

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date OCTOBER 27, 1994 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Mike Brown	Manzano Oil	Roswell
William F. Jan	Campbell, Jan, Long & Anderson	Santa Fe
Bany Galy	Enron Oil & Gas Co.	Midland
RANVILLE COTE	'	'
Dale Jan	J&J Petroleum	Santa Fe
Maurice Trimmer	R.W. Byrum	SF
Bill Hawkins	Amoco	Denver
JULIE TAUBO	Amoco	DENVER
MITCH MURPHY	ENR Corporation	San Antonio TX

STATE OF NEW MEXICO
 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
 OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING)
 CALLED BY THE OIL CONSERVATION)
 DIVISION FOR THE PURPOSE OF)
 CONSIDERING:)
)
 APPLICATION OF ENRON OIL & GAS)
 COMPANY)
 _____)

CASE NO. 11,125

ORIGINAL

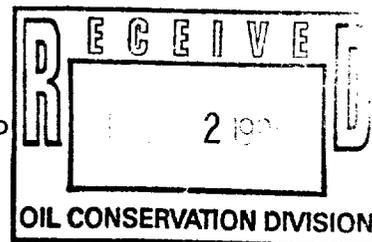
REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

October 27th, 1994

Santa Fe, New Mexico



This matter came on for hearing before the Oil Conservation Division on Thursday, October 27th, 1994, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

STEVEN T. BRENNER, CCR
 (505) 989-9317

I N D E X

October 27th, 1994
 Examiner Hearing
 CASE NO. 11,125

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* * *

A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
State Land Office Building
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.
Suite 1 - 110 N. Guadalupe
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

1 WHEREUPON, the following proceedings were had at
2 8:23 a.m.:

3
4 EXAMINER STOGNER: Hearing will come to order for
5 Docket Number 31-94. Please note today's date, October
6 27th, 1994.

7 I'm Michael E. Stogner, appointed hearing officer
8 for today's cases.

9 I'll at this time call Case 11,125.

10 MR. CARROLL: Application of Enron Oil and Gas
11 Company for an unorthodox oil well location, Lea County,
12 New Mexico.

13 EXAMINER STOGNER: Call for appearances.

14 MR. CARR: May it please the Examiner, my name is
15 William F. Carr with the Santa Fe law firm Campbell, Carr,
16 Berge and Sheridan.

17 I represent Enron Oil and Gas Company, and I have
18 two witnesses.

19 EXAMINER STOGNER: Are there any other
20 appearances in this matter?

21 Would the witnesses please stand to be sworn?

22 (Thereupon, the witnesses were sworn.)

23 EXAMINER STOGNER: Mr. Carr?

24 MR. CARR: At this time, Mr. Stogner, we call
25 Barry Zinz.

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BARRY L. ZINZ,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record, please?

A. Barry Lynn Zinz.

Q. And where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. Enron Oil and Gas.

Q. And what is your current position with Enron?

A. Geologist.

Q. Mr. Zinz, have you previously testified before this Division?

A. Yes, I have.

Q. At the time of that prior testimony, were your credentials as a petroleum geologist accepted and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Application filed in this case on behalf of Enron Oil and Gas?

A. Yes, sir.

Q. And are you familiar with the proposed well?

A. I am.

1 MR. CARR: Mr. Stogner, are the witness's
2 qualifications acceptable?

3 EXAMINER STOGNER: They are.

4 Q. (By Mr. Carr) Mr. Zinz, would you briefly
5 summarize what Enron seeks with this Application?

6 A. We're seeking an unorthodox location in the
7 south-half 80-acre proration unit of the northwest quarter
8 of Section 12, 25 South, 33 East.

