

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: )

CASE NO. 12,004

APPLICATION OF STEVENS AND TULL, INC., )  
FOR A NONSTANDARD SUBSURFACE GAS WELL )  
LOCATION/PRODUCING AREA AND A )  
NONSTANDARD GAS PRORATION UNIT, )  
EDDY COUNTY, NEW MEXICO )

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

July 9th, 1998

Santa Fe, New Mexico

98 JUL 23 AM 8:27

OIL CONSERVATION DIV.

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, July 9th, 1998, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, 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

July 8th, 1998  
 Examiner Hearing  
 CASE NO. 12,004

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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  
2040 South Pacheco  
Santa Fe, New Mexico 87505

## FOR THE APPLICANT:

KELLAHIN & KELLAHIN  
117 N. Guadalupe  
P.O. Box 2265  
Santa Fe, New Mexico 87504-2265  
By: W. THOMAS KELLAHIN

## FOR SCOTT E. WILSON and RICHARD K. BARR:

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

## ALSO PRESENT:

MARK W. ASHLEY  
NMOCED Environmental Geologist  
2040 South Pacheco  
Santa Fe, New Mexico 87505

\* \* \*

1           WHEREUPON, the following proceedings were had at  
2   10:46 a.m.:

3           EXAMINER STOGNER: Call Case Number 12,004.

4           MR. CARROLL: Application of Stevens and Tull,  
5   Inc., for a nonstandard subsurface gas well location/  
6   producing area and a nonstandard gas proration unit, Eddy  
7   County, New Mexico.

8           EXAMINER STOGNER: Call for appearances.

9           MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of  
10   the Santa Fe law firm of Kellahin and Kellahin, appearing  
11   on behalf of the Applicant, and I have two witnesses to be  
12   sworn.

13          EXAMINER STOGNER: Any other 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. I represent Scott E. Wilson and  
17   Richard K. Barr.

18          As the Examiner is aware, we had a companion  
19   which we've dismissed. We've dismissed it because we've  
20   reached an agreement with Stevens and Tull for the  
21   development of this acreage.

22          EXAMINER STOGNER: And that companion case was  
23   Case 12,002 --

24          MR. CARR: Yes, sir.

25          EXAMINER STOGNER: -- which was dismissed prior

1 to today's hearing.

2 Any other appearances?

3 Will the witnesses please stand to be sworn at  
4 this time?

5 (Thereupon, the witnesses were sworn.)

6 MR. KELLAHIN: Mr. Examiner, our first witness is  
7 Mr. Jerry Weant.

8 Mr. Stogner, the exhibit book is marked as  
9 Stevens Exhibit 1. Within the context of the binder it's  
10 subdivided into three parts: There's the land  
11 presentation, the geologic report and then a short  
12 engineering summary.

13 Mr. Weant will address himself to the land  
14 portion of Exhibit 1.

15 JERRY L. WEANT,

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

18 DIRECT EXAMINATION

19 BY MR. KELLAHIN:

20 Q. For the record, sir, would you please state your  
21 name and occupation?

22 A. My name is Jerry Weant, and I am the vice  
23 president of land for Stevens and Tull, Inc.

24 Q. On prior occasions have you testified as an  
25 expert in petroleum land matters before the Division?

1 A. Yes, I have.

2 Q. And in your responsibility as the land manager  
3 for your company, have you been involved with the working  
4 interest owners in this spacing unit as well as the  
5 adjoining spacing unit?

6 A. Yes, I have.

7 Q. Are you familiar with all the offset operators  
8 and interest owners that are entitled to notification of  
9 this case?

10 A. Yes.

11 MR. KELLAHIN: We tender Mr. Weant as an expert  
12 witness.

13 EXAMINER STOGNER: Mr. Weant is so qualified.

14 Q. (By Mr. Kellahin) Mr. Weant, let's turn to the  
15 exhibit book, and if you'll look at the first document  
16 behind the green tab, you're going to find a locator map.

