BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 11, 1971

Examiner Hearing

IN THE MATTER OF:

Application of Stephen C. Helbing for a unit agreement, Eddy County, New Mex.) Case No. 4579

Before: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We'll take next Case 4579.

MR. HATCH: Case 4579. Application of Stephen C. Helbing for a unit agreement, Eddy County, New Mexico.

MR. RICHARDSON: Randall M. Richardson, Roswell, New Mexico, representing Stephen C. Helbing in connection with Case 4579, application for approval of a Juniper Caynon Unit area, Eddy County, New Mexico, and I have one witness. Would you please swear him?

(Witness sworn)

FRANK W. POPECHAN

having been first duly sworn testified as follows:

DIRECT EXAMINATION

BY MR. RICHARDSON:

Q Would you please state your name?

A Frank W. Popechan.

MR. RICHARDSON: Mr. Nutter, Mr. Popechan has previously qualified in case 2907 on October 25, 1963. Would you like for him to be requalified, or is that sufficient?

MR. NUTTER: Well, let's review the qualifications so we won't have to go back so far.

Q (Mr. Richardson continuing) Would you please state your name, a brief outline of your educational background and qualifications that would enable to testify as an expert in this case?

A My name is Frank W. Popechan. I am a graduate geologist, Oklahoma State University, 1950.

I was employed by Pan American for approximately five years as a geologist. Since that time I have been an independent consulting geologist and oil operater, experience in Oklahoma, New Mexico, Texas and Canada.

MR. NUTTER: Then you are acquainted with this area?

THE WITNESS: I am acquainted with this area, and I have worked in Southeast New Mexico for approximately twenty years.

MR. NUTTER: Thank you, sir. Mr. Popechan is qualified.

MR. RICHARDSON: I hand you a geological report covering the unit area which we would like to introduce into the record as evidence.

MR. HATCH: Each of these are separate here?

MR. RICHARDSON: It is one report with five different enclosures. I don't know what you would want to stamp them, if separately or not, but they are all referred to in the body of the report.

MR. HATCH: Do you want to keep them separately? I will just number them in the order that they are going in.

(Whereupon, Applicant's Exhibits numbers 1 through 6 were

marked for identification.)

MR. RICHARDSON: Fine.

Q (Mr. Richardson continuing) Mr. Popechan, you have before you a duplicate copy of the geological report that was introduced into this case. This report was prepared by you, was it not?

A Yes, sir.

Q Would you please state for the commission the approximate location of the unit area, the total number of acres contained in the unit area, and the division of ownership as to Federal, State and Fee lands.

A Well, the unit is composed of about 6880 acres, located approximately two miles North of White City, New Mexico. It is approximately 55 percent Federal, 34 percent State, 10 percent Fee.

Q Would you please, briefly, Mr. Popechan, identify the contents of the geological report, and please give the commission a brief verbal review of the report and the basis on which you prepared the report.

A All right. Well, the report, of course, consists of a written material, and then five enclosures.

The first enclosure is a location map. The second enclosure is a structure map on the base of the Morrow, which is approximately a total depth that this well will penetrate. The third one is a carbonate trend map of the Straun

Horizon which is productive in the immediate vicinity. The fourth one is a cross-section showing the zones that will be penetrated down through the Morrow Horizon, and the fifth one is just a general location map showing Capitan Reef, and the local outcrops of geology in the area, in the location of Carlsbad Caverns relative to it.

Q The initial test well is to be drilled to what depth in the test well formation?

A Approximately 11,500 feet and it will penetrate Morrow, Pennsylvanian formation.

Q That will be the basal Morrow?

A Basal Morrow, yes.

Q Basal Morrow?

A Yes. It will probably top the Mississippi.

Q Has a definite location for the initial test well been chosen?

A Yes. It is 1980 feet from the North and West lines of section fourteen, Township twenty-four South, Range twenty-five East.

Q Has the unit area been designated by the unit's geological survey as an area logically suitable for unitization?

A Yes.

Q Has the unit agreement been submitted to the Commissioner of Public Lands of the State of New Mexico for his approval?

