

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 Manzano Oil Corpor- CASE  
ation for pool creation and special 9253  
pool rules, Eddy County, New Mexico.

BEFCRE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

Jeff Taylor  
Attorney at Law  
Legal Counsel to the Division  
State Land Office Bldg.  
Santa Fe, New Mexico 87501

For the Applicant:

W. Perry Pearce  
Attorney at Law  
MONTGOMERY & ANDREWS  
Paseo de Peralta  
Santa Fe, New Mexico 87504

## I N D E X

GEORGE L. SCOTT III

Direct Examination by Mr. Pearce 4

Cross Examination by Mr. Stogner 13

## E X H I B I T S

Manzano Exhibit One, Base Map 6

Manzano Exhibit Two, Log 7

Manzano Exhibit Three, Structure Map 7

Manzano Exhibit Four, Isopach 8

Manzano Exhibit Five, Isopach 9

Manzano Exhibit Six, Reservoir Data 10

Manzano Exhibit Seven, Summary 12

1  
2 MR. STOGNER: Call next Case  
3 Number 9253, which is the application of Manzano Oil Corpor-  
4 ation for pool creation and special pool rules, Eddy County,  
5 New Mexico.

6 Call for appearances in this  
7 case.

8 MR. PEARCE: May it please the  
9 Examiner, I am W. Perry Pearce of the Santa Fe law firm of  
10 Montgomery & Andrews, appearing in this matter on behalf of  
11 Manzano.

12 I have one witness who needs to  
13 be sworn.

14 MR. STOGNER: Are there any  
15 other appearances?

16 There being none will the wit-  
17 ness please stand and be sworn?

18  
19 (Witness sworn.)  
20

21 Mr. Pearce, please continue.

22 MR. PEARCE: Thank you, Mr.  
23 Examiner.  
24  
25

1                   GEORGE L. SCOTT, III,  
2 being called as a witness and being duly sworn upon his  
3 oath, testified as follows, to-wit:

4  
5                   DIRECT EXAMINATION

6 BY MR. PEARCE:

7                   Q           For the record, would you please state  
8 your full name?

9                   A           My name is George L. Scott, III.

10                  Q           Mr. Scott, by whom are you employed?

11                  A           I'm employed by Permian Basin Investment  
12 Corporation.

13                  Q           And what are your responsibilities with  
14 your employer?

15                  A           I'm an explorationist, primarily a geolo-  
16 gist.

17                  Q           And is the business of your employer  
18 petroleum consulting?

19                  A           Yes.

20                  Q           All right, sir. Have you previously  
21 testified before the Oil Conservation Division, Commission,  
22 or one of the Commission's examiners, and had your  
23 qualifications accepted and made a matter of record?

24                  A           No.

25                  Q           All right, sir. Would you please

1 describe for the Examiner and the record in this proceeding  
2 your educational background and work experience?

3 A I graduated from New Mexico Institute of  
4 Mining and Technology with a Bachelor of Science degree in  
5 geology in 1981; having worked for the Petroleum Recovery  
6 Research Center and the New Mexico Bureau of Mines during my  
7 period of obtaining my Bachelor's degree.

8 Subsequently I worked for Mesa Petroleum  
9 as a log analyst, consultant, and various other independent  
10 operators.

11 I went to school at the University of  
12 Texas, Austin, and have about 40 hours of graduate study  
13 prior to going to work for Permian Basin Investment  
14 Corporation.

15 Q All right, sir, and are you familiar with  
16 the application in Case 9253 presently under consideration?

17 A Yes.

18 Q And have you made a study of the geology  
19 surrounding the area covered by this application?

20 A Yes.

21 Q Mr. Examiner, at this time I would tender  
22 Mr. Scott as an expert in the field of petroleum geology.

23 MR. STOGNER: Mr. Scott, what  
24 years did you attend in Socorro?

25 A 1977 through '81. I previously went to

1 several other colleges.

2

3 (Thereupon a discussion was had off the record.)

4

5 MR. STOGNER: Mr. Scott is so  
6 qualified. Mr. Pearce.

7

8 MR. PEARCE: Thank you, Mr.  
9 Examiner.

10 Q Mr. Scott, at this time I'd ask you  
11 please to refer to what we've marked as Exhibit One to this  
12 proceeding and describe that for the Examiner and the record  
13 in this proceeding.

14 A Okay. Exhibit One is a base map showing  
15 the location of the Manzano No. 1 Elliot Federal Well.  
16 We're approximately two miles north of Highway 360,  
17 approximately seven miles south of Loco Hills.

18 Q All right, Mr. Scott, I notice that on  
19 this map there are a large number of well spots shown. What  
20 can you tell us about those wells?