17 Would you take a moment and focus the Examiner's  
18 attention, not on the well that's the subject of this case  
19 but the well that generated this case, the Sweet Thing  
20 Number 1, located in Section 36? Show us where that is.

21 A. Okay. The acreage dedicated to the Sweet Thing  
22 State 36 well is colored pink, as you can see.

23 Q. And the approximate location of the Sweet Thing  
24 Number 1 well is what, sir?

25 A. That is located 850 feet from the north line, 300

1 feet from the east line of Section 36.

2 Q. And that is the approved surface location?

3 A. That is correct.

4 Q. When we look at the next section to the east,  
5 Section 31, that is an irregular-size section, is it not?

6 A. That is correct.

7 Q. Do you know what the acreage is within that  
8 nonstandard section?

9 A. Yes, there are 233.79 acres in that section.

10 Q. Is it your company's proposal to dedicate that  
11 entire irregular section to what we've called the Sweet  
12 Thing Federal Unit Number 2 well?

13 A. That is correct.

14 Q. And that is the subject of this hearing?

15 A. Yes, sir.

16 Q. What is the proposal for this well in terms of a  
17 surface location and a bottomhole location?

18 A. The surface location was arrived at by viewing  
19 the surface topography in here. The best location that we  
20 deemed was a location of 660 feet from the north line, 660  
21 feet from the west line of Section 31.

22 Q. That's a surface location?

23 A. That is correct.

24 Q. And has that surface location, to the best of  
25 your knowledge, been approved, or is it approvable, by the

1 Bureau of Land Management?

2 A. It is approvable by the Bureau of Land  
3 Management.

4 Q. Okay. And what is the bottomhole target for the  
5 well?

6 A. The bottomhole target will be roughly 435 feet  
7 from the west line and approximately 660 feet from the  
8 north line.

9 Q. Within that area, then, there is intended to be a  
10 drilling window, is there not?

11 A. That is correct.

12 Q. So the western boundary of the drilling window  
13 will be 435 feet?

14 A. That is correct.

15 Q. And it would extend, then, eastward a distance, a  
16 maximum distance, of 50 feet in width, right?

17 A. That is correct.

18 Q. In the north-south dimension, the closest  
19 northern portion of the drilling window would be 660 feet?

20 A. Yes, sir.

21 Q. And it would extend 200 feet to the south?

22 A. That is correct.

23 Q. That's your target, and that would be in the top  
24 of the Morrow?

25 A. Yes, sir.



1 Q. Let's look at the ownership in Section 31. How  
2 is that arranged? Is that under a unit or an operating  
3 agreement or some other contractual arrangement?

4 A. Yes, the yellow acreage which is reflected on the  
5 plat is designated as the Sweet Thing Federal Unit, and  
6 that is dedicated to the well drilled down in Section 6,  
7 Sweet Thin Federal Unit Number 1 well, and that acreage was  
8 originally dedicated to that unit well.

9 Q. Are the working interest owners in the federal  
10 unit of which Section 31 is part, are they the same working  
11 interest owners that you find in Section 36 for the Sweet  
12 Thing Number 1 well?

13 A. The Sweet Thing State 36?

14 Q. Yes, sir.

15 A. Yes, sir.

16 Q. Okay. In the regular Section 36 to the north  
17 that's shaded in orange, there's also a well in 36, is  
18 there not?

19 A. That is correct.

20 Q. Is that a well that you operate?

21 A. Yes, sir. That is the Stevens and Tull Sweet  
22 Thing State -- I'm sorry, Stevens and Tull Little Box State  
23 Number 2 well.

24 Q. All right. Have you sent notification to all the  
25 interest owners that might be affected by this unorthodox

1 location?

2 A. Yes, we have.

3 Q. Let's turn to the next document behind the  
4 locator map and have you identify and describe what this  
5 is.

6 A. This is the proposal dated April 30, 1998, from  
7 Stevens and Tull as operator to the working interest owners  
8 of the Sweet Thing Federal Unit, proposing the drilling of  
9 the Sweet Thing Federal Unit Number 2 well.

