

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

18 June 1983

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Producing Texas
& New Mexico, Inc., for a waterflood
expansion, Lea County, New Mexico.

CASE
7866

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

W. Perry Pearce, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

MR. STOGNER: Call next Case 7866.

MR. PEARCE: This case is in the matter of the hearing on the application of Mobil Producing Texas and New Mexico, Inc., for a waterflood expansion, Lea County, New Mexico.

MR. STOGNER: This case was heard on May 11th, 1983, but was readvertised for certain well locations.

Is there anything further in Case Number 7866 this morning?

There being no objections or any additional testimony, Case Number 7866 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 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. 7866, heard by me on June 8, 1983.
Michael E. Stogner, Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.

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ENERGY AND MINERALS DEPARTMENT
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STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

11 May 1983

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Producing
Texas and New Mexico, Inc., for CASE
a waterflood expansion, Lea County, 7866
New Mexico.

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

Thomas C. H. Mills for
W. Perry Pearce, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

James Sperling, Esq.
MODRALL, SPERLING, ROEHL, HARRIS
& SISK
P. O. Box 2168
Albuquerque, New Mexico 87103

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I N D E X

STEPHEN MARINO

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2 MR. STOGNER: We'll call next Case
3 Number 7866.

4 MR. MILLS: Application of Mobil
5 Producing Texas and New Mexico, Inc., for a waterflood expan-
6 sion, Lea County, New Mexico.

7 Ask for appearances, please.

8 MR. SPERLING: James E. Sperling of
9 Modrall, Sperling, Roehl, Harris, and Sisk, Albuquerque, ap-
10 pearing for the applicant.

11 We have one witness.

12
13 (Witness sworn.)
14

15 STEPHEN MARINO,
16 being called as a witness and being duly sworn upon his oath,
17 testified as follows, to-wit:

18
19 DIRECT EXAMINATION

20 BY MR. SPERLING:

21 Q. Would you state your name, your place of
22 residence, your position, and the name of your employer?

23 A. My name is Stephen Marino. I'm a -- reside
24 in Houston, Texas. I'm employed by Mobil Producing Texas and
25 New Mexico, and I'm presently working as a regulatory engineer

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2 for them.

3 Q Have you on any previous occasion testified
4 before the Commission so that your qualifications are a mat-
5 ter of record?

6 A I have not testified previously, no.

7 Q That being the case, would you please give
8 us a short resume of your educational and experience back-
9 ground in your field?

10 A I'm a graduate of the United States Military
11 Academy in 1974. I served in the Army seven years.

12 I went to work for Mobil; worked as an
13 operations engineer out at the West Ranch there.

14 Since November I've been working in the
15 Regulatory Department and I've gone to several schools in re-
16 servoir, in geology and production, Mobil has sent me.

17 My degree is in applied sciences and general
18 engineering, in which I have a Bachelor of Science.

19 Q Okay.

20 MR. SPERLING: Are the witness'
21 qualifications acceptable, Mr. Examiner?

22 MR. STOGNER: They are.

23 MR. SPERLING: Thank you.

24 Q Are you familiar with the application which
25 has been filed on behalf of Mobil in this matter?

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A. Yes, sir, I am. I prepared it.

Q. All right. In that connection would you give us a short statement of what is sought by the application?

A. What Mobil seeks at this time is requesting authorization to expand the Bridges State Waterflood Project, which was initially granted on Order Number 12 -- or R-1244, and subsequently amended.

We want to expand it by drilling four additional water injection wells proposed in unorthodox locations, along the southern boundary of this project.

Q. Would you please refer to Exhibit One and explain its purpose and what it shows?

A. If you'll look at Exhibit Number One, you'll find in red outline Mobil's Bridges State Waterflood Project. Either underlined in red or in red lettering are the offset operators in the field. These are the area of interest within two miles of the proposed injection wells.

On this plat you'll see them in yellow triangles, the proposed locations for these injection wells, and they're labeled "A", "B", "C", and "D", and the purpose of our having this waterflood project is the additional for Mobil's -- additional benefit of approximately 200,000 barrels of oil to be recovered.

Q. Would you refer to Exhibit Two, now, and

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2 explain its purpose?

3 A. Exhibit Two is an enlarged plat of the
4 Vacuum-Grayburg-San Andres Pool.

5 Highlighted on this map are the water in-
6 jection wells in which a cooperative water injection agreement
7 was signed by the operators in the Vacuum-Grayburg-San Andres
8 Field. The operators and members of this agreement were Conoco,
9 Phillips, Texaco, and Mobil. Their wells are located -- are
10 identified and located by triangles in accordance with the
11 legend below.

