STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

4 November 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of Yates Petroleum Corporation for a unit agreement, Chaves County, New Mexico. CASE 9245

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:
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For the Applicant:
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I N D E X

E X H I B I T S

MR. STOGNER: Call Case 9245, which is the application of Yates Petroleum Corporation for a unit agreement, Chaves County, New Mexico.

Call for appearances.

MR. DICKERSON: Mr Examiner, I'm Chad Dickerson of Artesia, New Mexico, on behalf of the applicant and I have two witnesses.

MR. STOGNER: Are there any other appearances in this matter?

There being none, will the witnsss please stand and be sworn at this time?

(Witness sworn.)

Mr. Dickerson?

LESLIE BENTZ,

being called as a witness and being duly sworn upon her oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. DICKERSON:

Q Ms. Bentz, will you state your name, your occupation, and by whom you're employed, please?

A Yes. My name is Leslie Bentz. I'm employed as a petroleum geologist for Yates Petroleum Corporation of Artesia, New Mexico.

Q And you have previously testified as a goelogist in the recent past before this Division, have you not?

A I have.

Q And are you familiar and have you made a study of the geological data available in the acreage proposed to be committed to the Cactus Flower unit agreement?

A Yes, I have.

MR. DICKERSON: Tender Ms. Bentz as an expert petroleum geologist, Mr. Examiner.

MR. STOGNER: Ms. Bentz is so qualified.

Q Ms. Bentz, will you please state the purpose of Yates' application in this case?

A To seek approval for the proposed Cactus Flower State Unit, Chaves County, New Mexico.

Q And what are the lands proposed to be

committed to this unit?

A The proposed lands are -- consist in Township 8 South, Range 27 East, of Section 8, less the northeast northeast 40 acres, Sections 9, 10, 15, 16, Section 17, less the northwest quarter, Section 18, less the north half of the northeast quarter, and Sections 19 and 20.

Q And what is the general geographic location of this proposed unit?

A The proposed unit is located immediately west of the Palma Mesa Field and north of the South Palma Mesa Field.

Both fields produce gas from Pennsylvanian age alluvial channel sandstones. The South Palma Mesa Field also produces from Abo age alluvial channel deposits. The Pecos Slope Abo Field is approximately four miles west of the proposed unit.

Q And what objectives do Yates seek in its initial test well?

A The primary objective of the test well within the proposed Cactus Flower Unit is to establish new production in Pennsylvanian age channel sandstones. The Abo formation provides a secondary objective.

Q Okay, will you please refer to what we submitted as Exhibit Number One, and tell the Examiner what you show on that map?

A Exhibit Number One is a structural contour map. The mapping horizon is the Pre-Pennsylvanian unconformity. The contour interval is 100 feet. The proposed unit is marked by a dashed line and the proposed location and TD of the test well are shown. Datum points utilized are noted with circles and the appropriate value is so labeled.

The Pre-Penn unconformity is the optimum mapping horizon as it indicates the topography at the end of a period of tectonic uplift during the late Mississippian or very early Pennsylvanian. It is this structure which controlled the depositional environment of the Pennsylvanian clastics and had a direct influence on the location of alluvial channels.

The map shows a large structural feature northwest of the proposed unit in Township 7 South, Range 25 East. Numerous smaller, low relief structures surround the proposed unit; however, the unit itself is located on a broad, flat area. The highland, with steep relief, was the major source of clastic material in this locality. High areas with relatively low relief proved just enough relief to become obstacles and interfere with the course of alluvial channels. Areas of relatively flat terrain and lower areas, valleys, were the major sites of thick accumulations of Pennsylvanian of Pennsylvanian age clastic sediments.

Q Okay, refer to what we've submitted as Exhibit Number Two and tell us what that is.

A Exhibit Number Two is an Isopach map of the Pennsylvanian clastics. The contour interval is 50 feet. The Cactus Flower State Unit outline is marked by a dashed line and the proposed location and TD of the test well are shown.

Q Datum points utilized are noted with the circles and the appropriate value is labeled. Penn gas producers are marked in red. Pertinent cumulative production is noted by the well. A stratigraphic cross section A-A' is shown by a solid line.

The Isopach map mirrors the structure map. On high relieve areas the Penn clastic section is very thin to nonexistent. In valleys and flat areas the Penn clastics achieves a much greater thickness.

The uplifted area in Township 7 South, Range 26 East, which has no Penn clastic section, provided enough relief and sediment supply to form alluvial fans at its base. As the climate was humid, the fan area was dominated by a system of braided channels which swept over the fan surface from apex to toe. This environment was characterized by sedimens which exhibited poorly sorted pebbly material in a mudstone matrix. Porosity is good in these braided channel deposits but permeability is very poor.

