892' from North line, 2228' from West line	15
WI 26	646' from South line, 1269' from West line	10
WI 27	989' from North line, 1491' from East line	10
WI 28	601' from South line, 133' from West line	11
Observation Wells		
"O" 31	889' from North line, 1771' from East line	29
"O" 33	389' from North line, 715' from West line	27
"O" 34	960' from South line, 323' from East line	29
"O" 35	976' from South line, 1490' from West line	17
"O" 39	1353' from North line, 829' from West line	23

all in Township 32 North, Range 14 West, NMPM, San Juan County, New Mexico.

(12) That the applicant proposes to drill and complete the aforesaid injection/withdrawal wells as follows:

(A) Set 9 5/8-inch surface casing approximately 40 feet into the Mancos Shale and circulate cement to the surface;

(B) Drill approximately 125 feet into the Dakota Sand with air or gas;

(C) Set 7-inch casing into the top of the Dakota Sand and cement to approximately 400 feet above the casing shoe;

(D) Land 2 3/8-inch tubing 10 to 15 feet off the bottom of the hole.

(13) That the applicant proposes to drill and complete the aforesaid observation wells as follows:

(A) Set 7-inch surface casing approximately 40 feet into the Mancos shale and circulate cement to the surface;

(B) Drill approximately 125 feet into the Dakota sand;

(C) Set 4 1/2-inch casing at total depth and cement to approximately 400 feet above the casing shoe;

(D) Perforate the casing opposite the Dakota Sand.

(14) That the above casing and cementing programs are adequate and should afford ample protection against loss of gas while being injected, withdrawn, or held in storage, and will provide good and sufficient protection against contamination of ground waters.

(15) That the proposed El Paso Natural Gas Company Barker Dome Gas Storage Project is in the interest of conservation, will not cause waste, and will not impair correlative rights, and should be approved, provided

(A) That the area described in Finding No. (5) above as well as the following described buffer zone

TOWNSHIP 32 NORTH, RANGE 14 WEST, NMPM
Partial Section 7: E/2
Partial Section 8: All
Section 17: W/2
Section 18: E/2
Section 19: E/2
Section 23: NE/4 and S/2
Section 28: S/2
Section 30: N/2 and E/2 SE/4
Section 32: N/2 N/2

should be designated as the New Mexico portion of the gas storage Project Area;

(B) That the Commission's rules and regulations governing well locations, acreage dedication, and the production of natural gas from gas reservoirs should not be applicable to the project;

(C) That an administrative procedure for approval of amended locations for injection/withdrawal wells and observation wells or for the drilling of additional wells should be established;

(D) That the applicant should file injection/withdrawal reports monthly with the Commission.

IT IS THEREFORE ORDERED:

(1) That the applicant herein, El Paso Natural Gas Company, is hereby authorized to establish its Barker Dome Gas Storage Project by the injection into and withdrawal from the Dakota Sand of natural gas in the following described area in San Juan County, New Mexico:

TOWNSHIP 32 NORTH, RANGE 14 WEST, NMPM
Partial Section 7: E/2
Partial Sections 8 thru 11: All
Sections 14 thru 17: All
Section 18: E/2
Section 19: E/2
Sections 20 thru 23: All
Section 27: NW/4
Sections 28 and 29: All
Section 30: N/2 and E/2 SE/4
Section 32: N/2 N/2

(2) That said area shall be known as the New Mexico Portion of the El Paso Natural Gas Company Barker Dome Gas Storage Project Area.

(3) That the applicant is hereby authorized to drill, complete, and operate the following described wells as injection/withdrawal wells:

WELL NO.	LOCATION	SECTION
WI 01	2525' from North line, 1689' from East line	21
WI 02	1608' from South line, 1630' from East line	21
WI 03	2184' from South line, 670' from East line	21
WI 04	824' from North line, 843' from East line	21
WI 05	1103' from North line, 1965' from East line	21
WI 06	880' from North line, 1555' from West line	21
WI 07	102' from North line, 1594' from East line	21
WI 08	877' from South line, 602' from West line	15
WI 09	2144' from North line, 894' from West line	15
WI 10	2137' from North line, 714' from East line	16
WI 11	670' from North line, 689' from West line	22
WI 12	2004' from North line, 747' from West line	22
WI 13	2485' from North line, 1994' from West line	21
WI 14	440' from South line, 2448' from West line	16
WI 15	68' from South line, 2273' from West line	15
WI 16	1571' from South line, 1540' from East line	15
WI 17	619' from North line, 938' from West line	15
WI 18	1001' from North line, 812' from East line	15
WI 19	610' from South line, 2113' from West line	10
WI 21	2268' from North line, 75' from West line	21
WI 22	656' from South line, 2192' from West line	21
WI 23	1700' from South line, 817' from East line	16
WI 24	2015' from North line, 2459' from East line	15
WI 25	892' from North line, 2228' from West line	15
WI 26	646' from South line, 1269' from West line	10
WI 27	989' from North line, 1491' from East line	10
WI 28	601' from South line, 133' from West line	11

all in Township 32 North, Range 14 West, NMPM, San Juan County, New Mexico.

(4) That the applicant is hereby authorized to drill, complete and operate the following described wells as observation wells:

WELL NO.	LOCATION	SECTION
"O" 31	889' from North line, 1771' from East line	29
"O" 33	389' from North line, 715' from West line	27
"O" 34	960' from South line, 323' from East line	29
"O" 35	976' from South line, 1490' from West line	17
"O" 39	1353' from North line, 829' from West line	23

all in Township 32 North, Range 14 West, NMPM, San Juan County, New Mexico.

(5) That should topographic or geologic conditions render any well location described in Orders Nos. (3) and (4) above less advisable than an alternative location, or if any additional injection/withdrawal well or observation well is deemed necessary, the applicant shall notify the Secretary-Director of the Commission of such fact by letter, and shall by copies thereof also notify the Aztec District Office of the Commission and the Durango, Colorado, Office of the United States Geological Survey.

(6) That the Rules and Regulations of the Commission pertaining to gas well locations, acreage dedication, and normal gas production practices shall not apply to the subject gas storage project so long as waste does not result from such inapplication.

(7) That the applicant shall file a monthly report covering operations of the subject gas storage project, said report to be on a form prescribed by the Commission and filed in duplicate by the 20th day of each month and detailing the operations of the project during the preceding month. One copy of the report shall be filed with the Santa Fe office of the Commission and one copy with the Aztec office.

(8) That the applicant shall notify the Commission immediately of any evidence of leakage of gas from the gas storage project, or of any evidence of contamination of ground waters as the result of operations in the gas storage project.

(9) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary

S E A L

dr/

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Western Gas Interstate Company	)	Docket No. CP78-257

NOTICE OF APPLICATION

(April 5, 1978)

Take notice that on March 24, 1978, Western Gas Interstate Company (Applicant), 1800 First International Building, Dallas, Texas 75270, filed in Docket No. CP78-257 an application pursuant to Section 7(c) of the Natural Gas Act for a certificate of public convenience and necessity authorizing the transportation of natural gas in interstate commerce and the sale of such gas to Southern Union Company (Southern Union) through Southern Union's gas distribution divisions, Gas Company of New Mexico and Southern Union Gas Company, all as more fully set forth in the application on file with the Commission and open to public inspection.

Applicant proposes: (a) to deliver to El Paso Natural Gas (El Paso) natural gas which is attributable to Barker Dome Reservoir production for transportation by El Paso and (b) after redelivery of such gas to Applicant by El Paso, to sell the volumes to Southern Union, through Gas Company of New Mexico and Southern Union Gas Company, pursuant to a gas sales and purchase agreement dated January 20, 1978.

The application states that Supron Energy Corporation (Supron) is producing gas from the Barker Dome Dakota Reservoir underlying certain lands in San Juan County, New Mexico, and is selling said gas in commerce to Southern Union Gathering Company (Gathering Company) pursuant to a natural gas purchase contract dated January 1, 1961, as supplemented and amended.

The application further states that the remaining recoverable reserves in the Barker Dome Dakota Reservoir are estimated to be 4,000,000 Mcf as of September 12, 1977, and that the current rate of production and sale is approximately 1100 Mcf per day (at 14.73 psia), and that the current rate is $1.10 per Mcf. It is stated that all of this gas is currently being sold by Gathering Company to Gas Company of New Mexico; and, until the signing of certain contractual documents related to El Paso's Barker Dome Storage Project, all of such gas was restricted by contract to intrastate use. It is further stated that none of the Barker Dome gas has ever been available for sale in interstate commerce except for a three-year period when Gathering Company made a limited sale of some of its intrastate volumes under an order which carried with it pre-granted abandonment.

It is indicated that because of the increasing depth of curtailment on El Paso's interstate system, it wishes to use the aforementioned Barker Dome Dakota Reservoir as a gas storage reservoir to protect its east of California (EOC) Priority 1 and 2 customers. Applicant states that in order to establish its fundamental authority to use the reservoir from which Supron is now selling production to Gathering Company for purposes of operating a storage project, El Paso has entered into, first, a gas storage lease agreement, dated September 12, 1977, with the lessors of the reservoir, the Ute Mountain Tribe of the Ute Mountain Reservation, and, second, a sublease agreement, dated January 20, 1978, with Supron. Together, these documents give El Paso the necessary contractual authority to move ahead with its Barker Dome Storage Project, it is assented.

Applicant indicates that an equally important set of contractual arrangements allows continuation of the sale and purchase of production attributable to Barker, delivery of such production to the purchaser, and the sale of a portion of the production in interstate commerce, and that to that end, Applicant has entered into arrangements by which it has or would:

(a) acquire the Natural Gas Purchase Contract with Supron presently owned by Gathering Company;

(b) receive deliveries of gas attributable to that Contract at delivery points other than the Barker Dome Field; and

(c) arrange to deliver and sell to Southern Union the gas attributable to Barker Dome Production.

It is indicated that Applicant, Supron, El Paso, Southern Union Gas Company of New Mexico (GCNM) and Gathering Company have entered into proposed contractual arrangements, contigent upon the obtaining by each of all necessary certificates or authorization necessary, as follows:

A. (1) Supron and Gathering Company have amended the Natural Gas Purchase Contract between them to provide for interstate sale and pricing of said volumes;

(2) Gathering Company has assigned its interest in the Natural Gas Contract to Western;

B. (1) Gathering Company and El Paso have amended the Composite Supplemental Agreement to Gas Purchase Agreement originally dated May 1, 1975 (Gathering Company's FERC Gas Rate Schedule No. 2) to provide for the delivery of the 4 Bcf of remaining recoverable reserves attributable to Barker Dome to Gathering Company for Applicant's account at certain wellhead delivery points;

(2) Applicant and Gathering Company have entered into a Gas Gathering Agreement to provide for gathering of gas received by Gathering Company for Applicant's account and for delivery of that gas to a purchaser or transporter;

(3) Gathering Company and El Paso have amended the composite Supplemental Agreement to Natural Gas Contract originally dated May 1, 1975 (Gathering Company's FERC Gas Rate Schedule No. 1) to provide for delivery to El Paso of a portion of the gas attributable to Barker Dome at the two delivery points still in service under that Rate Schedule;

C. (1) Applicant and El Paso have entered into a Gas Transportation Agreement which provides for transportation by El Paso of volumes to be sold to Southern Union by means of the Gas Sales and Purchase Agreement;

(2) Applicant and Southern Union have entered into a Gas Sales and Purchase Agreement providing for the interstate sale of portions of the Barker Dome volumes; and

(3) Applicant and GCNM have entered into a Gas Sales and Purchase Agreement providing for intrastate sale of a portion of the Barker Dome volumes.