12 The contents of the -- and significance of
13 the coop agreement will be presented in Exhibit Three, and --
14 excuse me, that will be in Exhibit Five.

15 The surrounding wells on this outline are
16 bordered by a cloud-like border in which the interior of that
17 were previous wells governed by the offset operators that have
18 submitted data on these wells that penetrate the -- the pool
19 that we're -- the Graburg-San Andres Pool, and it's been
20 submitted previously.

21 Q. To the Commission?

22 A. To the Commission, and the order numbers
23 are written in the legend to correspond with the operators'
24 names.

25 The area that we're concerned with that has

1
2 not been previously submitted before the Commission is hatched
3 in that cloud-like outline, and I'll be presenting the in-
4 formation on descriptive data for these wells in subsequent
5 exhibits.

6 Q It appears, Mr. Marino, that there is a
7 slight discrepancy with respect to the location of the wells
8 as depicted and those which appear on the application. Can
9 you explain that?

10 A The difference between the --

11 Q And the magnitude of it, if any.

12 A The difference between the wells as they're
13 depicted on the plat that you have in front of you on Exhibits
14 One and Two, and where they are actually staked is going to
15 be -- was caused by pipelines that are in the area there that
16 precluded us from staking as the agreement was initially
17 signed; however, we have waivers that have been granted by
18 all the offset operators stating that they agree to the loca-
19 tions as proposed and as staked thus far.

20 Q And those waivers or agreement to the change
21 in position will be presented as exhibits?

22 A Yes, those will be presented as subsequent
23 exhibits.

24 Q Okay. Would you now refer to Exhibit Three
25 and explain what it is designed to show?

1
2 A Exhibit Three is a tabulated information on
3 the descriptive data of all wells of public record within the
4 area of review. It's the half mile area of review that you
5 see on Exhibit Number Two as the hatched portion.

6 As you can see, all of them have been --
7 their construction detail is adequate to protect any of the --
8 to preclude any water going any place other than where we in-
9 tend to inject into the San Andres.

10 Q Okay. Anything further on Exhibit Three?

11 A No.

12 Q Okay. Would you refer to Exhibit Four, now,
13 and explain the information contained on that exhibit?

14 A Exhibit Four is the only well that is
15 plugged and abandoned in the cross hatched area, that was
16 plugged and abandoned, and it's located in Unit L of Section
17 26.

18 The plugging detail is beneath it and it
19 depicts graphically how the number of sacks of cement that
20 were placed in there; the retainer plugs that were placed
21 there; and you'll find on this page behind -- following there
22 is a Form C-103, which certified the plugging detail as is
23 depicted on the graph.

24 Q That is identified as Exhibit Four-A?

25 A That's correct.

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Q All right.

MR. STOGNER: Excuse me, before we go any further, I hate to interrupt, but what will be the injection interval on these four injection wells?

A. Okay, that will be depicted or the actual injection intervals will be taken from the logs that we will be making on those wells.

We anticipate it being in the vicinity of 4300 down to approximately 4800. It will be determined, though, from the logs once we get them, the more specific depths.

MR. STOGNER: Okay, thank you.

Q Now please refer to Exhibit Five and identify that exhibit.

A. Exhibit Five is the actual contract that was -- which is called a Cooperative Water Injection Agreement. It was signed by Conoco, Phillips, Texaco, and Mobil, and its effective date was December, '82.

The significance of the agreement is that it is threefold.

First, all parties agree on the locations.

Second, all parties agree on when injection is to occur; and thirdly, it breaks out the appropriate costs for operation and drilling for these wells.

Should I mention --

Q. Sure, go ahead.

A. Okay. You have identified on Exhibits One and Two the wells are "A", "B", "C", and "D", if you would. I would now give the numerical designation of these wells, their location, their unit, section, township, and range data.

Well "A" corresponds to Well No. 188. Location is 2340 feet from the north line and 2630 feet from the west line, Unit G, Section 25, Township 17 South, Range 34E.

Well "B" is designated Well 183. Location 2628 feet from the north line, 100 feet from the west line, Unit E, Section 25, Township 17 South, Range 34 East.

Well "C" is designated Well 186. Location 3 feet from the south line, 1210 from the east line, Unit P, Section 26, Township 17 South, Range 36 East.

Well "D" is designated 187; located 5 feet from the south line, 2550 from the east line, Unit O, Section 26, Township 17, Range 34 East.