21 A Well, the wells surrounding our producing  
22 Bone Spring well are Queen and shallower wells.

23 Q All right, sir, let's move away from that  
24 for a moment.

25 I would ask you please now, if you would,  
approach the wall. We have hung what we've marked as Exhi-

1 bit Number Two to this proceeding on the wall, and I would  
2 ask you to highlight for the Examiner the pertinent data on  
3 that exhibit.

4 A Okay, this is a well log exhibit for the  
5 Manzano Elliot No. 2. This well was previously drilled by  
6 Petroleum Reserve Corporation. The log shows the First Bone  
7 Spring sand reservoir and the Second Bone Spring sand reser-  
8 voir. Perforation intervals are marked in red. The perfor-  
9 ated interval is from 7153 down to 8230. Porosities range  
10 from 10 up to as high as 18 percent for the first sand and  
11 from about 10 to 13 percent for the second sand. Water sat-  
12 urations for the productive interval range from 44 percent  
13 up to as high as about 64 percent and permeability is infer-  
14 red or interpreted in a qualitative sort of way from the  
15 separation by the two deep -- by the deep and shallow  
16 laterolog curves, resistivity curves.

17 Q All right, sir, if you would please re-  
18 turn to your seat now, I'd ask you to look at what we've  
19 marked as Exhibit Number Three to this proceeding and de-  
20 scribe that for us.

21 A Okay. Exhibit Number Three is a struc-  
22 ture map on top of the First Bone Spring Sand and this shows  
23 the subsurface contours of the First Bone Spring Sand with  
24 respect to sea level.

25 The Manzano No. 1 Elliot Federal is ap-

1 proximately -3643 feet below sea level and the regional dip  
2 is to the southeast.

3 Q All right, sir, now let's quickly turn to  
4 what we've marked as Exhibit Number Four. Would you de-  
5 scribe that for the Examiner, please?

6 A Okay. Exhibit Four is a porosity Isopach  
7 map for the First Bone Spring Sandstone reservoir, using a  
8 porosity cutoff of more than or equal to 10 percent. It de-  
9 monstrates the lateral extent of the reservoir.

10 The Manzano No. 1 Elliot Federal is pro-  
11 ducing from this sand reservoir.

12 Q All right, sir, looking at what we've  
13 marked as Exhibit Number Four, what is the closest present  
14 Bone Springs producer?

15 A The closest Bone Spring producer is to  
16 the northeast in the southeast of the southeast of Section  
17 9, Township 18 South, Range 30 East.

18 Q Can't read that annotation but that well  
19 appears to be denominated N2, do I read that --

20 A That's actually a thickness, 112 feet.

21 Q Okay.

22 A It didn't reproduce so well.

23 Q All right, sir. I would ask you if you  
24 have any information with regard to a well in Section 17  
25 somewhere between the well you've just discussed and the



1 discovery well for this new pool?

2 A Yes. The well in Section 17 was drilled  
3 in the northwest of the southeast quarter by Belco Petroleum  
4 Corporation. It is the No. 1 Federal 17. It was dry and  
5 abandoned in January of 1977. The TD was at 11,705 feet.  
6 There were no tests in either the First or Second Bone  
7 Spring Sand. Porosities were very, very low and thin and  
8 the zones were not considered commercially viable with res-  
9 pect to that area and that wellbore.

10 Q All right, sir, let's now look at your  
11 Isopach on the Second Bone Springs, Exhibit Number Five to  
12 this proceeding.

13 A Okay. The Second Bone Spring sandstone  
14 Isopach map is an Isopach with porosity values more than or  
15 equal to 10 percent and it demonstrates the lateral extent  
16 of the reservoir. The Manzano No. 1 Elliot Federal is pro-  
17 ducing out of this zone and the closest production from this  
18 zone, again would be the well in Section 9 in the southeast  
19 of the southeast.

20 Q All right, sir, with regard particularly  
21 to Exhibits Four and Five could you indicate to the Examiner  
22 and for the record what deep well control you have available  
23 to you in this area?

24 A Yes, and that is shown on the plat map.

25 Q Is that Exhibit One?

1           A           Yes, Exhibit One. I believe on the Exam-  
2           iner's plat map shows circled in red the deep well control.

3                       MR. STOGNER: Circled in red?

4           A           Yes. Here it is.

5                       MR. STOGNER: Thank you.

6           A           The deep well control is shown in red.

7                       MR. STOGNER: Okay, now what  
8           exhibit are we on, now?

9                       MR. PEARCE: We're looking at  
10          Exhibit One, Mr. Examiner, you can see the deep well con-  
11          trol.