Applicant states that the gas which is the subject to this application is currently being produced and sold in the intrastate market and would continue to be so produced and sold until El Paso begins injecting gas into the Barker Dome Storage Reservoir. Applicant further states that at the time of first injection, El Paso would begin delivery of the remaining recoverable reserves (4,000,000 Mcf, less accumulated production since September 12, 1977) at the wellhead delivery points listed in the gas gathering agreement dated January 20, 1978, between Applicant and Gathering Company. This gas, treated for all purposes as Barker Dome production, would be delivered at an even daily rate of 1120 Mcf at the wellhead delivery points, and Gathering Company would gather and compress the volumes and deliver them to Applicant at the delivery points, it is stated. It is further stated that the volumes to be sold intrastate by Applicant to GCNM would be delivered into facilities of GCNM at the three GCNM delivery points, and that the volumes to be first transported by El Paso,

redelivered to Applicant, and then sold by Applicant to Southern Union under authority sought in this application would be delivered into facilities of El Paso at the two El Paso delivery points. There are no present plans to use the Northwest Pipeline Company delivery point, although the delivery point might possibly prove useful in the future, it is said.

It is indicated that the volumes of gas which Supron would sell to Western would be resold by Applicant under two different contracts, and that Applicant would sell to GCNM, on an intrastate basis, those volumes which it does not sell to Southern Union on an interstate basis. Applicant states that it would sell to Southern Union, on an interstate basis, at least one-third of the annual volumes attributable to the Barker production, and that this sale would be made under the contract which Applicant would file as Rate Schedule X-2 to its FERC Gas Tariff, Original Volume No. 2.

It is stated that these arrangements, therefore, commit a minimum of 136,266 Mcf of natural gas per year to interstate commerce that would otherwise be sold in the intrastate market, and that Applicant would deliver the remaining 272,534 Mcf per year of gas to either its interstate market or its intrastate market, as the market requirements for gas develop.

Applicant indicates that it would charge Gas Company of New Mexico a price for the purchase of the subject gas as follows:

(1) Applicant's weighted average wellhead cost of gas per Mcf delivered hereunder, which cost shall be adjusted by a ratio, the numerator of which shall be the weighted average Btu content of gas delivered hereunder during the billing period and the denominator of which shall be the weighted average Btu content of the wellhead gas received by Applicant during the billing period (said ratio to adjust for any difference in Btu content between gas received by Applicant and gas delivered to Buyer); plus

(2) The average cost (if any) per Mcf incurred by Applicant, during the billing period in which the sale of gas hereunder has occurred, for bringing such Gas to contract quality and delivering it or causing it to be delivered to Gas Company of New Mexico.

Any person desiring to be heard or to make any protest with reference to said application should on or before April 28 , 1978, file with the Federal Energy Regulatory Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10) and the Regulations under the Natural Gas Act (18 CFR 157.70). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a petition to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by Sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held without further notice before the Commission on this application if no petition to intervene is filed within the time required herein, if the Commission on its own review of the matter finds that a grant of the certificate and permission and approval for the proposed abandonment are required by the public convenience and necessity. If a petition for leave to intervene is timely filed, or if the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicants to appear or be represented at the hearing.

Kenneth F. Plumb

Secretary

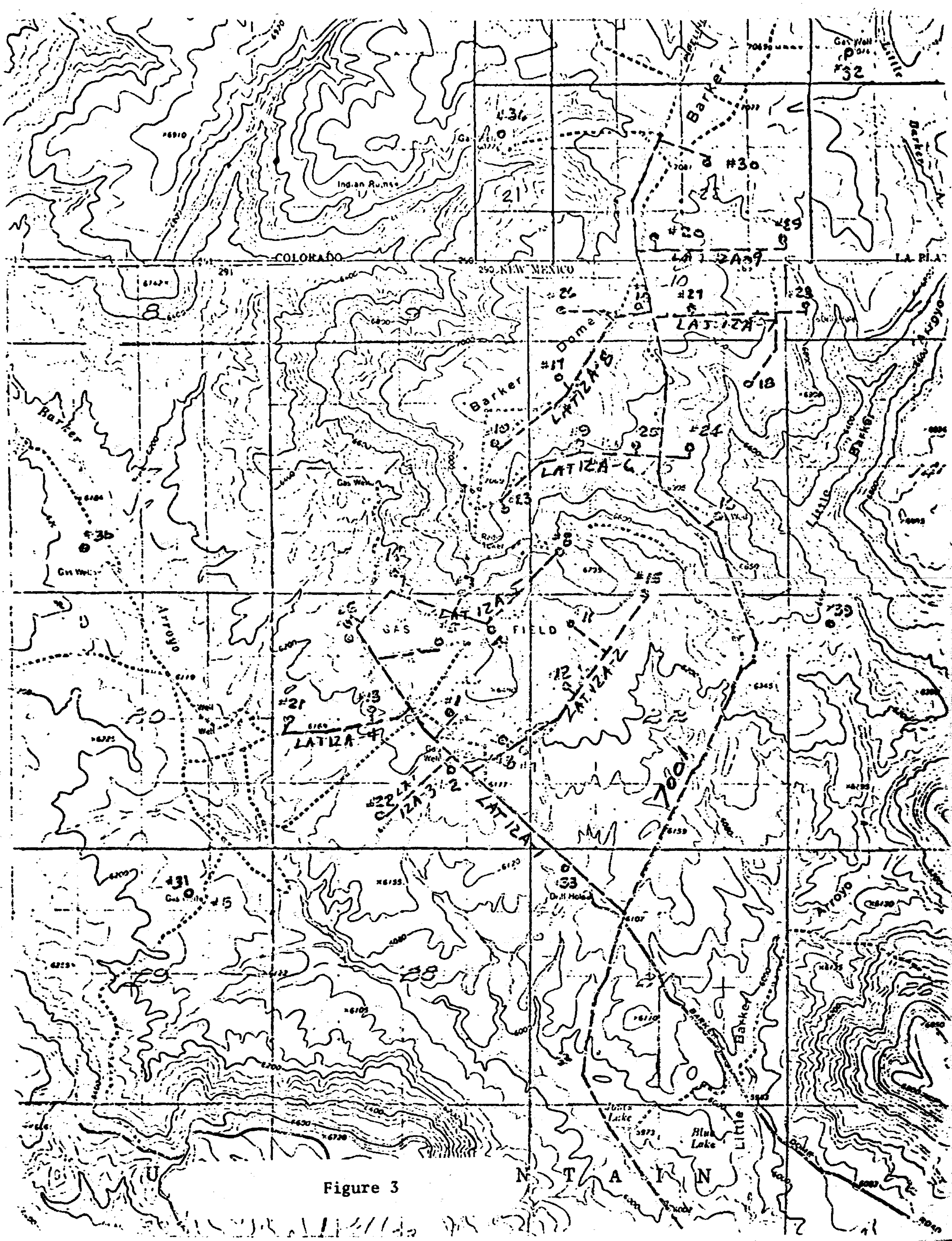

COLORADO
NEW MEXICO
LA PLATA
Indian Ruins
Barker Dome
GAS FIELD
LATIZA-1
LATIZA-2
LATIZA-3
LATIZA-4
LATIZA-5
LATIZA-6
LATIZA-8
Barker
Arroyo
Little Barker
Gas Well
Drill Hole
Blue Lake
Jones Lake
#32
#30
#29
#20
#27
#28
#26
#17
#18
#24
#25
#23
#36
#15
#39
#21
#12
#22
#33
#31
#31
N T A I N

Figure 3

El Paso NATURAL GAS COMPANY

P.O. BOX 1492
EL PASO, TEXAS 79978
PHONE: 915-543-2600

JUN 24 197
CONSERVATION COMM.
SANTA FE

June 23, 1977

Examiner Nutter

New Mexico Oil & Gas Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

File

Attention: Mr. Joe D. Ramey

Re: NMOCC Case No. 5923
NMOCC Order No. R-5457
EPNG Underground Gas Storage
Barker Dome Project

Dear Mr. Ramey:

It has come to our attention that an error in transcription was made in describing the location for the proposed observation well "O" No. 34. The mistake was made in the data we originally submitted to the Commission in the above referenced hearing.

The Order issued in this case shows the observation well to be located in Section 29, T32N-R14W, NMPM, San Juan County, New Mexico, 960' from South line, and 323' from East line. El Paso Natural Gas Company desires to correct this location for observation well "O" No. 34 to Section 30, T32N-R14W, NMPM, San Juan County, New Mexico, 960' from South line, and 477' from East line. A Notice of Intent To Drill at this corrected location has been submitted to the Aztec District Office.

El Paso would like to receive administrative approval to change this location pursuant to the provisions set forth in NMOCC Order No. R-5457, Order No. (5). If any further details are required, please advise.

Very truly yours,

E. R. Manning by RHB

E. R. Manning

ERM:je

cc: NMOCC Aztec District
1000 Rio Brazos Road
Aztec, New Mexico 87401
Attention: Mr. A. R. Kendrick, Supervisor

USGS
Box 1809
Durango, Colorado 81301
Attention: Mr. Jerry Long, District Engineer

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

DIRECTOR
JOE D. RAMEY

LAND COMMISSIONER
PHIL R. LUCERO

STATE GEOLOGIST
EMERY C. ARNOLD

June 15, 1977

Re: CASE NO. 5923
ORDER NO. R-5457

Mr. Rand Schmidt
General Counsel
El Paso Natural Gas Company
Box 1492
El Paso, Texas 79978

Applicant:

El Paso Natural Gas Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

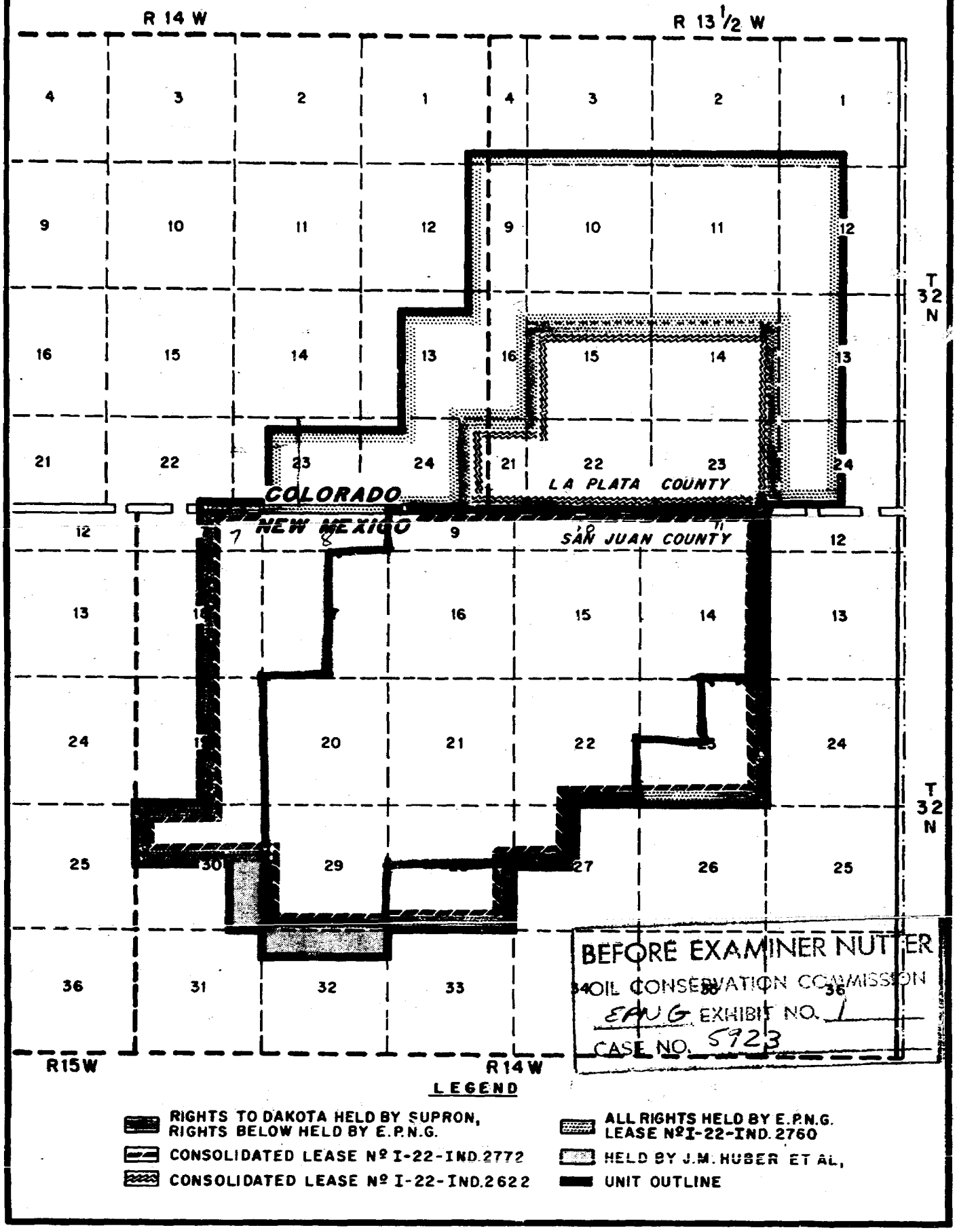
JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC x

Other

BARKER DOME GAS UNIT OUTLINE MAP



LEGAL DESCRIPTION OF NEW MEXICO LANDS

COVERED BY BARKER DOME GAS UNIT

SAN JUAN COUNTY, NEW MEXICO

1. Ute Mountain Tribal Lease bearing Contract No. I-22-Ind. 2772 containing approximately 8400 acres of unsurveyed land described as follows:

a. covering lands formerly embraced in lease bearing Contract No. I-22-Ind. 2485, all of which lands, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described by legal subdivisions as follows: All of Sections 15, 16, 17, 20, 21 and 22, the North 1/2 of Section 29, the Northwest 1/4 of Section 28, and those portions of Sections 8, 9 and 10 which lie south of the boundary line between the States of New Mexico and Colorado, all in Township 32 North, Range 14 West, N.M.P.M., containing 4960 acres, more or less;

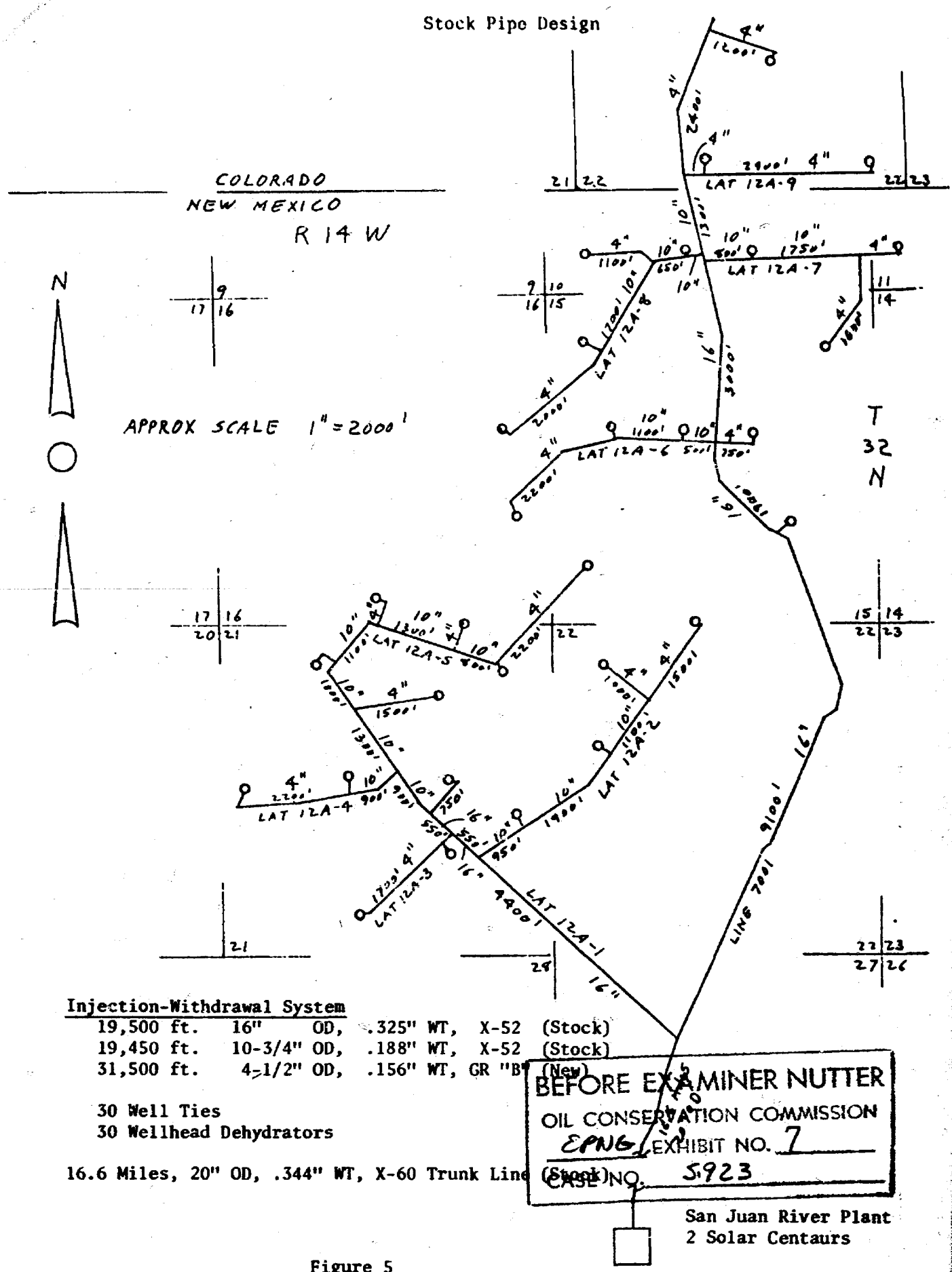
b. covering lands formerly embraced in lease bearing Contract No. I-22-Ind. 2746, all of which lands, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described by legal subdivisions as follows: That portion of Section 11 lying south of the New Mexico-Colorado state line and all of Sections 14 & 23, Township 32 North, Range 14 West, N.M.P.M., containing 1440 acres, more or less,

c. covering lands formerly embraced in lease bearing Contract No. I-22-Ind. 2747, all of which lands, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described by legal subdivisions as follows: That portion of the Southeast 1/4 of Section 7 which is south of the New Mexico state line; East 1/2 of Section 18; East 1/2 of Section 19; Northwest 1/4 of Section 27; South 1/2 and Northeast 1/4 of Section 28; South 1/2 of Section 29; North 1/2 of Section 30, Township 32 North, Range 14 West, N.M.P.M., containing 2000 acres, more or less.

2. Ute Mountain Tribal Lease bearing Contract No. MOOC-1420-1708 covering unsurveyed lands insofar, and only insofar, as said lease covers the following described lands which, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described as follows:

Township 32 North, Range 14 West, N.M.P.M.
Section 30: E/2 SE/4
Section 32: N/2 N/2
Containing 240 acres, more or less;

Stock Pipe Design



Injection-Withdrawal System

19,500 ft.	16"	OD,	.325" WT,	X-52 (Stock)
19,450 ft.	10-3/4"	OD,	.188" WT,	X-52 (Stock)
31,500 ft.	4-1/2"	OD,	.156" WT,	GR "B" (New)