These locations are as close to the agreement that were possible. As I mentioned earlier, the minor changes were directly attributable to location of pipelines in their vicinity.

MR. STOGNER: Could you give me the location of Well "B" again, please, the footage?

1
2 A. The footage for Well "B" is 2628 from the
3 north line, 100 feet from the west line.

4 MR. STOGNER: Of section?

5 A. Of Section 25.

6 MR. STOGNER: Thank you.

7 Q. You mentioned earlier that because of the
8 pipeline location it was necessary to shift the location of
9 the wells as initially contemplated by the agreement which is
10 Exhibit Five and that the operators and parties to the Cooper-
11 ative Water Injection Agreement, Exhibit Five, had been con-
12 tacted and had indicated their agreement with the relocation
13 of the wells.

14 Would you please now refer to what's been
15 marked as Exhibits Six, Seven, Eight, and Nine, and advise
16 the Examiner and the record as to whether -- I guess Ten also --
17 well, Nine, through Nine.

18 A. Yes, uh-huh.

19 Q. Okay, advise the Examiner and the record as
20 to whether or not these exhibits are the waivers which you
21 had referred to previously.

22 A. Yes, sir. We have received information
23 from all the offset operators, which are ARCO, Conoco, Phil-
24 lips, and Texaco. If you look at the letter addressed to
25 each of these operators, you'll find that we informed them

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2 of what we intend to do. We informed them of the changes
3 that were made from the agreement to what we actually had to
4 place the locations at, and you'll find their signature at
5 the bottom of each waiver, stating that they concur with our
6 proposed locations as staked for each of the four wells.

7 You'll find on there the location, the old
8 location from the agreement as well as the new location as
9 staked, so there is no confusion as far as them being aware
10 of which -- or where these wells are to be located.

11 Q. Have Forms C-102 been filed with the Commis-
12 sion or with the Division in each instance?

13 A. The C-102's -- let me check something here.
14 The C-102's have not been submitted as of yet; however, they
15 are prepared and I have copies of them ready to be submitted
16 with the as staked locations as you see them here.

17 Q. All right. Would you please refer now to
18 what's been marked as Exhibit Ten and identify that for the
19 record?

20 A. Exhibit Ten is the consent of the surface
21 owner, which is the -- governed by the Commissioner of Public
22 Lands, in which he also concurs with Mobil's proposed water
23 injection wells as staked. You'll find that a similar letter
24 as was sent out to the other offset operators was also sent
25 to him and he also agreed with the way the locations are to be.

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Q. That's Exhibit Ten?

A. That's Exhibit Ten, correct.

Q. All right. Please identify Exhibit Eleven.

A. Exhibit Eleven is a history of the Mobil Bridges State Waterflood Project, and it goes through the dates, the order number, and a brief abstract of what the order ordered.

The significant thing about this portion of this history is that one order it is designated a waterflood project in which allowables for -- are different from pressure maintenance projects, which are different from all our offset operators, and it also, you know, gave us the permission to keep injecting and expand the waterflood.

Q. Okay. Any other comment on Exhibit Eleven?

A. I have no other information to give on that.

Q. Okay, then I'll ask you to refer to Exhibit Twelve and describe its purpose.

A. Exhibit Twelve is to inform the Commission on how we propose the casing and cementing programs to be and they're filed on the New Mexico Oil Conservation Division Form C-101 and this is how we propose to complete these wells.

As to significance about this, we intend to circulate cement to surface on both the surface and the long

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2 string to insure adequate protection to all zones.

3 Q. And there are four Form C-101's incorporated
4 in this Exhibit Twelve to cover the four wells proposed.

5 A. That is correct.

6 Q. Now please refer to Exhibit Thirteen and
7 explain what its purpose is.

8 A. Exhibit Thirteen is to be an example of --
9 or a typical injection well data sheet on how we plan to com-
10 plete all four wells. Then we intend to perforate. We intend
11 to place packer -- tubing and packer within 100 feet of the
12 injection zone, and the tubular detail to be 2-7/8ths EUE
13 cement-lined tubing.

14 And as we pointed out earlier, that the ac-
15 tual top and bottoms of our perforated zones will be deter-
16 mined from the logs that we anticipate, that we will be run-
17 ning.

18 Q. Okay. Would you identify Exhibit Fourteen
19 and its purpose?

20 A. The Exhibit Fourteen is to be the proposed
21 operational data for each of the wells. We propose an aver-
22 age injection volume to be approximately 400 barrels of water
23 per day and the maximum injection volume to be 800.