A It has been submitted, and I don't think we have anything

from them now.

Q It is tentatively approved, subject to the final signatures? In your opinion, does the unit area cover all or substantially all of the geological features involved?

A Yes. And I think the maps will indicate this. Do you want to look at a little more of this geology?

MR. NUTTER: We don't have to go into a great deal of detail. I mean, you have just testified there that the structure conforms more or less to the outline of the unit, and it is quite obvious there from the exhibit it does.

THE WITNESS: All right.

Q (Mr. Richardson continuing) In the event of discovery of unitized substances, will the unit agreement promoted develop and aid in conservation and prevention of waste?

A In my opinion, yes.

Q In the event of discovery of unitization and paying quantity, will the State of New Mexico and representative state institutions owning land receive their fair share of any production?

A Yes.

Q Has a unit agreement been submitted to the other working interest owners owning land within the unit area?

A Yes.

Q Do you know of any objections to this proposed unit by any of the working interest owners or anyone else owning an interest in the area?

A To my knowledge, there has been no objections.

Q Do you anticipate any objections?

A I don't think so. I called them. and they have agreed, to my knowledge.

Q Do you have any estimate as to the percentage of commitment you will receive to the unit agreement?

A I think it is a hundred percent now. To my knowledge, everyone has agreed to participate.

MR RICHARDSON: Do you have any additional questions?

CROSS EXAMINATION

BY MR NUTTER:

Q What percent do you actually have signed up at the time, Mr. Popechan?

MR. RICHARDSON: Some of the royalty owners.

MR. NUTTER: I mean working interest.

MR. RICHARDSON: Working interests have not actually signed.

Q (Mr. Nutter continuing) You don't have any actually committed, but you have indications that a hundred percent would be?

A Oral, a hundred percent.

Q For a hundred percent of the working interests?

MR. RICHARDSON: Yes.

A Yes.

Q Now, that 55 percent of it, as you understand is Federal land, 34 percent is State land? The USGS has given its approval for the agreement?

A Yes.

Q And the Commissioner of Public Land, being a temporary State land, has given temporary preliminary consent?

A That is what I understand.

Q And now, these 9.89 percent Fee land, what percent of those royalty owners?

MR. RICHARDSON: We just mailed out the agreements last week, I believe, and have not gotten any actual fee signatures back.

MR. NUTTER: I see.

A To my knowledge, we won't have any problem. Those are leases that we --

MR. RICHARDSON: Yes.

A -- own ourselves, and bought from these fee owners, so I would assume that they would be agreeable.

Q (Mr. Nutter continuing) At any rate, the State and Federal ownership royalty ownership amounts to over 90 percent, so I would have over 90 percent minimum?

A Right.

MR. RICHARDSON: Right.

A Right.

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

(Witness excused)

MR. NUTTER: Do you have anything further, Mr Richardson?

MR. RICHARDSON: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in case 4579? We will take the case under advisement.

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STATE OF NEW MEXICO)
)
COUNTY OF BERNALILLO)

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

Linda Malone
Court Reporter

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4579 heard by me on 8/11, 1971.

, Examiner
New Mexico Oil Conservation Commission

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
EXHIBIT NO. 1
CASE NO. 45

April 1, 1971

GEOLOGIC REPORT
PROPOSED JUNIPER CANYON UNIT
EDDY COUNTY, NEW MEXICO

PURPOSE:

The purpose of this report is to show the geologic reasons for forming an eleven section Federal unit to drill a 11,500 foot Lower Morrow Wildcat test in Section 14, Township 24 South, Range 25 East, Eddy County, New Mexico.

ENCLOSURES:

1. Regional Map showing location of Unit and relationship to surrounding geography.
2. Structure Map on Lower Morrow.
3. Base Map showing Strawn carbonate trend.
4. Cross Section A-A' thru subject location.
5. Geologic Map of the Southeastern part of New Mexico.