12                      MR. STOGNER: All of those that  
13          are deep well control are -- have red circles around them.

14          A           Yes, that's correct.

15          Q           Correct, sir. And those are the wells  
16          which were used in constructing the structure map Exhibit  
17          Three and the two porosity Isopachs, Exhibits Four and Five,  
18          is that correct?

19          A           That's correct.

20          Q           All right, sir. At this time, Mr. Scott,  
21          I would ask you to once again approach the wall and discuss  
22          what we have marked as Exhibit Number Six to this proceed-  
23          ing, and before beginning, Mr. Scott, I would ask you if in  
24          preparing for this case and in studying the proposed pool  
25          you have attempted to locate a well with similar porosity,

1 lithography, and water saturation values in the general  
2 vicinity?

3 A Yes, I have.

4 Q And were you able to locate such a well?

5 A I feel I have one that's very similar,  
6 yes.

7 Q All right, what is that well, please,  
8 sir?

9 A This is the Hilliard Oil and Gas No. 1  
10 McIlvain Federal. It's located approximately 24 miles to  
11 the east. It is on trend regionally through the Bone Spring  
12 formation. It is lithologically similar. The porosities  
13 are similar, and the water saturations are very similar.

14 Q Okay, and is a portion of the log of that  
15 well now displayed as Exhibit Six of this proceeding?

16 A Yes, it is shown with the Second Bone  
17 Spring Sand reservoir.

18 Q You have mentioned similarity of poro-  
19 sity, lithography, and water saturation and are those simi-  
20 lar characteristics demonstrated by this exhibit?

21 A Yes, they are.

22 Q And have you attempted to do a rough es-  
23 timate of volumetric calculations on the Hilliard McIlvain  
24 Federal No. 1 Well?

25 A Yes, I have.

1 Q And as a result of the rough estimate  
2 volumetric calculation, have you formed an opinion on  
3 whether or not a well with similar lithology, water saturation,  
4 and porosity values is capable of drilling (sic) at  
5 least 80 acres?

6 A Yes, I have.

7 Q And is it your opinion that a well would  
8 in fact drain at least 80 acres?

9 A Yes.

10 Q All right, sir. Thank you. At this  
11 time, Mr. Scott, I'd ask you to return to your seat, please  
12 and I'd ask you to turn to what we have marked as Exhibit  
13 Number Seven to this proceeding and I would ask you if that  
14 is a general summary of reservoir data with regard to the  
15 proposed new pool which summarizes the information reflected  
16 on maps and logs that have been previously discussed at this  
17 hearing?

18 A Yes.

19 Q All right. Mr. Scott, after studying the  
20 log of the wells that we've considered, after reviewing the  
21 geology of this area, I would ask you if it is your professional  
22 petroleum geological opinion that creation of a new  
23 pool would be in the best interests of the prevention of  
24 waste, the protection of correlative rights, and the conservation  
25 of natural resources?

1 A Yes.

2 Q All right, sir. At this time I would ask  
3 you please, to summarize again for the Examiner and the re-  
4 cord in this proceeding what Manzano seeks in this case.

5 A Okay. Manzano seeks the creation of a  
6 new oil pool to be named Santo Nino, comprising the east  
7 half of the northeast quarter of Section 30, Township 18  
8 South, Range 30 East, and special pool rules for 80-acre  
9 spacing units.

10 MR. PEARCE: Mr. Examiner, I  
11 have nothing further of the witness at this time.

12

13

14 CROSS EXAMINATION

15 BY MR. STOGNER:

16 Q Okay, our policy on 80-acre spacing  
17 units, Mr. Scott is to locate a well within 150 foot of a --  
18 of either quarter quarter section.

19 Do you, do you have any comment on that?

20 MR. PEARCE: If I may, Mr. Exa-  
21 miner, I have discussed that with the officers of the appli-  
22 cant in this matter. They were aware of that and that is  
23 not a problem to them.

24 Q And as far as any special pool rules with  
25 regard to 80-acre spacing, then, would be limited to --

1 MR. PEARCE: Well location and

2 --

3 Q -- well locations.

4 MR. PEARCE: And any half of  
5 the quarter quarter, north half, south half, east half, or  
6 west half.

7 MR. STOGNER: Okay.

8 MR. PEARCE: As you will see,  
9 Mr. Examiner, particularly reviewing the porosity Isopachs,  
10 I believe Manzano would not be at all surprised if this pool  
11 does not grow, for we do not believe it has been adequately  
12 defined other than this 80-acre proration unit, and so we're  
13 seeking the 80-acre orientation in any direction.