24 We propose the average injection pressures
25 to be the vicinity of 700 psi; maximum to be approximately

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2 800. This is within the .2 gradient standard set by the Com-
3 mission.

4 Q Do you have anything further at this time?

5 A No, sir, I do not.

6 Q In your opinion would the granting of the
7 application be in the interest of conservation, result in the
8 prevention of waste, and result in the recovery of otherwise
9 unrecoverable oil?

10 A Yes, I certainly do.

11 Q And do you feel that the proposal adequately
12 protects correlative rights?

13 A Yes, I do.

14 Q Were the exhibits which you've identified,
15 with the exception of Exhibit Five, prepared by you or under
16 your supervision?

17 A That's correct.

18 Q Exhibit Five being the cooperative agree-
19 ment.

20 A Right.

21 Q That in effect is a lease line agreement,
22 is it not?

23 A Yes.

24 MR. SPERLING: We offer Exhibits One
25 through Fourteen.

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2 MR. STOGNER: Exhibits One through
3 Fourteen will be admitted into evidence.
4

5 CROSS EXAMINATION

6 BY MR. STOGNER:

7 Q Mr. Marino, what is the source of the in-
8 jection water?

9 A The source of injection water will be pro-
10 duced water, as well as our rights to some of the fresh water
11 out in that area in the Vacuum Field. What we do is recycle
12 the produced water and any makeup water that we have to come
13 up with is from the fresh water rights that we have of the
14 Ogallala, which is approximately 12,000 barrels feet per
15 acre.

16 Q Your tubing size will be 2-7/8ths and that
17 is going to be lined --

18 A Cement lined.

19 Q For the record, how is that different from
20 plastic lined?

21 A It's lined with -- plastic lined is adhered --
22 is a lot thinner than the cement lined. It has better adhe-
23 sive -- the plastic has better adhesive to the steel but cement
24 is adequate for our purposes here for injection. Cement is
25 a lot heavier pipe. It can take an equal amount of pressure

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as the plastic lined pipe could.

Q. What will be the inside diameter of this pipe with the cement on it, roughly?

A. It will be -- I'd have to look it up in the tables, but I -- it should be around two inches.

Q. Okay, I guess my question was what would be the cement --

A. Thickness.

Q. Yeah.

A. It will -- cement --

Q. Roughly.

A. It will be approximately 7/8ths, half of that, which is a little less than half inch thick.

Q. That's fine. On the discrepancy on the locations, to be on the safe side, I would like for this case to be readvertised for the next hearing, to be on the safe side, although you do have all the waivers, although I do not see any -- any foreseeable problems of anybody contesting this. So I really don't see any reason that you would have to appear at that time, but I would like to see it readvertised to cover all the location discrepancies.

A. Yes, we can do that.

MR. SPERLING: All right.

Q. One more question. In the order approving

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the Bridges' State Waterflood, was there a limitation set on pressure in that case?

A. No, there wasn't.

Q. Okay, however there will be in these four wells here, being a maximum of 800 psi.

A. That's correct.

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

Is there any questions?

MR. SPERLING: I have just a couple, Mr. Examiner.

MR. STOGNER: Mr. Sperling.

REDIRECT EXAMINATION

BY MR. SPERLING:

Q. Are the water supply wells which were mentioned by you earlier identified in earlier hearings? To my recollection they were, because I -- I presented them, I'm sure.

A. Yes, they have been. All the source water is identified and I don't recall which order that they were presented at, but I do believe that they were presented in 70, in 1970 or in 1972. I do not recall which, which order they were submitted at.

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Q Well, the orders are identified.

A Oh, I see.

Q All of the orders pertaining to this project.

MR. STOGNER: Then there have not been any new source wells since that time.

A Not that I am aware of at this time.

MR. STOGNER: Even if there was, it would be out of the same --

A Yes.

MR. STOGNER: Area, anyway.

Q Is the tubing, the cement lined tubing which you propose to install equally corrosive resistant to the plastic lined?

A Yes, for -- yes, it is.

Q Okay.

MR. STOGNER: Any further questions of Mr. Marino? If not, he may be excused.

MR. SPERLING: Thank you.

MR. STOGNER: Case Number -- I'm sorry, do you have anything further, Mr. Sperling?

MR. SPERLING: No, sir, that's all.

MR. STOGNER: Case Number 7866 will be readvertised.

(Hearing concluded.)

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