30 Well Ties
30 Wellhead Dehydrators

16.6 Miles, 20" OD, .344" WT, X-60 Trunk Line (Stock)

Figure 5

4/28/77

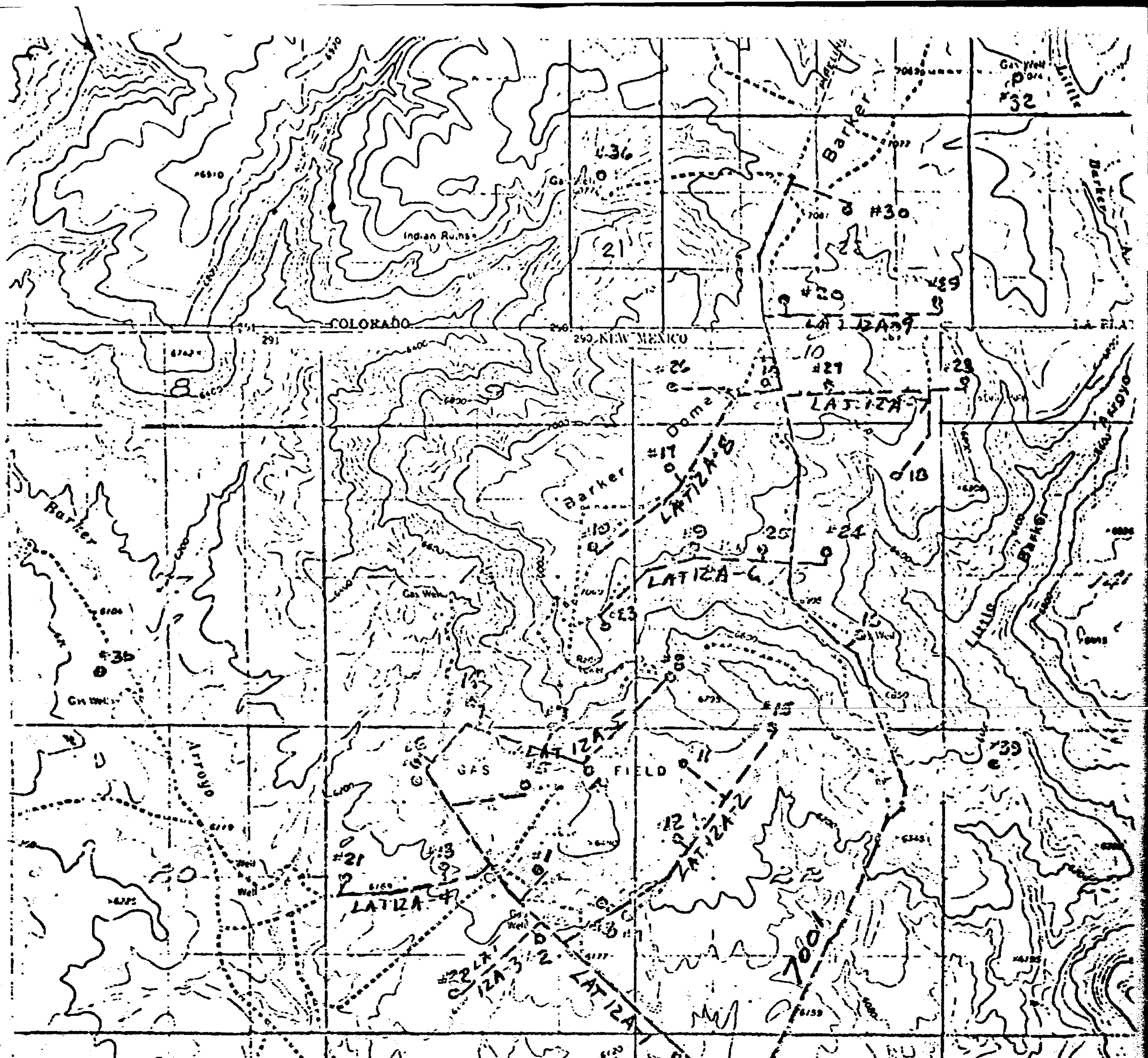
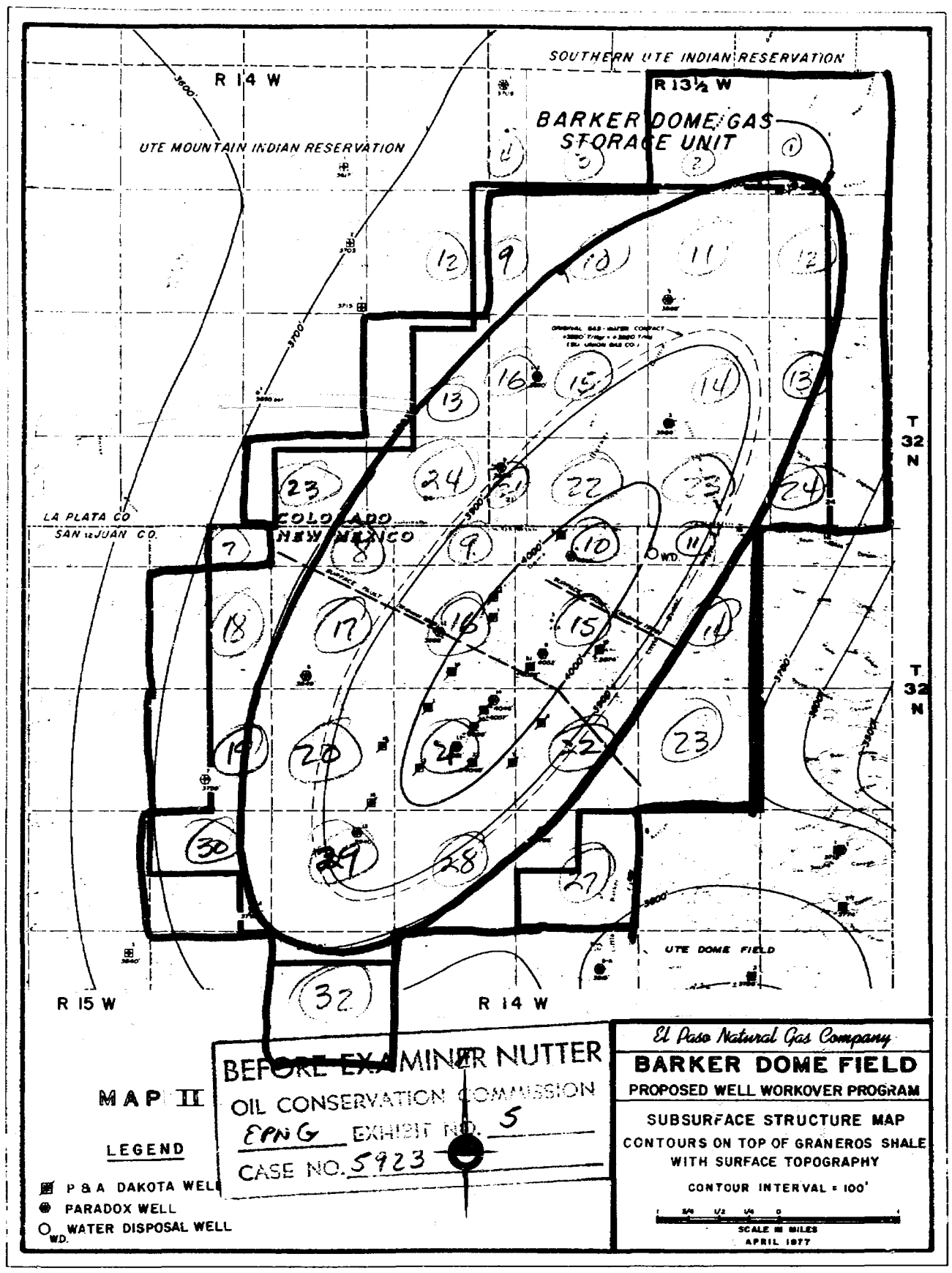

COLORADO
NEW MEXICO
Indian Ruins
Barker
Barker Dome
Arroyo
GAS FIELD
Gas Well
LATIZA-1
LATIZA-2
LATIZA-4
LATIZA-5
LATIZA-6
LATIZA-7
Little
Jones Lake
Blue Lake
N T A I N

Figure 3


SOUTHERN UTE INDIAN RESERVATION
R 14 W
R 13½ W
BARKER DOME GAS STORAGE UNIT
UTE MOUNTAIN INDIAN RESERVATION
3900
3700
LA PLATA CO
SAN JUAN CO.
COLORADO
NEW MEXICO
T 32 N
T 32 N
UTE DOME FIELD
R 15 W
R 14 W
MAP II
LEGEND
P & A DAKOTA WELL
PARADOX WELL
WATER DISPOSAL WELL
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 5
CASE NO. 5923
El Paso Natural Gas Company
BARKER DOME FIELD
PROPOSED WELL WORKOVER PROGRAM
SUBSURFACE STRUCTURE MAP
CONTOURS ON TOP OF GRANEROS SHALE
WITH SURFACE TOPOGRAPHY
CONTOUR INTERVAL = 100'
SCALE IN MILES
APRIL 1977

BARKER DOME GAS STORAGE PROJECT
SAN JUAN COUNTY, NEW MEXICO
AND
LA PLATA COUNTY, COLORADO
DAKOTA RESERVOIR PERFORMANCE GRAPH

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 8
CASE NO. 5923

INJECTION RATE

IWHP

BHP/Z

WHSIP

WITHDRAWAL RATE

WHSIP, IWHP & BHP/Z

1000 800 600 400 200 0

CAPACITY RATE 30 WELLS (M2CF/D)
6000 H.P. COMPRESSION

300 250 200 150 100 50 0

0 2 4 6 8 10 12 14 16 18 20 22

GAS INVENTORY (bcf)

0 2 4 6 8 10 12 14

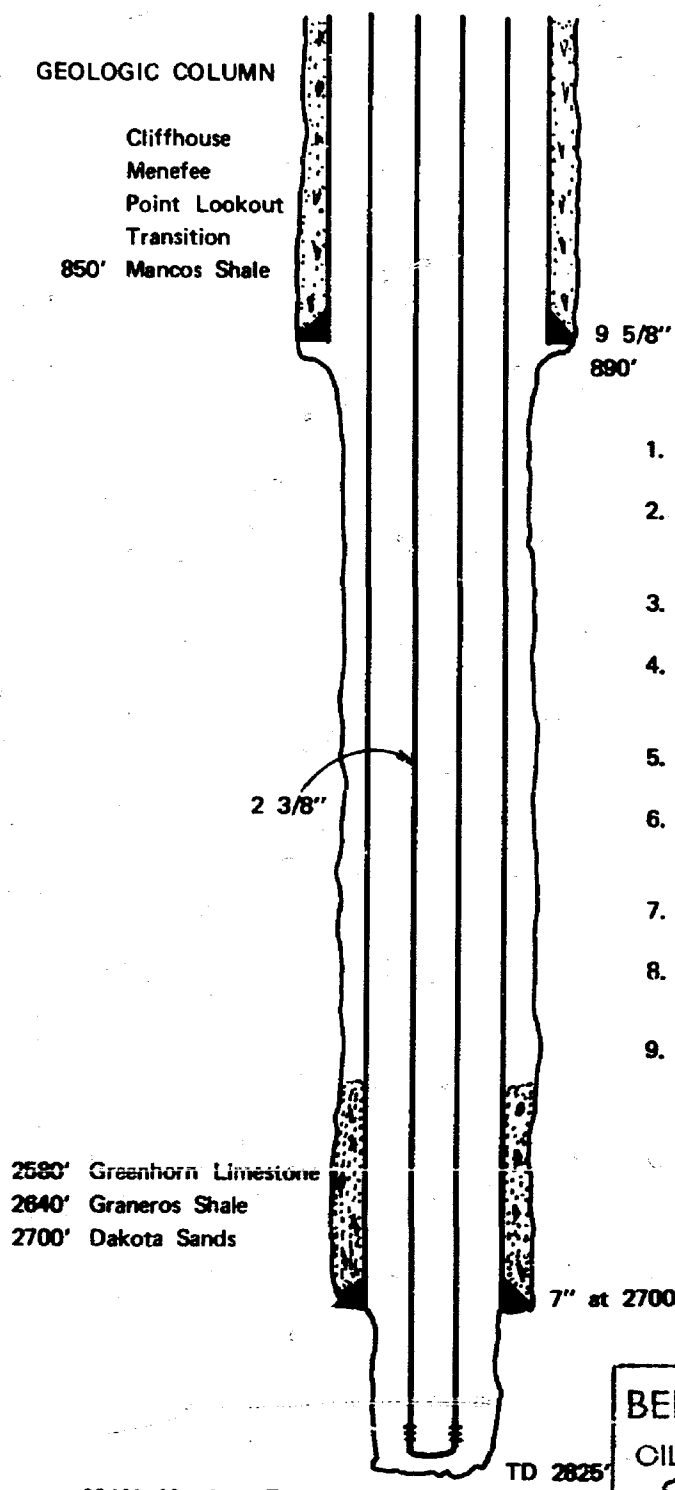
CUMULATIVE GAS INJECTED (bcf)

14 12 10 8 6 4 2 0

CUMULATIVE GAS WITHDRAWAL (bcf)