10 Q. All right, let's turn beyond that -- it's got an  
11 AFE attached to it? --

12 A. That is correct.

13 Q. -- and that behind that, and there is a colored  
14 separator page, and then we see what, sir?

15 A. Behind that is a letter dated April 29, 1998,  
16 which is a letter that I submitted to the BLM, which was as  
17 a result of the Sweet Thing State 36 well. We notified  
18 them of our intent to further develop and amend our  
19 development plan of the Sweet Thing Federal Unit.

20 Q. Okay, and did you receive a response from Mr.  
21 Lopez of the Bureau of Land Management?

22 A. Yes, we did, that's the next letter, dated May  
23 14th, 1998.

24 Q. Following Mr. Lopez's letter, what is the next  
25 correspondence?

1           A.    The next letter is a letter from Great Western  
2 Drilling Company, who is one of the participants in the  
3 Sweet Thing State 36 well, as well as the Sweet Thing  
4 Federal Unit, and it's simply a letter wherein they are  
5 supporting our proposal for the subject well.

6           Q.    Okay. Behind, then, the next colored sheet  
7 separating the documents, what then do we find?

8           A.    That is the notice of the Application for this  
9 particular case.

10          Q.    And have you reviewed the copies of the green  
11 certified mail return receipt cards and satisfied yourself  
12 that we have provided notice to all the proper parties?

13          A.    Yes.

14          Q.    All right. Then finally in the land section,  
15 let's turn to the last correspondence. This is a letter  
16 executed by Mr. Carr and me, confirming a settlement with  
17 Scott Wilson and Richard Barr?

18          A.    That is correct.

19          Q.    All right. Without going into all the infinite  
20 details of the issue, Mr. Weant, summarize for us what Mr.  
21 Wilson and Mr. Barr wanted you to accomplish with this new  
22 Sweet Thing Number 2 well.

23          A.    Basically, they wanted us to attempt to complete  
24 a well in the Morrow formation in a similar position, on  
25 this tract within the Sweet Thing Federal Unit, to the

1 offsetting well, the Sweet Thing State 36 well, which was a  
2 nonstandard location in a nonstandard section, which was  
3 recently completed. The well actually went on line March  
4 1st -- or March 2nd of this year.

5 Q. All right. The Sweet Thing Number 1 well in  
6 Section 36, while it had an approved surface location 300  
7 feet from this common boundary, your technical people with  
8 your company have determined that, in fact, is not a  
9 vertical, straight wellbore; is that not true?

10 A. That is correct.

11 Q. And it has drifted to the west?

12 A. That is correct.

13 Q. The new well that we're discussing today is an  
14 attempt to locate this second well in an approximate  
15 location that's in a similar position from the common  
16 boundary?

17 A. That is correct.

18 Q. All right. And Wilson and Barr have agreed to  
19 the size and location of the drilling window that's  
20 targeted for the new well?

21 A. Yes, sir.

22 Q. Okay. And with the approval of this Division,  
23 then, you're ready to proceed with this well, are you not?

24 A. Yes, sir.

25 MR. KELLAHIN: That concludes my examination of

1 Mr. Weant.

2 EXAMINER STOGNER: Mr. Carr, any questions?

3 MR. CARR: No questions.

4 EXAMINATION

5 BY EXAMINER STOGNER:

6 Q. In referring to the first page behind the green  
7 tab marked "Land", down in Section 1 to the south and  
8 west --

9 A. Yes, sir.

10 Q. -- is -- Now, it shows Exxon as a lessee, but is  
11 that a Stevens-and-Tull-operated well --

12 A. Yes, sir --

13 Q. -- over in the east --

14 A. -- in fact, we operate both wells located in  
15 Section 1. And that acreage is actually dedicated to the  
16 same agreement as the pink lands.