14 Q Okay, but as far as any special provi-  
15 sions for GOR, gas/oil ratio, no special provisions at this  
16 time, is that right, Mr. Scott?

17 A Yes.

18 Q Okay. What kind of a temporary timeframe?  
19 That's a temporary timeframe to allow for additional infor-  
20 mation to come out and it would be recalled at a certain  
21 time?

22 MR. PEARCE: I apologize, Mr.  
23 Examiner. Applicant requests a 3-year period.

24 MR. STOGNER: 3-year period?

25 MR. PEARCE: Yes, sir.

1 MR. STOGNER: All right. May I  
2 ask for justification of that 3-year? Usually it's 18  
3 months or 2 years, 2-year or 18-month period.

4 A Yes, sir. Typically with Bone Spring  
5 Sand reservoirs you don't get any kind of idea of what your  
6 well is capable of doing till after a 2-year period of pro-  
7 duction. You get quite a fairly rapid decline and then the  
8 well stabilizes and the third year is the year that's most  
9 diagnostic as far as what the well is going to do in terms  
10 of long term production.

11 Q Okay. Now let's talk about this Elliot  
12 Federal. When was this well spud? Okay, I got the initial  
13 completion, okay. That was August 15th of '87, is that cor-  
14 rect?

15 A Yes, that's correct. It was a re-entry  
16 of a pre-existing well.

17 Q Is it presently producing at this time?

18 A Yes, sir.

19 Q Is it flowing presently?

20 A Beg pardon?

21 A Is it flowing?

22 A Yes.

23 Q And what tubing do you have in the hole?

24 A We have 2-7/8ths inch tubing.

25 Q Okay, you had a 180 barrels of water per

1 day --

2 A Yes.

3 Q -- in the initial potential. What kind  
4 of average daily water production are you seeing presently?

5 A I believe about 90 barrels of water a day.

6 Q And oil?

7 A Oil is approximately 90.

8 Q So it's half and half, essentially.

9 A Yes, sir.

10 Q What kind of gas are you still seeing?

11 A About 300 MCF of gas per day.

12 Q Now you said the well up in the southeast  
13 quarter southeast quarter of Section 9 was the only Bone  
14 Springs producer. Is that dedicated to a pool or is it a  
15 rank wildcat or what's its status at the present time?

16 A I was under the impression that it's been  
17 developed on 80-acre spacing. I have not ascertained as to  
18 exactly what the allotted spacing is, but it is the closest  
19 producing Bone Spring Sand well.

20 Q Do you know of its history, how old of a  
21 well it is, or anything?

22 A Yes, it was drilled in about 1986.

23 Q A relatively recent well.

24 A Relatively recent, yes.

25 Q Okay. How about any substantial devel-



1 oped pools? What's the closest Bone Spring pool around this  
2 area?

3 A I would say to the northeast there is a  
4 pool about five miles away and the development is fairly re-  
5 cent.

6 Also the southeast about five, four-and-  
7 a-half, five miles, there is a Bone Spring field. I don't  
8 know what the proration units are but it appears they've  
9 been developed on 80's. There is one well per 80-acre spac-  
10 ing in that area. That would be the Benson Field.

11 Q All right, where did you come up with the  
12 name, Santo Nino?

13 MR. PEARCE: Mr. Examiner, if I  
14 may inject myself into this, I called the Division's geolo-  
15 gist in the Artesia office and I want to assure the Examiner  
16 and this record that that was his idea.

17 A Yes.

18 MR. STOGNER: And so you talked  
19 with Mr. Darrell Moore, is that correct?

20 MR. PEARCE: That's correct,  
21 sir.

22 MR. STOGNER: Did you come up  
23 with that or did he come up with it?

24 MR. PEARCE: Believe me, Mr.  
25 Examiner, that was his idea.

1 MR. STOGNER: Uh-huh. Okay.

2 MR. PEARCE: I do not know any  
3 characteristic which brought that name to mind.

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

6 Are there any other questions  
7 of Mr. Scott?

8 MR. PEARCE: Nothing, Mr.  
9 Examiner.

10 MR. STOGNER: If not, he may be  
11 excused.

12 Mr. Pearce, do you have  
13 anything further in this case?

14 MR. PEARCE: No, Mr. Examiner,  
15 I do not. Thank you.

16 Does anybody else have anything  
17 further in Case Number 9253?

18 If not, this case will be taken  
19 under advisement.

20

21 (Hearing concluded.)

22

23

24

25

## 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 final hearing of Case No. 9253,  
heard by me on 4 November 1987.

Michael E. Hester, Examiner  
Oil Conservation Division