STANDARD CONDITIONS: 15.025 psia & 60°F

PROPOSED BARKER DOME STORAGE WITHDRAWAL–INJECTION WELL



REMARKS

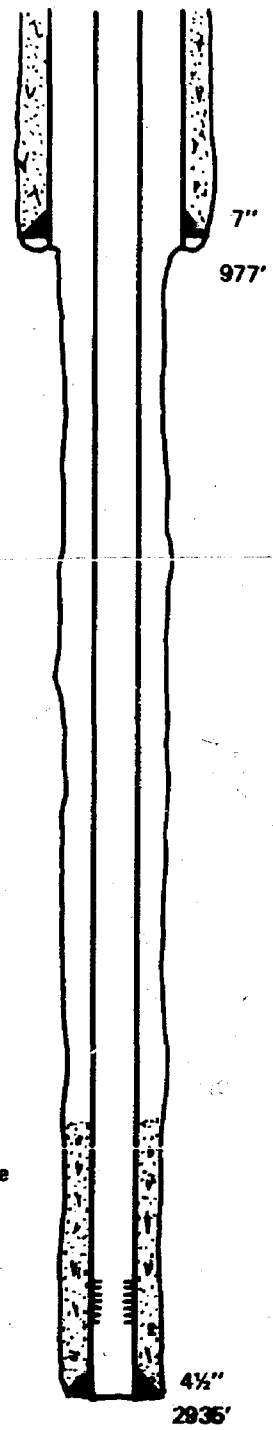
1. Average total depth of Dakota is 2700'.
2. 9 5/8" surface casing average depth is 890', set 40' into Mancos Shale.
3. Surface casing will be cemented to surface.
4. Production casing will be cemented approximately 400' above shoe.
5. Surface hole will be fluid drilled.
6. Production casing hole will be air or gas drilled.
7. Dakota will be air or gas drilled.
8. Formation tops footage is estimated for this average depth well.
9. Tubing landed 10 to 15 feet off total depth.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 9
CASE NO. 5923

PROPOSED BARKER DOME STORAGE OBSERVATION WELL

GEOLOGIC COLUMN

Cliffhouse
Menefee
Point Lookout
Transition
937' Mancos Shale



2690' Greenhorn Limestone
2750' Graneros Shale
2810' Dakota Sands

3050' Morrison Formation

REMARKS

1. Average total depth of Dakota is 2810'.
2. 7" surface casing average depth is 977', set 40' into Mancos Shale.
3. Surface casing will be cemented to surface.
4. Production casing will be cemented approximately 400' above shoe.
5. Hole to be fluid drilled.
6. 4½" will be perforated using information from core and log analysis.
7. Formation tops footage is estimated for this average depth well.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 10
CASE NO. 5923

FORM C-

PAGE _____

NEW MEXICO OIL CONSERVATION COMMISSION
P.O. BOX 2088, SANTA FE, NEW MEXICO 87501

GAS STORAGE MONTHLY REPORT
FOR MONTH OF_____

_____ (COMPANY) _____ (ADDRESS)

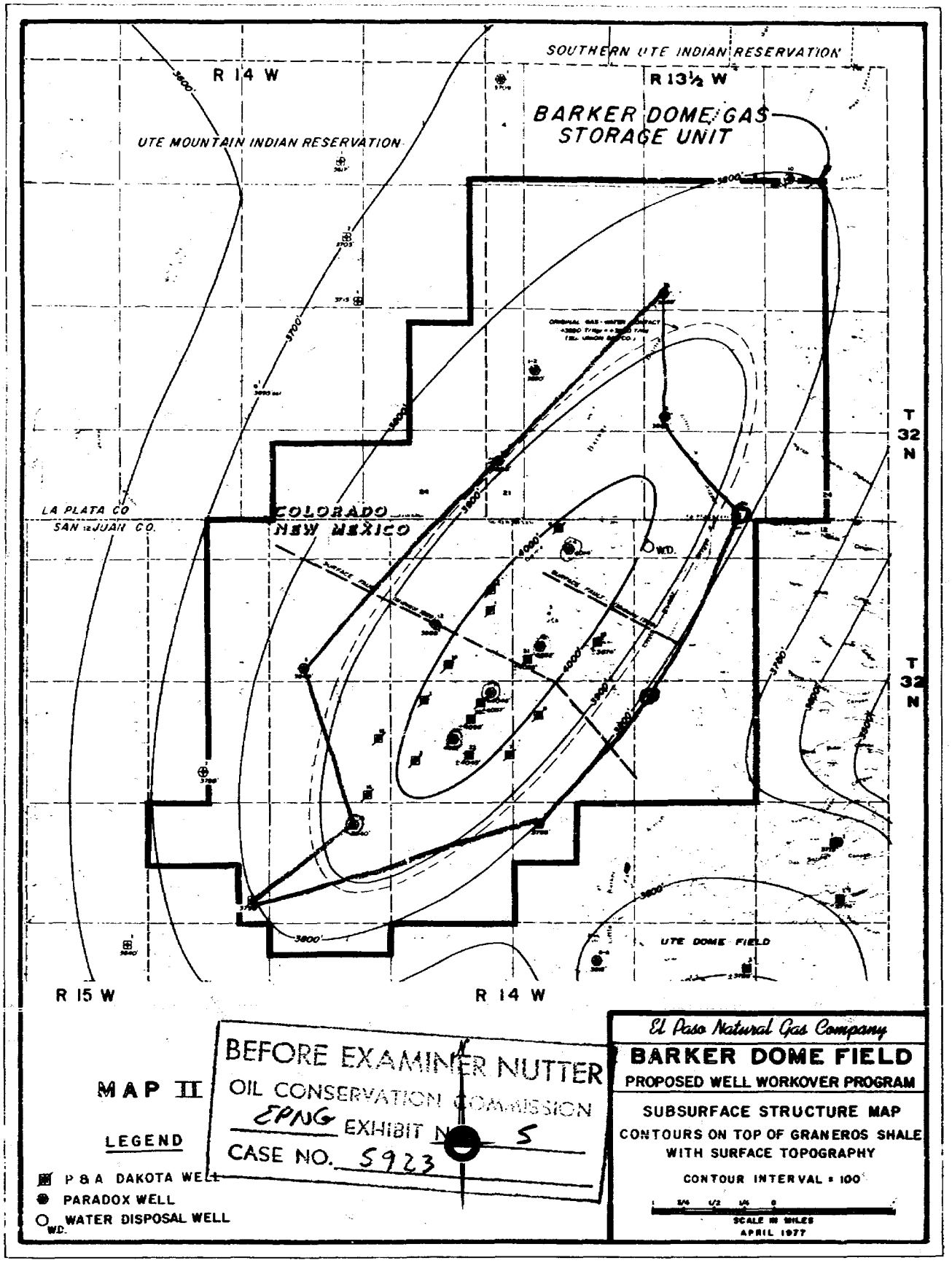
NAME OF STORAGE PROJECT: TYPE OF PROJECT: ☐ NATURAL GAS ☐ LPG

WELL NAME AND NUMBER	LOCATION				INJECTION (MCF)	WELLHEAD PRESSURE (PSIG)	WITH-DRAWAL (MCF)
	UNIT	SEC.	TWP.	RANGE			

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 11
CASE NO. 5923

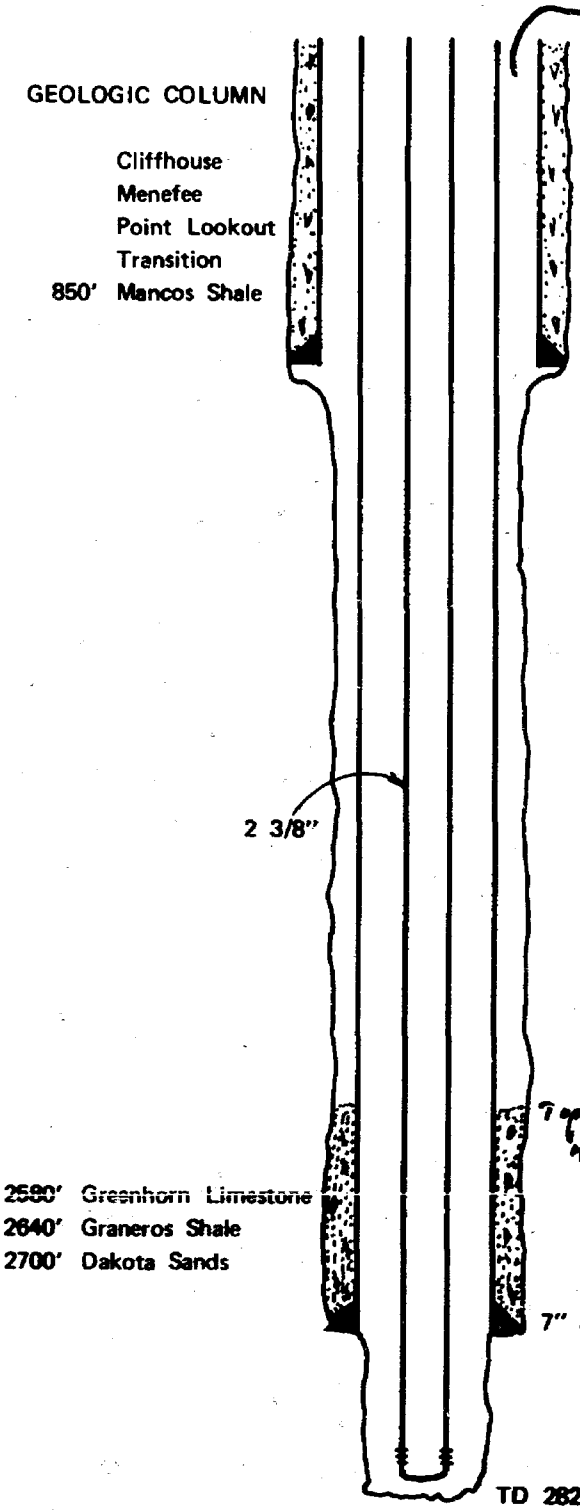
TOTALS: ....

TOTAL CAPACITY (MMCF)_____
BEGINNING STORAGE (MMCF)_____
NET CHANGE (MMCF)_____
ENDING STORAGE (MMCF)_____


SOUTHERN UTE INDIAN RESERVATION
R 14 W
R 13½ W
BARKER DOME GAS STORAGE UNIT
UTE MOUNTAIN INDIAN RESERVATION
T 32 N
T 32 N
LA PLATA CO
SAN JUAN CO.
COLORADO
NEW MEXICO
UTE DOME FIELD
R 15 W
R 14 W
MAP II
LEGEND
P & A DAKOTA WELL
PARADOX WELL
WATER DISPOSAL WELL
BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 5
CASE NO. 5923
El Paso Natural Gas Company
BARKER DOME FIELD
PROPOSED WELL WORKOVER PROGRAM
SUBSURFACE STRUCTURE MAP
CONTOURS ON TOP OF GRANEROS SHALE
WITH SURFACE TOPOGRAPHY
CONTOUR INTERVAL = 100'
SCALE IN MILES
APRIL 1977