17 Q. I'm sorry, as the what lands?

18 A. The east half of Section 1 is dedicated under the  
19 same agreement as the Sweet Thing State 36 well, the pink.  
20 So those parties were noticed, the same parties were  
21 noticed.

22 Q. Okay. Now, the well in Section 36, that Number  
23 2, is that presently producing, drilling, or what's the  
24 status of that well?

25 A. That well is currently awaiting a pipeline

1 connection, which we anticipate in probably 30 days or  
2 less.

3 Q. Do you remember the administrative order that  
4 approved that Number 2 well? Or that's an unorthodox  
5 location, is it not?

6 A. The Little Box Number 2?

7 Q. Yes.

8 A. No, sir, that is a standard location. That's a  
9 laydown -- I think it's 2150 from the west and 660 from the  
10 south.

11 EXAMINER STOGNER: Any other questions of this  
12 witness?

13 You may be excused.

14 THE WITNESS: Thank you.

15 EXAMINER STOGNER: Mr. Kellahin?

16 MR. KELLAHIN: Mr. Examiner, we'll call at this  
17 time Mr. George Ulmo. He spells his last name U-l-m-o.

18 GEORGE J. ULMO,

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

21 DIRECT EXAMINATION

22 BY MR. KELLAHIN:

23 Q. For the record, sir, would you please state your  
24 name and occupation?

25 A. George Ulmo. I'm a consulting geologist on

1     retainer with Stevens and Tull.

2           Q.     Mr. Ulmo, on prior occasions have you testified  
3     as a petroleum geologist before the Division?

4           A.     Yes, I have.

5           Q.     Pursuant to your consulting work with Stevens and  
6     Tull, have you made a geologic study concerning this well  
7     and other wells in the area to determine an appropriate  
8     methodology by which you can directionally control this  
9     wellbore and bottom it within this drilling window in the  
10    Morrow?

11          A.     Yes, I have.

12                 MR. KELLAHIN:  We tender Mr. Ulmo as an expert  
13     geologist.

14                 EXAMINER STOGNER:  No objections?  Mr. Ulmo is so  
15     qualified.

16           Q.     (By Mr. Kellahin)  Let me have you turn to the  
17     exhibit book, and let's look at the schematic for a moment,  
18     behind the tab.

19                 And we've made an editing change here, Mr.  
20     Examiner.  The schematic had showed 600 feet from the  
21     north.  In fact, it's to be 660 from the north.  But if you  
22     slide that down visually, then describe for us the target  
23     that you're trying to hit.

24           A.     Okay, the target window would be a rectangular  
25     box, oriented in a north-south direction, with the north

1 limit of the box at 660 feet from the north line of Section  
2 31, the south side of the box would be 860 feet from the  
3 north line of the section, the western boundary of the box  
4 is to be 435 feet from the west line of the section, and  
5 the eastern boundary would be 485 feet from the west line  
6 of the section.

7 That gives us a 50-foot-wide target window which  
8 is 200 feet tall.

9 Q. When we look at the schematic and look over in  
10 Section 36 to the west, you've approximated the Sweet Thing  
11 State Number 1 well and also showed its estimated  
12 bottomhole location?

13 A. That's correct. The Sweet Thing -- This is an  
14 estimated bottomhole location for the Sweet Thing State 36,  
15 based on analysis I have done with three other wells in the  
16 area, being the Number 2 Little Box State, the Number 1  
17 Sweet Thing Federal Unit and the Number 1 Nasser Federal.

18 Q. All right.

19 A. Those wells, we acquired gyroscopic directional  
20 surveys on, and based on those have come up with this  
21 conclusion to where our bottomhole location is most likely  
22 located.

23 MR. KELLAHIN: Mr. Stogner, within Mr. Ulmo's  
24 geologic report I have tabbed your exhibit book with a  
25 yellow tab. It is towards the end of his report, just



1 before you get to the red-colored separator page. And if  
2 you count back three displays you're going to find a  
3 structure map, and it's on top of the Atoka shale. And  
4 there should be a yellow tab on the top of your books, or  
5 the side of your books.