Alluvial fan environments pass down slope into a variety of other sedimentary environments, in this case an alluvial plain. The proposed Cactus Flower Unit is situated on this broad, alluvial plain.

The alluvial plain is characterized by a system of alluvial channels which meandered across the flat flood plain. The major source for sediments was probably the same as for the alluvial fan area but further transportation down slope sufficiently sorted and cleaned the sand to provide a better quality reservoir rock. The alluvial plain is outlined by the 200 foot Penn clastic Isopach interval and provides the justification for the unit outline.

Q Ms. Bentz, please refer to Exhibit Number Three and tell us what you show on that instrument.

A Exhibit Number Three, stratigraphic cross section A-A', is located northwest to southeast across the proposed unit. The top of the Cisco serves as a stratigraphic datum.

Pertinent formation tops, the Isopach interval, and the structural mapping horizon are so noted.

The first well, the Depco Vance No. 1, Section 27, 7 South, 26 East, is located on the crest of the high relief structure previously discussed.

The stratigraphic section consists of shallow marine Cisco resting on a thick arkose section. The

arkose lies unconformably on the PreCambrian basement.

The Yates Petroleum LHorn "YG" Federal No. 1, located down dip from the Depco Vance No. 1 in Section 10, 8 South, 26 East, exhibits a much different section.

The Pennsylvanian arkose section is absent but a Penn clastic section has developed. Peboly braided stream deposits are common and are so labeled. The clastic section lies unconformably on the Mississippian lime. An Ordovician section nor present in the previous well rests, again unconformably, on the PreCambrian.

Located on the alluvial plain, the Sinclair Oil & Gas State 119 Chaves No. 1, Section 17, 8 South, 27 East, has a stratigraphic section which is very similar to the Horn "YG" Federal No. 1 with the exception of the Penn clastic interval. Poorly sorted conglomerates are replaced by well sorted, cleaner quartz sandstones. These channel deposits labeled were not tested in this well.

The final well, the Carl Schellinger Campbell Station Unit No. 1, produces from a Pennsylvanian age alluvial channel sandstone. It has a cumulative production of 355-million cubic feet of gas to date.

Q Ms. Bentz, refer to what we submitted as Exhibit Number Four and tell us what that is.

A Exhibit Number Four is an Isopach of the

McConkey stratigraphic interval, a channel sandstone occupying a position approximately 350 feet into the Abo formation.

The contour interval is 10 feet. Pertinent datum wells are circled. This map aids in justifying the proposed location of the test well. The well ws located to provide an opportunity to penetrate a secondary pay zone. As there is relatively scarce Pennsylvanian control and channels are narrow and highly sinuous, it is attractive to drill the test well in an area that has -- that may have multiple pays.

Q Can you briefly summarize for us the geological formation -- or geological basis for the formation of this unit?

A Yes. The unit outline is justified by the 200 foot Isopach contour, which coincides with a broad alluvial plain.

Q In your opinion, Ms. Bentz, will the approval of this application be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

A Yes, it will.

Q And were Yates Exhibits One through Four prepared by you?

A They were.

MR. DICKERSON: Mr. Examiner, I'd move admission of Yates Exhibits One through Four and I have no further questions of this witness.

MR. STOGNER: Exhibits One through Four will be admitted into evidence at this time.

CROSS EXAMINATION

BY MR. STOGNER:

Q Was the Sinclair well ever put on production, commercial?

A No, it was not. It was plugged.

Q Now the well in Section 16, that's Colorado Campbell, TD 5,040 feet, that was drilled a little above your proposed interval, isn't that correct?

A Yes, sir, that's correct.

Q Did that penetrate the Abo?

A Partial penetration of the Abo.

Q Do you know if there was any -- any successful test done in that well?

A No, sir, there were not.

Q Okay. How about that well in No. 15?

A That has a TD of 1100 feet.

Q Okay. Any tests in that one?

A No, sir.

Q Same with the well in Section 8, that

looks like the Steele State?

A Yes, sir, a TD of 1998 feet, again not deep enough.

Q Okay. On these shallow wells, what was their primary objective?

A I would assume probably the San Andres formation.

Q Okay. Most of the Penn production is to the south about five miles. What particular pool was that in?

A Part of it is in the South Palma Mesa Field. There is Penn production to the west in the Palma Mesa Field, and immediate -- well, to the southeast is the North Foor Ranch Pool.

Q And you show the well in No. 4, in Section 4, I should say, shows some Penn production. Is that a wildcat or is that a designated pool again?