PROPOSED BARKER DOME STORAGE WITHDRAWAL–INJECTION WELL

annulus will be open
max WH inj press 1000



REMARKS

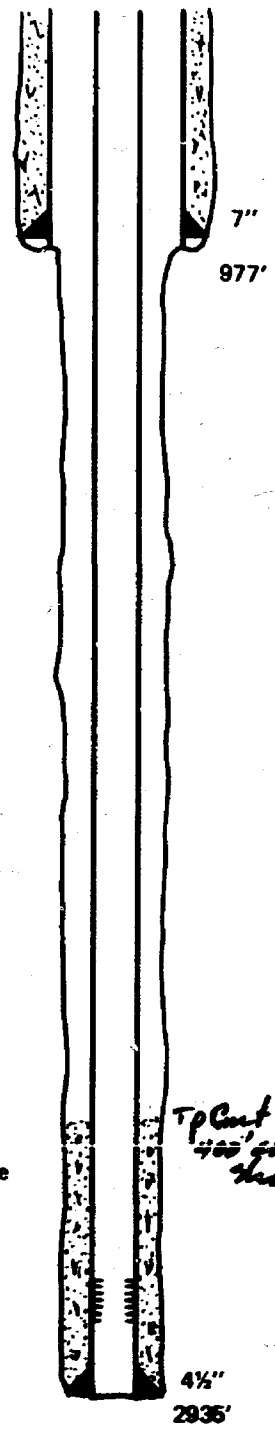
1. Average total depth of Dakota is 2700'.
2. 9 5/8" surface casing average depth is 890', set 40' into Mancos Shale.
3. Surface casing will be cemented to surface.
4. Production casing will be cemented approximately 400' above shoe.
5. Surface hole will be fluid drilled.
6. Production casing hole will be air or gas drilled.
7. Dakota will be air or gas drilled.
8. Formation tops footage is estimated for this average depth well.
9. Tubing landed 10 to 15 feet off total depth.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 9
CASE NO. 5923

PROPOSED BARKER DOME STORAGE OBSERVATION WELL

GEOLOGIC COLUMN

Cliffhouse
Menefee
Point Lookout
Transition
937' Mancos Shale



2690' Greenhorn Limestone
2750' Graneros Shale
2810' Dakota Sands

3060' Morrison Formation

REMARKS

1. Average total depth of Dakota is 2810'.
2. 7" surface casing average depth is 977', set 40' into Mancos Shale.
3. Surface casing will be cemented to surface.
4. Production casing will be cemented approximately 400' above shoe.
5. Hole to be fluid drilled.
6. 4½" will be perforated using information from core and log analysis.
7. Formation tops footage is estimated for this average depth well.

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 10
CASE NO. 5923

FORM C-

PAGE _____

NEW MEXICO OIL CONSERVATION COMMISSION
P.O. BOX 2088, SANTA FE, NEW MEXICO 87501
GAS STORAGE MONTHLY REPORT
FOR MONTH OF_____

_____ (COMPANY)

_____ (ADDRESS)

NAME OF STORAGE PROJECT:

TYPE OF PROJECT: ☐ NATURAL GAS ☐ LPG

WELL NAME AND NUMBER	LOCATION				INJECTION (MCF)	WELLHEAD PRESSURE (PSIG)	WITH-DRAWAL (MCF)
	UNIT	SEC.	TWP.	RANGE			

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EPNG EXHIBIT NO. 11
CASE NO. 5923

TOTALS: ....

TOTAL CAPACITY (MMCF)_____
BEGINNING STORAGE (MMCF)_____
NET CHANGE (MMCF)_____
ENDING STORAGE (MMCF)_____

CASE 5919: Application of Tenneco Oil Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Strawn formation through the perforated interval from 11,174 feet to 11,236 feet in its Jones Federal Well No. 1, located in Unit K of Section 23, Township 19 South, Range 31 East, Lusk-Strawn Pool, Eddy County, New Mexico.

CASE 5920: Application of New Mexico Salt Water Disposal Co., Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation through the perforated interval from approximately 13,000 feet to 13,500 feet in its Sinclair State Lea Well No. 1, located in Unit M of Section 1, Township 11 South, Range 34 East, Sand Springs-Devonian Pool, Lea County, New Mexico.

CASE 5921: Application of Eastland Oil Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Grayburg formation through perforated intervals from 3506 feet to 3598 feet in its Power Deep Unit Well No. 1, located in Unit F of Section 6, Township 18 South, Range 31 East, Power Grayburg-San Andres Pool, Eddy County, New Mexico.

CASE 5922: Application of A. L. Daugherty for an exception to Order No. R-3221, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the provisions of Commission Order No. R-3221, permission to dispose of produced salt water into an intermittent saline lake located in Section 24, Township 8 South, Range 29 East, and Section 19, Township 8 South, Range 30 East, both in Chaves County, New Mexico.

CASE 5653: (Reopened) (Continued from April 6, 1977, Examiner Hearing)

In the matter of Case 5653 being reopened pursuant to the provisions of Order No. R-5191 which order established temporary special pool rules for the Daisey-Wolfcamp Pool, Lea County, New Mexico. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 5923: Application of El Paso Natural Gas Company for underground gas storage, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute its Barker Dome Gas Storage Project by utilizing certain wells for the injection into and withdrawal of gas from the Upper Dakota formation underlying all of Sections 8, 9, 10, 11, 14, 15, 16, 17, 20, 21, 22, 23, 28, and 29, and portions of Sections 7, 18, 19, 27, 30, and 32, all in Township 32 North, Range 14 West, Barker Creek-Dakota Pool, San Juan County, New Mexico.

CASE 5904: (Continued from April 20, 1977, Examiner Hearing)

Application of Palmer Oil & Gas Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Fruitland and Pictured Cliffs formations underlying the NE/4 and/or SE/4 of Section 20, Township 32 North, Range 6 West, San Juan County, New Mexico, and in the Mesaverde and Dakota formations underlying the E/2 of said Section 20, the above-described lands to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5905: (Continued from April 20, 1977, Examiner Hearing)

Application of Palmer Oil & Gas Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Mesaverde and Dakota formations underlying the W/2 SE/4 and the E/2 SW/4 of Section 3, and the NW/4 of Section 10, and all mineral interests in the Pictured Cliffs and Fruitland formations underlying the NW/4 of Section 10, all in Township 31 North, Range 7 West, San Juan County, New Mexico, to be dedicated to a well to be drilled 1800 feet from the North line and 850 feet from the West line of said Section 10. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operting costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5906: (Continued from April 20, 1977, Examiner Hearing)

Application of Palmer Oil & Gas Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Mesaverde and Dakota formations underlying the W/2 SW/4 of Section 2, the E/2 SE/4 of Section

(Case 5906 continued on Page 3)

El Paso NATURAL GAS COMPANY

P. O. BOX 1492
EL PASO, TEXAS 79978

PHONE: 915-543-2600

May 13, 1977

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Dan Nutter

Re: Case No. 5923

Dear Mr. Nutter:

Pursuant to your request in the above-captioned case, I am providing herewith a listing of the tentative locations for the twenty-seven (27) withdrawal-injection wells and the five (5) observation wells which El Paso Natural Gas Company ("El Paso") plans to drill in the State of New Mexico in connection with its Barker Dome Gas Storage Project.

Also listed are the tentative locations for three (3) withdrawal-injection wells and four (4) observation wells to be drilled in the State of Colorado.

Respectfully submitted,

EL PASO NATURAL GAS COMPANY

By E. R. Manning

BARKER DOME STORAGE PROJECT

WELL LOCATIONS
NEW MEXICO & COLORADO

S.J. = San Juan
L.P. = La Plata

WELL NO.	UNIT	SECTION	TOWNSHIP	RANGE	LOCATION DISTANCES		COUNTY	STATE
WI 1	G	21	T-32-N	R-14-W	2525.4 FNL	1689.2 FEL	S.J.	N.M.
WI 2	J	21	T-32-N	R-14-W	1607.9 FSL	1629.5 FEL	S.J.	N.M.
WI 3	I	21	T-32-N	R-14-W	2183.7 FSL	670.2 FEL	S.J.	N.M.
WI 4	A	21	T-32-N	R-14-W	823.5 FNL	842.7 FEL	S.J.	N.M.
WI 5	B	21	T-32-N	R-14-W	1103.1 FNL	1964.8 FEL	S.J.	N.M.
WI 6	C	21	T-32-N	R-14-W	880.3 FNL	1554.7 FWL	S.J.	N.M.
WI 7	B	21	T-32-N	R-14-W	101.9 FNL	1594.0 FEL	S.J.	N.M.
WI 8	M	15	T-32-N	R-14-W	877.1 FSL	602.1 FWL	S.J.	N.M.
WI 9	E	15	T-32-N	R-14-W	2144.0 FNL	894.3 FWL	S.J.	N.M.
WI 10	H	16	T-32-N	R-14-w	2136.8 FNL	714.0 FEL	S.J.	N.M.
WI 11	D	22	T-32-N	R-14-W	669.8 FNL	689.1 FWL	S.J.	N.M.
WI 12	E	22	T-32-N	R-14-W	2003.6 FNL	747.4 FWL	S.J.	N.M.
WI 13	F	21	T-32-N	R-14-W	2485.3 FNL	1994.4 FWL	S.J.	N.M.
WI 14	N	16	T-32-N	R-14-W	440.2 FSL	2447.7 FWL	S.J.	N.M.
WI 15	N	15	T-32-N	R-14-W	68.4 FSL	2273.2 FWL	S.J.	N.M.
WI 16	J	15	T-32-N	R-14-W	1570.5 FSL	1540.1 FEL	S.J.	N.M.
WI 17	D	15	T-32-N	R-14-W	619.3 FNL	937.9 FWL	S.J.	N.M.
WI 18	A	15	T-32-N	R-14-W	1001.2 FNL	811.5 FEL	S.J.	N.M.
WI 19	N	10	T-32-N	R-14-W	610.3 FSL	2113.0 FWL	S.J.	N.M.
~~WI 20~~	K	22	T-32-N	R-13 1/2-W	521.6 FSL	2012.6 FWL	L.P.	Colo.
WI 21	E	21	T-32-N	R-14-W	2268.0 FNL	74.8 FWL	S.J.	N.M.
WI 22	N	21	T-32-N	R-14-W	656.0 FSL	2191.7 FWL	S.J.	N.M.
WI 23	I	16	T-32-N	R-14-W	1700.4 FSL	816.9 FEL	S.J.	N.M.
WI 24	G	15	T-32-N	R-14-W	2015.2 FNL	2459.2 FEL	S.J.	N.M.
WI 25	C	15	T-32-N	R-14-W	891.9 FNL	2227.5 FWL	S.J.	N.M.
WI 26	M	10	T-32-N	R-14-W	646.4 FSL	1268.7 FWL	S.J.	N.M.
WI 27	O	10	T-32-N	R-14-W	988.7 FNL	1490.8 FEL	S.J.	N.M.
WI 28	M	11	T-32-N	R-14-W	600.5 FSL	132.8 FWL	S.J.	N.M.
~~WI 29~~	I	22	T-32-N	R-13 1/2-W	656.3 FSL	790.0 FEL	L.P.	Colo.
~~WI 30~~	G	22	T-32-N	R-13 1/2-W	1776.4 FSL	2261.9 FEL	L.P.	Colo.
"O" 31	B	29	T-32-N	R-14-W	889.3 FNL	1771.1 FEL	S.J.	N.M.
~~"O" 32~~	M	14	T-32-N	R-13 1/2-W	713.6 FSL	408.7 FWL	L.P.	Colo.
"O" 33	D	27	T-32-N	R-14-W	388.5 FNL	714.7 FWL	S.J.	N.M.
"O" 34	M	29	T-32-N	R-14-W	960.2 FSL	322.7 FEL	S.J.	N.M.
"O" 35	N	17	T-32-N	R-14-W	976.2 FSL	1489.9 FWL	S.J.	N.M.
~~"O" 36~~	A	21	T-32-N	R-13 1/2-W	1206.4 FNL	464.0 FWL	L.P.	Colo.
~~"O" 37~~	M	11	T-32-N	R-13 1/2-W	272.7 FSL	930.5 FWL	L.P.	Colo.
~~"O" 38~~	I	23	T-32-N	R-13 1/2-W	945.7 FSL	1253.9 FEL	L.P.	Colo.
"O" 39	E	23	T-32-N	R-14-W	1353.0 FNL	829.2 FWL	S.J.	N.M.