9 And that, like I say, is an unorthodox location
10 that the BLM made us move.

11 Q. And that's in Lea County, New Mexico?

12 A. Yes, uh-huh.

13 Q. What is the name of the subject well?

14 A. It's the Hallwood "12" Fed Number 9.

15 Q. And into what formation are you proposing to
16 drill this well?

17 A. To the Bone Spring.

18 Q. And what is the pool we're talking about here?

19 A. It's the third Bone Spring sand.

20 Q. And are we talking about the Red Hills-Bone
21 Spring Pool?

22 A. That's correct.

23 Q. All right. Why is Enron here today proposing to
24 drill at this particular location?

25 A. Like I said, we were required to move the

1 location by the BLM to the west of our original location,
2 and Exhibit 1 is the approved location that we have.

3 And also, if you refer to that topo sheet, you
4 can see that the orthodox locations fell within a drainage
5 area, and this is --

6 Q. That's indicated by the orange dot?

7 A. The orange dot, that's correct, yes.

8 Q. Okay.

9 A. And this is the reason that the BLM made us move
10 it to the west.

11 Q. Now, the last of the three pages of Exhibit 1 is
12 a copy of Oil Conservation Division Form C-102.

13 Does that show the exact survey location for the
14 proposed well?

15 A. Yes, it does.

16 Q. And what is that location?

17 A. It's 1830 from the north, 1650 from the west, in
18 Section 12.

19 Q. Have you prepared exhibits for presentation in
20 this hearing?

21 A. Yes, I have.

22 Q. Could you refer to what has been marked Enron
23 Exhibit Number 2 and identify that for Mr. Stogner?

24 A. This is a land plat which shows the proration
25 unit in Section 12 and the well location.

1 Q. And it also indicates Enron-operated property
2 surrounding this tract?

3 A. That's correct.

4 Q. There is a standard location in the southwest of
5 the north -- I'm sorry, in the southeast of the northwest
6 of Section 12, is there not?

7 A. Yes.

8 Q. And what you've actually done is moved this well
9 farther to the west?

10 A. That's correct.

11 Q. And in essence, the only offsetting properties on
12 which you're encroaching are Enron-operated tracts?

13 A. Yes, sir.

14 Q. How many principal producing horizons are there
15 in the Bone Spring formation in this area?

16 A. There's two sands, the way I've broken out the
17 Bone Spring there.

18 Q. All right. Let's move to what has been marked
19 Enron Exhibit Number 3. Can you identify this for the
20 Examiner, please?

21 A. It's a porosity isopach map of what I refer to as
22 the "A" sand, which will not be present at the proposed
23 location.

24 Q. Now, on this map, the acreage shaded in yellow is
25 what?

1 A. The acreage shaded completely in yellow or
2 colored in yellow is a hundred percent Enron.

3 The outlined acreage, as in Section 12 there, is
4 partial interest.

5 Q. And in Sections 11 and 12, those are tracts that
6 are operated by Enron?

7 A. Correct.

8 Q. Could you explain the two well spots shown on
9 this exhibit?

10 A. Yes, the orange dot, there again, is the legal or
11 orthodox location.

12 The open circle is the location where the BLM
13 asked us to move it.

14 And the green dot is a standard or orthodox
15 location in the west half of that proration unit.

16 Q. And that other standard location is unacceptable
17 for geological reasons?

18 A. That's correct.

19 Q. All right. Let's move on to Enron Exhibit Number
20 4. Will you identify and review that, please?

21 A. This is a porosity isopach of the "B" sand in the
22 third Bone Spring sand.

23 Q. And again, this shows basically the same
24 ownership information as on the preceding exhibit?

25 A. That's correct, same ownership. All the

1 information with the exception of, it's the "B" sand
2 isopach.