DISCUSSION (GENERAL)

The Juniper Canyon Unit prospect is located about fourteen miles Southwest of Carlsbad and immediately north of White City, Eddy County, New Mexico (See Encl. #1). The Unit area covers eleven sections (7040 acres) described as follows: All of Sections 9, 10, 11, 13, 14, 15, 16, 21, 22, 23 and 24; Township 24 South, Range 25 East. The area is semi-arid and the topography is hilly and cut by steep sided arroyos that have as much as 400 feet of relief.

The Carlsbad Caverns are located about five miles southwest of the Unit well location. The Caverns are a result of solution in the Capitan Limestone formation which is a fossil barrier reef. The reef consists of a long narrow massive limestone band that stretches across Southeastern New Mexico and is at or near the surface in the local area. The Caverns are located in the forward or most basinward portion of the reef. With this in mind, the subject unit well location is stratigraphically about two miles shelfward from a similar reef position; therefore, there is no danger of the unit well penetrating a similar section to that at or near the Caverns. Also, there is no geologic reason for the unit well to disturb any portion of the Caverns park. (See Enclosure No. 5).

The Unit Area is accessible by ranch roads and trails from the North and East. The proposed well location in the SE¼ NW¼ of Section 14 is at an elevation of about 3900 feet and within one-fourth mile of an existing ranch road.

DISCUSSION (GEOLOGICAL)

The Juniper Unit is located on the Northwest flank of the Delaware Basin and is underlain by about 14,000 feet of Permian, Pennsylvanian, Mississippian, Devonian, Silurian and Ordovician sediments. The subject wildcat well will penetrate and test all of the Permian and Pennsylvanian sediments at a depth of about 11,500 feet.

The basis for the subject unit outline is the closing contour of a large subsurface anticline and the up dip limit of a Strawn carbonate trend. The anticline has an east-west trending axis and its north flank is probably caused by faulting that commenced during early Pennsylvanian time. (See Encl. No. 2). The Strawn carbonate trend has a Northeast-Southwest direction and appears to cross over the subject anticline. (See Encl. No. 3).

The subsurface contour map on the base of the Morrow shows a large anticline about four miles long and two miles wide. The anticline is projected by subsurface control, (See Encl. No. 2) and photogeologic mapping. The Photogeology should be used to show the axis of the fold, but is too general to be used to draw the unit outline. There is no geophysical information available within the unit area.

The Strawn (Middle Pennsylvanian) sediments show favorable evidence for carbonate buildup in the unit area (See Encl. No. 3) and are productive in the White City Field and recently discovered South Carlsbad area. It is believed that the Strawn carbonates may coincide and trend with the structural high indicated on Encl. No. 2.

Cross Section A-A' (Encl. No. 4) shows the complete stratigraphic section of the area plus the probable structural position of the unit area. Also shown is the position of the unit test well located in Section 14. A prognosis of formation tops in the subject well is as follows:

Delaware Sand	(+1400)	2500'
Bone Spring	(-1325)	5225'
Strawn	(-5680)	9580'
Lower Morrow	(-7280)	11180'

The subject well should test the crest of the anticline and evaluate any carbonate buildup and/or sand lenses in the Pennsylvanian sediments. The unit is assumed to be a test for gas reserves although there is a remote chance for oil in the area.

The nearest tests drilled near the unit area are the Delta Drilling Co. No. 1 Jurnegan Point, a dry hole located about four miles west northwest that tested the Devonian at 12,010 feet and the Gulf No. 1 Federal-Lee located about three miles east that tested the lower Morrow at a depth of 12,092 feet. The Federal-Lee tested gas from the Wolfcamp and Pennsylvanian sediments, but proved to be non-commercial. It is structurally low and a key well in the structural interpretation of the area.

The White City Gas Field is located about four miles east-southeast of the unit and produces from the Morrow sands and the Strawn carbonate. It is structurally high and there are five producing wells in the field and it was discovered in 1960. The Rock Tank Unit is another productive area located about seven miles northwest and its five wells produce from the Morrow sand on another structural high (See Encl. No. 2). The newest production is located approximately nine miles northeast and produces from the Morrow sands and Strawn carbonate on a low relief structure that appears to have west dip and closure. There are presently six productive wells and development is continuing.

Frank W. Podpechan
Petroleum Geologist