El Paso NATURAL GAS COMPANY

P. O. BOX 1492
EL PASO, TEXAS 79978

PHONE: 915-543-2600

May 13, 1977

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. Dan Nutter

Re: Case No. 5923

Dear Mr. Nutter:

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Also listed are the tentative locations for three (3) withdrawal-injection wells and four (4) observation wells to be drilled in the State of Colorado.

Respectfully submitted,

EL PASO NATURAL GAS COMPANY

By E. R. Manning

BARKER DOME STORAGE PROJECT

WELL LOCATIONS
NEW MEXICO & COLORADO

S.J. = San Juan
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WELL NO.	UNIT	SECTION	TOWNSHIP	RANGE	LOCATION DISTANCES		COUNTY	STATE
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WI 2	J	21	T-32-N	R-14-W	1607.9 FSL	1629.5 FEL	S.J.	N.M.
WI 3	I	21	T-32-N	R-14-W	2183.7 FSL	670.2 FEL	S.J.	N.M.
WI 4	A	21	T-32-N	R-14-W	823.5 FNL	842.7 FEL	S.J.	N.M.
WI 5	B	21	T-32-N	R-14-W	1103.1 FNL	1964.8 FEL	S.J.	N.M.
WI 6	C	21	T-32-N	R-14-W	880.3 FNL	1554.7 FWL	S.J.	N.M.
WI 7	B	21	T-32-N	R-14-W	101.9 FNL	1594.0 FEL	S.J.	N.M.
WI 8	M	15	T-32-N	R-14-W	877.1 FSL	602.1 FWL	S.J.	N.M.
WI 9	E	15	T-32-N	R-14-W	2144.0 FNL	894.3 FWL	S.J.	N.M.
WI 10	H	16	T-32-N	R-14-w	2136.8 FNL	714.0 FEL	S.J.	N.M.
WI 11	D	22	T-32-N	R-14-W	669.8 FNL	689.1 FWL	S.J.	N.M.
WI 12	E	22	T-32-N	R-14-W	2003.6 FNL	747.4 FWL	S.J.	N.M.
WI 13	F	21	T-32-N	R-14-W	2485.3 FNL	1994.4 FWL	S.J.	N.M.
WI 14	N	16	T-32-N	R-14-W	440.2 FSL	2447.7 FWL	S.J.	N.M.
WI 15	N	15	T-32-N	R-14-W	68.4 FSL	2273.2 FWL	S.J.	N.M.
WI 16	J	15	T-32-N	R-14-W	1570.5 FSL	1540.1 FEL	S.J.	N.M.
WI 17	D	15	T-32-N	R-14-W	619.3 FNL	937.9 FWL	S.J.	N.M.
WI 18	A	15	T-32-N	R-14-W	1001.2 FNL	811.5 FEL	S.J.	N.M.
WI 19	N	10	T-32-N	R-14-W	610.3 FSL	2113.0 FWL	S.J.	N.M.
WI 20	K	22	T-32-N	R-13 1/2-W	521.6 FSL	2012.6 FWL	L.P.	Colo.
WI 21	E	21	T-32-N	R-14-W	2268.0 FNL	74.8 FWL	S.J.	N.M.
WI 22	N	21	T-32-N	R-14-W	656.0 FSL	2191.7 FWL	S.J.	N.M.
WI 23	I	16	T-32-N	R-14-W	1700.4 FSL	816.9 FEL	S.J.	N.M.
WI 24	G	15	T-32-N	R-14-W	2015.2 FNL	2459.2 FEL	S.J.	N.M.
WI 25	C	15	T-32-N	R-14-W	891.9 FNL	2227.5 FWL	S.J.	N.M.
WI 26	M	10	T-32-N	R-14-W	646.4 FSL	1268.7 FWL	S.J.	N.M.
WI 27	O	10	T-32-N	R-14-W	988.7 FNL	1490.8 FEL	S.J.	N.M.
WI 28	M	11	T-32-N	R-14-W	600.5 FSL	132.8 FWL	S.J.	N.M.
WI 29	I	22	T-32-N	R-13 1/2-W	656.3 FSL	790.0 FEL	L.P.	Colo.
WI 30	G	22	T-32-N	R-13 1/2-W	1776.4 FSL	2261.9 FEL	L.P.	Colo.
"O" 31	B	29	T-32-N	R-14-W	889.3 FNL	1771.1 FEL	S.J.	N.M.
"O" 32	M	14	T-32-N	R-13 1/2-W	713.6 FSL	408.7 FWL	L.P.	Colo.
"O" 33	D	27	T-32-N	R-14-W	388.5 FNL	714.7 FWL	S.J.	N.M.
"O" 34	M	29	T-32-N	R-14-W	960.2 FSL	322.7 FEL	S.J.	N.M.
"O" 35	N	17	T-32-N	R-14-W	976.2 FSL	1489.9 FWL	S.J.	N.M.
"O" 36	A	21	T-32-N	R-13 1/2-W	1296.4 FNL	464.0 FWL	L.P.	Colo.
"O" 37	M	11	T-32-N	R-13 1/2-W	272.7 FSL	930.5 FWL	L.P.	Colo.
"O" 38	I	23	T-32-N	R-13 1/2-W	945.7 FSL	1253.9 FEL	L.P.	Colo.
"O" 39	E	23	T-32-N	R-14-W	1353.0 FNL	829.2 FWL	S.J.	N.M.

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WI 5	B	21	T-32-N	R-14-W	1103.1 FNL	1964.8 FEL	S.J.	N.M.
WI 6	C	21	T-32-N	R-14-W	880.3 FNL	1554.7 FWL	S.J.	N.M.
WI 7	B	21	T-32-N	R-14-W	101.9 FNL	1594.0 FEL	S.J.	N.M.
WI 8	M	15	T-32-N	R-14-W	87[illegible].1 FSL	602.1 FWL	S.J.	N.M.
WI 9	E	15	T-32-N	R-14-W	2144.0 FNL	894.3 FWL	S.J.	N.M.
WI 10	H	16	T-32-N	R-14-W	2136.8 FNL	714.0 FEL	S.J.	N.M.
WI 11	D	22	T-32-N	R-14-W	669.8 FNL	689.1 FWL	S.J.	N.M.
WI 12	E	22	T-32-N	R-14-W	2003.6 FNL	747.4 FWL	S.J.	N.M.
WI 13	F	21	T-32-N	R-14-W	2485.3 FNL	1994.4 FWL	S.J.	N.M.
WI 14	N	16	T-32-N	R-14-W	440.2 FSL	2447.7 FWL	S.J.	N.M.
WI 15	N	15	T-32-N	R-14-W	68.4 FSL	2273.2 FWL	S.J.	N.M.
WI 16	J	15	T-32-N	R-14-W	1570.5 FSL	1540.1 FEL	S.J.	N.M.
WI 17	D	15	T-32-N	R-14-W	619.3 FNL	937.9 FWL	S.J.	N.M.
WI 18	A	15	T-32-N	R-14-W	1001.2 FNL	811.5 FEL	S.J.	N.M.
WI 19	N	10	T-32-N	R-14-W	610.3 FSL	2113.0 FWL	S.J.	N.M.
WI 20	K	22	T-32-N	R-13 1/2-W	521.6 FSL	2012.6 FWL	L.P.	Colo.
WI 21	E	21	T-32-N	R-14-W	2268.0 FNL	74.8 FWL	S.J.	N.M.
WI 22	N	21	T-32-N	R-14-W	656.0 FSL	2191.7 FWL	S.J.	N.M.
WI 23	I	16	T-32-N	R-14-W	1700.4 FSL	816.9 FEL	S.J.	N.M.
WI 24	G	15	T-32-N	R-14-W	2015.2 FNL	2459.2 FEL	S.J.	N.M.
WI 25	C	15	T-32-N	R-14-W	891.9 FNL	2227.5 FWL	S.J.	N.M.
WI 26	M	10	T-32-N	R-14-W	646.4 FSL	1268.7 FWL	S.J.	N.M.
WI 27	O	10	T-32-N	R-14-W	988.7 FNL	1490.8 FEL	S.J.	N.M.
WI 28	M	11	T-32-N	R-14-W	600.5 FSL	132.8 FWL	S.J.	N.M.
WI 29	I	22	T-32-N	R-13 1/2-W	656.3 FSL	790.0 FEL	L.P.	Colo.
WI 30	G	22	T-32-N	R-13 1/2-W	1776.4 FSL	2261.9 FEL	L.P.	Colo.
"O" 31	B	29	T-32-N	R-14-W	889.3 FNL	1771.1 FEL	S.J.	N.M.
"O" 32	M	14	T-32-N	R-13 1/2-W	713.6 FSL	408.7 FWL	L.P.	Colo.
"O" 33	D	27	T-32-N	R-14-W	388.5 FNL	714.7 FWL	S.J.	N.M.
"O" 34	M	29	T-32-N	R-14-W	960.2 FSL	322.7 FEL	S.J.	N.M.
"O" 35	N	17	T-32-N	R-14-W	976.2 FSL	1489.9 FWL	S.J.	N.M.
"O" 36	A	21	T-32-N	R-13 1/2-W	1296.4 FNL	464.0 FWL	L.P.	Colo.
"O" 37	M	11	T-32-N	R-13 1/2-W	272.7 FSL	930.5 FWL	L.P.	Colo.
"O" 38	I	23	T-32-N	R-13 1/2-W	945.7 FSL	1253.9 FEL	L.P.	Colo.
"O" 39	E	23	T-32-N	R-14-W	1353.0 FNL	829.2 FWL	S.J.	N.M.

J. Q. SETH (1883-1963)

A. K. MONTGOMERY
FRANK ANDREWS
FRED C. HANNAHS
SETH D. MONTGOMERY
FRANK ANDREWS III
OWEN M. LOPEZ
JEFFREY R. BRANNEN
JOHN BENNETT POUND

GARY R. KILPATRIC
THOMAS W. OLSON
WALTER J. MELENDRES
BRUCE L. HERR

MONTGOMERY, ANDREWS & HANNAHS
ATTORNEYS AND COUNSELORS AT LAW
325 PASEO DE PERALTA
SANTA FE, NEW MEXICO 87501

POST OFFICE BOX 2307
AREA CODE 505
TELEPHONE 982-3873

May 10, 1977

New Mexico Oil Conservation Commission
State Land Office Building
Santa Fe, New Mexico 87503

Re: OCC Case No. 5923 - Application of El Paso Natural Gas Company for underground gas storage, San Juan County, New Mexico

Gentlemen:

Please be advised that David T. Burleson and/or Rand Schmidt of the office of General Counsel of El Paso Natural Gas Company are associated with our firm for the purpose of presenting testimony with respect to the above-referenced case.