3 Q. And what interval is this map contoured on?

4 A. The "B" sand, which is the 10-foot contour
5 interval.

6 Q. Now, moving as required by the BLM, how much
7 formation do you believe you have already lost?

8 A. It shows right here that we've already lost
9 probably about seven or eight feet.

10 Q. And how many feet are you anticipating you will
11 encounter at the proposed location?

12 A. I believe we'll encounter about 11 or 12 feet of
13 sand.

14 Q. If you were to required to move onto the green
15 dot, off to the west --

16 A. We'd be losing quite a lot more, almost down to
17 aero.

18 Q. Would that be a well that Enron could -- you
19 could recommend to your management that Enron drill?

20 A. No, we could not.

21 Q. In essence, if you were required to move to the
22 standard location this property will not be developed?

23 A. That's correct.

24 Q. Is this the only objective in this well?

25 A. Yes, it is.

1 Q. In your opinion from a geological point of view,
2 is a well at the proposed location necessary if in fact
3 these reserves are to be produced?

4 A. Yes.

5 Q. Will approval of this Application enable Enron to
6 produce reserves that otherwise are not going to be
7 recovered?

8 A. I believe it will.

9 Q. Will the correlative rights of all interest
10 owners in Section 12 be served and protected by drilling
11 the well at the proposed location?

12 A. I believe those rights will be.

13 Q. Will Enron also call an engineering witness to
14 show the impact that has already been incurred by virtue of
15 moving the well from the original staked location to the
16 location required by the BLM?

17 A. Yes, we have. He'll testify to that.

18 Q. Were Exhibits 1 through 4 prepared by you, or can
19 you testify as to their accuracy?

20 A. Yes, they were.

21 MR. CARR: Mr. Stogner, at this time we move the
22 admission of Enron Oil and Gas Exhibits 1 through 4.

23 EXAMINER STOGNER: Exhibits 1 through 4 will be
24 admitted into evidence.

25 MR. CARR: And that concludes my direct

1 examination of Mr. Zinz.

2 EXAMINATION

3 BY EXAMINER STOGNER:

4 Q. Mr. Zinz, in looking at your Exhibit Number 3 --

5 A. Yes, sir.

6 Q. -- could you please describe in a little more
7 detail this actual structure, the feature in which --

8 A. Exhibit 3?

9 Q. Yes.

10 A. That's the "A" sand isopach map?

11 Q. Right.

12 A. It's actually not a structure; it's just an
13 isopach map, a thickness map. And what this is based on is
14 our cutoffs that we've been using out here for production,
15 and I've been using a 14-percent density cutoff, and that's
16 what this map is based on, and that's what the Exhibit 4
17 map is also based on.

18 Q. Okay. Well, what I was looking for, actually,
19 what kind of a geological structure is this Bone Springs
20 production out here? What kind of trapping mechanism?

21 A. Oh, okay, it's stratigraphic. We're developing
22 this -- these sands on the flank of the Pitchfork Ranch
23 feature, and these sands are just kind of pinching out up
24 and around the flank of this feature.

25 Q. So the third Bone Spring "A" sand is pretty

1 muchly out of the question in this particular --

2 A. I believe it is, yes, sir.

3 Q. Are you going to go ahead and drill to it and
4 check it?

5 A. Yes. We have to have a certain amount of rathole
6 when we produce these wells, so we'll drill on past that.

7 Q. Did you try to get the BLM to approve the
8 location back to the east after you found out the orthodox
9 location wasn't acceptable to them?

10 A. Well, the way it fell into that drainage pattern,
11 the legal locations were -- let's see, 2130 from the west
12 and 1980 from the west. And all those locations were
13 within that drainage system there. And our representatives
14 met the BLM out on the surface, and that's what they agreed
15 on, was only going to the west.

16 Q. When do you anticipate a rig available to start
17 drilling this well?

18 A. We have our schedule set up that it will be
19 drilled before the end of the year.

20 Q. So you're not ready to move on to it immediately?

21 A. No, not immediately.

22 EXAMINER STOGNER: I don't have any other
23 questions of this witness, Mr. Carr.

24 MR. CARR: Thank you, Mr. Stogner.

25 At this time, we call Randy Cate.

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RANDY CATE,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record, please?