A It's in the designated South Palma Mesa Pool.

Oh, oh, the one in 8, 27, in Section 4?

Q I'm sorry, yes, the one north of your proposed unit.

A Okay. It is undesignated and it has not been put on production.

Q Is that a Yates well?

A No, sir, it is not. It's Julian Ard.

MR. STOGNER: I have no further questions of this witness.

Are there any other questions of her?

MR. DICKERSON: No, sir.

MR. STOGNER: She may be excused.

Mr. Dickerson?

KATHY COLBERT,

being called as a witness and being duly sworn upon her oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. DICKERSON:

Q Ms. Colbert, will you state your name, your occupation, and by whom you're employed, please?

A My name is Kathy Colbert. I'm employed as a landman for Yates Petroleum Corporation.

Q And you have previously testified before this Division in that capacity, have you not?

A Yes, I have.

Q And are you familiar with the land ownership within the proposed Cactus Flower State Unit Area?

A Yes, I am.

MR. DICKERSON: I tender Ms. Colbert as a petroleum landman, Mr. Examiner.

MR. DICKERSON: Ms. Colbert is so qualified.

Q Ms. Colbert, will you refer to what we submitted as Exhibit Number Five and tell Mr. Stogner what that instrument is?

A Exhibit Number Five is the unit agreement on the standard form for state lands. This agreement does designate Yates Petroleum Corporation as operator of the unit.

Q And again in that standard form paragraph 2 of it, of that form, provides that all formations at whatever depths will be unitized.

A This is correct.

Q And paragraph 11 provides for allocation of the production from the unit area to the owners on a surface acreage ownership basis?

A That's right.

Q And what is the proposed total depth of the initial unit well?

A 6600 feet.

Q And when, Ms. Colbert, will Yates be required to commence that drilling?

A By 12-1-87.

Q Will you refer the Examiner to Exhibit A to your unit agreement and tell him in somewhat more detail what that map reflects?

A Exhibit A to the unit agreement is a plat that outlines the 5,496.20-acre unit. This is in Township 8 South, Range 27 East.

There are 11 different tracts in this outline, all of them state leases, making the unit 100 percent state lands.

Q Refer to Exhibit B immediately following and tell the Examiner what information is shown on Exhibit B.

A Exhibit B to this unit agreement is the detailed description of the leases, the lands, serial number, expiration date. It also shows all burdens, lessee of record, and the working interest under each lease.

Q And what is the expiration date of the first expiring lease within this unit area?

A The first state lease does expire 12-1-87.

Q So Yates Petroleum Corporation must have final approval of this unit and be actually drilling the unit well on or before December 1st.

A That's correct.

Q Ms. Colbert, refer to Exhibit Number Six and tell us what that instrument is.

A Exhibit Number Six is the proposed unit operating agreement. It is on the AAPL Form 610, 1977 form.

Q Refer Mr. Stogner to Exhibit A of that instrument which sets forth the interest of the various parties within the unit area and tell him the current status of the joinder or lack of joinder of these parties.

A Exhibit A to this operating agreement lists all the parties, their percentages under the unit, and under the initial test well.

100 percent of the unit has been verbally committed with approximately 33 percent of the ratifications and joinders actually executed and received.

Accordingly, the initial test well will be paid for by all these parties.

Q And Yates anticipates having enough joinder to insure its reasonably effective control over unit operations?

A Yes, we will.

Q Identify what we've submitted as Exhibit Number Seven, Ms. Colbert, for us, please.

A Exhibit Number Seven is a copy of the Commissioner of Public Lands letter that grants preliminary approval of our proposed Cactus Flower Unit as outlined.

Q And were Exhibits Five, Six, and Seven prepared or compiled by you or under your direction and supervision?

A Yes, they were.

MR. DICKERSON: Mr. Stogner, move admission of Yates Exhibits Five, Six, and Seven at this time and I have no further questions of Ms. Colbert.

MR. STOGNER: Exhibits Five, Six, and Seven will be admitted into evidence.

CROSS EXAMINATION

BY MR. STOGNER:

Q Ms. Colbert, what substances and what formations are being unitized by this proposed unit?

A All of them. We intend to drill approximately TD 6600 foot in the Penn.

Q Are there any split between shallow formations and deep formations in this particular unit?

A None in this area.

MR. STOGNER: I have no further questions of Ms. Colbert.

Are there any other questions of this witness?

If not, she may be excused.

Mr. Dickerson, do you have

anything further in this case?

MR. DICKERSON: No, Mr. Examiner.

MR. STOGNER: Case Number 9245 will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9245. heard by me on 4 November 1987.

Examiner
Oil Conservation Division