Sincerely yours,

Owen M. Lopez

OML:RB
5086-76-12

Case 5923

El Paso NATURAL GAS COMPANY

P. O. BOX 1492
EL PASO, TEXAS 79978
PHONE 915-543-2600

APR 18 1977

April 15, 1977

Jan Hg 5/11

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

El Paso Natural Gas Company respectfully requests that a hearing be set before the Commission or its designated examiner at your earliest convenience.

El Paso seeks approval to establish and operate a gas storage project in which the Cretaceous Upper Dakota Formation underlying certain lands in San Juan County, New Mexico, and certain other lands in the State of Colorado will be converted into a gas storage reservoir to be used for the injection and withdrawal of gas, said project being known as the Barker Dome Gas Storage Project.

This project is expected to encompass approximately 8400 acres in the state of New Mexico of unsurveyed land which, if surveyed and platted according to Protracted Survey Diagram, approved June 30, 1959, would be described by legal subdivisions as all of Sections 8, 9, 10, 11, 14, 15, 16, 17, 20, 21, 22, 23, 28 and 29, East 1/2 Section 7, East 1/2 Section 18, East 1/2 Section 19, Northwest 1/4 Section 27, North 1/2 Section 30 and East 1/2 Southeast 1/4 Section 30, and the North 1/2 North 1/2 Section 32, Township 32 North, Range 14 West, San Juan County, New Mexico.

The Dakota Formation stratigraphically occurs beneath said lands at depths from 2300 to 3200 feet below the surface of the earth.

Case 5923

El Paso's plan will involve the plugging and abandonment of certain existing wells, the drilling and completion of certain injection-withdrawal wells and observation wells, all as will be more particularly described in the hearing which El Paso requests.

Very truly yours,

E. R. Manning

E. R. Manning

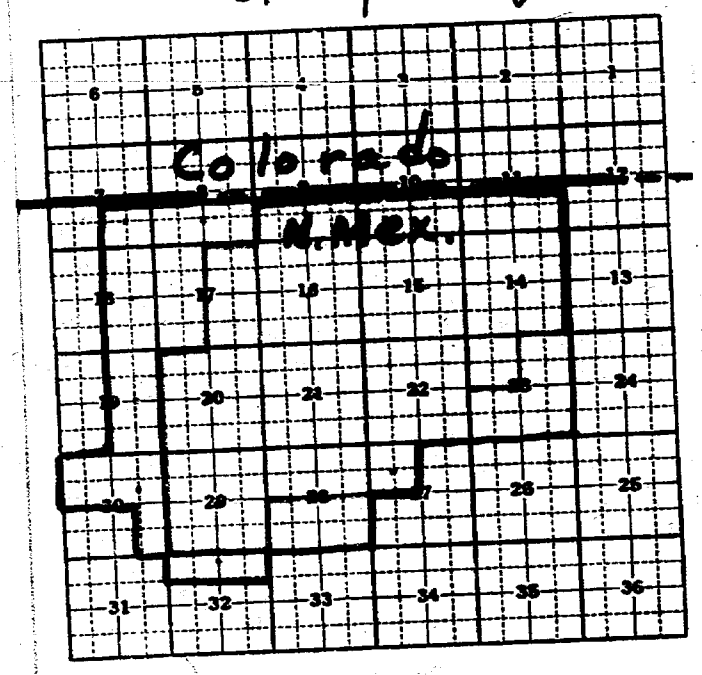
ERM:eh

Name

Address Ph.

Remarks:

Green:
EP Proposed Stge Area



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FORM C-

PAGE _____

NEW MEXICO OIL CONSERVATION COMMISSION
P.O. BOX 2088, SANTA FE, NEW MEXICO 87501

GAS STORAGE MONTHLY REPORT
FOR MONTH OF _____

_____ (COMPANY)

_____ (ADDRESS)

NAME OF STORAGE PROJECT:

TYPE OF PROJECT: ☐ NATURAL GAS ☐ LPG

WELL NAME AND NUMBER	LOCATION				INJECTION (MCF)	WELLHEAD PRESSURE (PSIG)	WITH-DRAWAL (MCF)	REMARKS
	UNIT	SEC.	TWP.	RANGE				

TOTALS: ....

TOTAL CAPACITY (MMCF) _____
BEGINNING STORAGE (MMCF) _____
NET CHANGE (MMCF) _____
ENDING STORAGE (MCCF) _____

FORM C-

PAGE_____

NEW MEXICO OIL CONSERVATION COMMISSION

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

GAS STORAGE MONTHLY REPORT

FOR MONTH OF _____

_____ (COMPANY) _____ (ADDRESS)

NAME OF STORAGE PROJECT:

TYPE OF PROJECT: ☐ NATURAL GAS ☐ LPG

WELL NAME AND NUMBER	LOCATION				INJECTION (MCF)	WELLHEAD PRESSURE (PSIG)	WITH-DRAWAL (MCF)	
	UNIT	SEC.	TWP.	RANGE				
25	5	7	4	4				

TOTALS: ....

TOTAL CAPACITY (MMCF) _____

BEGINNING STORAGE (MMCF) _____

NET CHANGE (MMCF) _____

ENDING STORAGE (MCCF) _____

PROPOSED TESTIMONY OF E. R. MANNING IN CASE NO. 5923
BARKER DOME GAS STORAGE PROJECT

Q: Please state your name and by whom you are employed.

A: E. R. Manning. I am employed by El Paso Natural Gas Company.

Q: In what capacity are you employed?

A: Chief Proration Engineer.

Q: Have you previously testified before the NMOCC or one of its designated examiners?

A: Yes sir.

Q: As Chief Proration Engineer, are you familiar with El Paso's application in this case?

A: Yes, I am.

Q: Are the witness' qualifications acceptable to the Commission?

Q: Mr. Manning, does this downhole storage area present certain problems to El Paso that would be considered different from normal oil and gas operations?

A: Yes sir. To adequately develop this storage project certain additional wells will need to be drilled and completed for injection and/or withdrawal of gas. Also additional observation wells might need to be drilled so that the operation of the project can be monitored. In drilling these additional wells, El Paso requests that a procedure of administrative approval be established whereby any well to be drilled in the project area, as outlined in our Exhibit #1, can be drilled at what we consider the most workable location. The topography of this area is very dramatic in that there is a high mesa to the north with deep canyons extending from that mesa and the terrain in the south is very hilly with many gullies. Specifically we are asking that Statewide Rule 104 be waived for this project. Rule 104 deals with Well Spacing and Acreage Requirements. In this project we need wells located where they can best be utilized to receive gas during the injection cycle, and will produce back into the line during the withdrawal cycle. The entire project becomes the dedicated acreage and therefore we do not have individual well acreage dedication. Additional wells may need to be developed on short notice. In the interest of saving time & unnecessary expenses, El Paso does desire to have this administrative approval established.

Q: Mr. Manning, how do you propose that the production from these wells be monitored?

A: Each withdrawal - injection well will be equipped with two meters. One meter to measure injected gas and the other meter to measure gas withdrawn. In this project gas can only be injected or withdrawn at any one period of time.

The condition does not exist whereby gas can be injected into some wells and withdrawn from others at the same time.

Q: How will this production be reported to the NMOCC?

A: I have a copy of a form which we propose be used for reporting the total movement of gas to and from the Storage Project. This is marked as EPNG's Exhibit No. _____. This form has spaces provided for the company name and address, the name of the Storage Project, and the type of project. Then space is provided for each well name and number to be listed, the location, injected gas volume, well-head pressure and withdrawal gas volume. A space is provided for the Storage Project Total Capacity, the Beginning Storage, Net Change, and Ending Storage at the bottom of the report. This form could be utilized as a computer prepared report or be filled out manually. This would be labeled as NMOCC Form C-112 for Gas Storage Projects.

Q: What testing requirements do you foresee for wells in this project?

A: We see no need for potential tests of any kind to be conducted on newly completed wells. And we do not see any reason for annual testing requirements for each well. The project will operate as one large well either with gas being injected into it or gas being withdrawn. We are asking for relief from Statewide Rules 401 and 402 for wells included in this project.

Q: Mr. Manning, would you please tell examiner what El Paso's target date for commencing the injection of gas in the Barker Dome Gas Storage Project?

A: The target date to begin injection is ~~August~~ September 15, 1977

Q: For whose benefit is the proposed Gas Storage Project?

A: This project is for the benefit of El Paso's high priority east of California customers.

Q: Are some of the people within the state of New Mexico El Paso's high priority east of California customers?

A: Yes sir.

Q: What is the source of the gas to be stored?

A: Gas which is curtailed from El Paso's low priority east of California customers is to be stored.

Q: When will this stored gas be withdrawn from storage and utilized?

A: El Paso plans to use the stored gas during any high demand period for use by its high priority east of California customers. We hope that we can start utilizing the stored gas during the coming heating season.

Q: In other words this gas is for the sole use of high priority east of California customers during periods of high demand for gas.

A: Yes sir.

Q: Notice of commencement and discontinuance of injection operations is required by the Statewide rules. Does this present any problem to the plan of operation of this storage project.

A: ~~No sir~~ YES SIR. Statewide rule 703 MAY covers this operation and we should not have any problem with this notice of operation.

Q: Mr. Manning, in your opinion, will the granting of this request for unorthodox locations and administrative approval of various locations violate correlative rights or cause waste?

A: No sir - this will not violate correlative rights or cause waste.

Q: Mr. Examiner, we ask that EPNG Exhibit No. _____ be admitted into evidence.

Q: This concludes our direct testimony. We would be happy to field any questions you have for any of our witnesses.

OPENING STATEMENT

My name is Rand Schmidt. I am from El Paso Natural Gas Company's Office of General Counsel and I am representing El Paso Natural Gas Company here today. I have a letter associating myself with the local Montgomery, Andrews and Hannahs firm for the purpose of this hearing. (Present letter to Examiner). In addition, Mr. Owen Lopez of the Montgomery firm is here today as co-counsel.

El Paso Natural gas Company proposes to construct and operate certain gas injection and withdrawal facilities so as to convert the Dakota Formation of the Barker [redacted]-Dome gas POOL underlying portions of San Juan County, New Mexico and La Plata County, Colorado to a gas storage reservoir. This storage reservoir will be utilized to store gas volumes which would otherwise be sold to El Paso's low priority East-of-California customers Omit during periods of slack demand. This gas will then be used to protect the requirements of El Paso's Priority 1 and Priority 2 East-of-California customers during periods of peak demand.

It is presently anticipated that if required approvals have been obtained, construction of El Paso's facilities will commence in July of this year and initial injections of gas will commence on or about September 15, 1977.

El Paso has requested this hearing for four (4) reasons:

_____ First, El Paso desires to inform the Commission about this project.

_____ Secondly, El Paso seeks the Commission's approval for El Paso's proposed well completion program, which will be described for you shortly. El Paso would ask that the Commission make an express finding that this proposed completion program will protect aquifers in the Barker Dome area.

_____ Third, El Paso seeks relief from the application of Rules _____ insofar as such rules apply to this project.

_____ Finally, El Paso seeks the Commission's approval for the project as a whole, insofar as the project falls within the jurisdiction of the Commission.

I have five (5) witnesses who will testify today. My first witness is _____.

[OFFER EXHIBITS IN EVIDENCE

AT THE END OF EACH WITNESS' TESTIMONY.]