A. It's Randy Cate, C-a-t-e.

Q. Where do you reside?

A. I live in Midland, Texas.

Q. By whom are you employed?

A. I'm employed by Enron Oil and Gas.

Q. And what is your current position with Enron?

A. I'm a reservoir engineer.

Q. Mr. Cate, have you previously testified before this Division?

A. Yes, I have.

Q. At the time of that testimony, were your credentials as an engineer accepted and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Application filed in this case on behalf of Enron Oil and Gas?

A. Yes.

Q. And are you familiar with the proposed well?

A. Yes, I am.

1 Q. You're the engineer responsible for this -- for
2 the engineering part of this project?

3 A. Yes, I am.

4 MR. CARR: Are the witness's qualifications
5 acceptable?

6 EXAMINER STOGNER: They are.

7 Q. (By Mr. Carr) Mr. Cate, have you prepared an
8 exhibit for presentation in this hearing?

9 A. Yes, I have.

10 Q. Could you identify what has been marked as Enron
11 Exhibit Number 5 and then review the information on that
12 exhibit for Mr. Stogner?

13 A. Yes, this is a comparison of the volumetric
14 recoveries for the three locations that have been
15 referenced on Exhibits Number 3 and 4, a comparison of the
16 anticipated net feet of pay, based on Mr. Zinz's 14-percent
17 density cutoff.

18 Q. And are you looking just at the "B" sand here?

19 A. I am looking just at the "B" sand, because he
20 anticipated no "A" sand.

21 Q. All right. Let's review the information on the
22 exhibit for Mr. Stogner.

23 A. Okay. Again, I referenced the three locations
24 that have been previously discussed, and based on Mr.
25 Zinz's anticipated net pay, I've calculated the expected

1 ultimate recoveries in thousands of barrels and then show
2 the loss from the best orthodox location that has been
3 denied by the BLM within this 80-acre dedication unit.

4 And then at the bottom I show the reservoir and
5 fluid properties that were used in the volumetric
6 calculations.

7 Q. Basically, what does this tell you?

8 A. All right, for the best orthodox, which would
9 have been 2130 from the west line, which is -- within our
10 field rules, is the 150 feet from the 1980, we anticipated
11 19 feet of pay. And based on the below properties, it
12 would have calculated to 74.2 MBO or 74,000 barrels. And
13 that is -- would have been the best or our choice orthodox
14 location. That's the red dot on Exhibits 3 and 4.

15 Where we have been approved by the BLM is the
16 1650 location from the west, 1650 feet from the west line,
17 and we anticipate 12 feet of pay, which would reduce the
18 volumetric reserves to 46,900 barrels, or a loss of 27,300
19 barrels. Or another way to look at it is, approximately
20 37-percent reduction in potential reserves.

21 If we were forced to go to the standard or the
22 orthodox location in the west half of the unit, which is --
23 the best one is approximately 810 feet from the west, we
24 anticipated only five feet of net sands for an EUR of
25 19,500 barrels of oil, or a loss of 54,700 barrels from our

1 choice orthodox location.

2 The reservoir fluid properties used below, the
3 porosity is a cross-plotted porosity of 12 1/2 percent.
4 That is average for the pay, and that's slightly -- It's
5 less, because Barry's cutoff is a 14 density. When you
6 bring the neutron porosity in a cross-plot, it does bring
7 it down.

8 Oil saturation of 60 percent is taken from cores
9 and capillary pressure data and the log calculations.

10 The recovery factor has been predicted by single-
11 well models, reservoir simulators that we've run out here.

12 The drainage of 80 acres has also been supported
13 by the model that we've run, and of course those are the
14 approved field rules for this area.

15 Formation volume factor has been derived from
16 laboratory tests on PVT analysis.

17 And the recoverable oil in place is simply a
18 summary of those calculations on a barrel-of-oil-per-acre-
19 foot.

20 Q. Mr. Zinz, if in fact, you move this -- I'm sorry,
21 Mr. Cate.

22 If you move this location to the available
23 standard location on the tract, in your opinion, would
24 Enron in fact drill this well?

25 A. No, we would not.

1 Q. In your opinion, would approval of this
2 Application and the drilling of the well be in the best
3 interests of conservation, the prevention of waste and the
4 protection of correlative rights?

5 A. Yes, it would.

6 Q. Was Exhibit Number 5 prepared by you?

7 A. Yes, it was.

8 MR. CARR: Mr. Stogner, at this time we would
9 move the admission into evidence of Enron Exhibit Number 5.

10 EXAMINER STOGNER: Exhibit Number 5 will be
11 admitted into evidence.

12 MR. CARR: And that concludes my direct
13 examination of Mr. Cate.

14 EXAMINER STOGNER: Thank you, Mr. Carr.

15 EXAMINATION

16 BY EXAMINER STOGNER:

17 Q. Mr. Cate, did you do any volumetrics or -- I'm
18 sorry, any economic evaluation of a directional drill to a
19 standard location?

20 A. No, I didn't actually do a directional drill. We
21 really hadn't considered, you know, doing that for what
22 would be approximately 350 feet. We had not done that. If
23 you would like to have that, we can certainly accommodate
24 that.

25 Q. In your opinion, would it -- would a directional

1 drill with all the additional costs, could it be justified
2 in this particular area?

3 A. Right now -- Of course, without AFEs, this is
4 just my best engineering guess, but right now these wells
5 are costing roughly \$650,000 apiece to complete and to kick
6 off, and I'm not sure if it would require a different
7 casing program.

8 But I would think that probably an additional
9 \$200,000 is probably a fair estimate of what the additional
10 cost would be for an incremental 27,000 barrels. I don't
11 believe that would leave enough of an incentive to do that
12 at the current oil prices. I don't believe that would
13 work.

14 Q. How about the completion techniques for these
15 type of wells? What type of completion is done?

16 A. Yes, these wells are perforated in the sands with
17 casing guns, and then they are acidized with, oh, between
18 3000 and 5000 gallons of a 15-percent hydrochloric acid,
19 and then they require a massive hydraulic fracture
20 stimulation, probably averaging 100,000 gallons of fluid,
21 and approximately 200,000 pounds of sand.

22 Q. How about the pumping mechanism, or are these
23 wells naturally flowing?

24 A. They are naturally flowing.

25 Q. Are they put on a beam pump later on, or do you

1 have any on a beam pump or any kind of pump?

2 A. No, we do not have any on any kind of pump right
3 now.

4 We have tried a gas lift on one of we wells, and
5 it really wasn't advantageous.

6 The wells will flow -- The rock is so tight, it's
7 going to flow when you have enough gas in it, that it will
8 continue to flow, and the artificial lift, so far, really
9 has not helped.

10 Q. As these wells become depleted out here in this
11 area, do you figure that Enron will put some sort of a pump
12 on?

13 A. Yes, yes.

14 Q. And what type would that be?

15 A. I would imagine that gas lift is what will be
16 used because of the depth.

17 It will probably be more economic to go with gas
18 lift than any kind of a beam-pumping system, beam-and-rod
19 pumps.

20 EXAMINER STOGNER: Are there any other questions
21 of this witness?

22 MR. CARR: I have no questions, Mr. Stogner.

23 EXAMINER STOGNER: You may be excused.

24 MR. CARR: We have nothing further in this case.

25 EXAMINER STOGNER: Does anybody else have

1 anything further in Case 11,125?

2 Then this case will be taken under advisement.

3 (Thereupon, these proceedings were concluded at
4 8:44 a.m.)

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CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

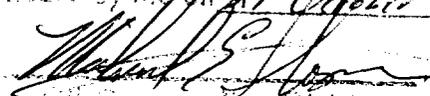
WITNESS MY HAND AND SEAL October 27th, 1994.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the examiner hearing of Case No. 11125, heard by me on 27 October 1994.


Examiner
Oil Conservation Division