6 EXAMINER STOGNER: Structure map, top of Atoka  
7 shale?

8 MR. KELLAHIN: Yes, sir. I'd like to use that  
9 for a moment to provide an indication to you of the control  
10 wells that Mr. Ulmo used in his report. I'll give you my  
11 copy because it's color-coded.

12 Q. (By Mr. Kellahin) Based upon your study, have  
13 you determined that the wellbores within this area of  
14 review, in fact, are not vertical, straight wellbores?

15 A. Yes, I have.

16 Q. And how did you do that?

17 A. On the Number 2 Little Box State, we ran a  
18 gyroscopic directional survey from the surface to TD, and  
19 we determined that wellbore has drifted westward  
20 approximately 148 feet, I think it is. Let me get my chart  
21 here and see. That well went about 148 feet west and, oh,  
22 about 24 feet or so south of the surface location at the  
23 top of the Morrow sand.

24 Q. Did you, as part of your study, look at other  
25 wellbores in this vicinity that had been drilled to a

1 similar depth to determine what the general direction of  
2 wellbore drift was?

3 A. Yes, we did. We looked at the Number 1 Sweet  
4 Thing Federal in Section 6 and the Number 1 Nasser Federal  
5 in Section 1, and both of them -- both of those wells  
6 exhibited westward drift, for the most part.

7 Q. Were you able to survey or determine the exact  
8 bottomhole location of the Sweet Thing 36-1 well that  
9 you're trying to offset?

10 A. We were not able to determine the exact location  
11 of that well. We tried to run a gyro survey on that well  
12 and were unsuccessful.

13 During our attempt -- The well was currently  
14 flowing between 7 and 8 million cubic feet of gas a day,  
15 and we shut the well in and tried to go into the tubing  
16 with a gyroscopic tool, and there's not enough clearance  
17 within the annulus between the tool and the tubing for the  
18 gas to -- Well, there was too much gas in there; it didn't  
19 allow the tool to go down. And the tool was jolted up and  
20 down vertically several times, and actually the wireline  
21 pulled out of the rope socket and we nearly lost the tool.  
22 We were able to catch it before it went down below the main  
23 shut-off valve.

24 There's an explanation of that in the very back,  
25 in the engineering section that Mike Mooney, our consulting

1 engineer, wrote up.

2 But basically, we were lucky not to lose the tool  
3 down the tubing string, which would have been disastrous  
4 for the well.

5 Q. As part of your study, then, you have determined  
6 that there's a general direction of wellbore drift for all  
7 these wells, certainly below the San Andres?

8 A. That's true, that's correct.

9 Q. What are your observations with regards to your  
10 ability to predict the direction and orientation of that  
11 drift?

12 A. I've -- During my study, I've noticed that the  
13 changes in the drift azimuth and the inclination are more  
14 pronounced in intervals where there are interbedded shale  
15 and either sand or limestone beds. And as the structural  
16 dip increases, the deviation also increases, and it seems  
17 to go in the direction opposite to structural dip.

18 Q. You have, in fact, engaged in a very detailed,  
19 specific study of the geology in relation to each of these  
20 analogy wells, have you not?

21 A. I have.

22 Q. In your opinion, are you going to be able to  
23 accurately predict the drift azimuth of the Sweet Thing  
24 Federal 1 well to determine within reasonable certainty its  
25 current bottomhole location?

1           A.    I believe so.

2           Q.    And have you done that?

3           A.    Yes, I have.

4           Q.    Let's show the Examiner the hypothetical case  
5 where you have predicted, using this methodology, the  
6 bottomhole location of the Sweet Thing State 36 Number 1  
7 well.

8                   If you'll look, Mr. Stogner, to the display shown  
9 between pages 6 and 7 of Mr. Ulmo's report, he's got an  
10 illustration for you and he can describe how he has  
11 determined the bottomhole location of the well to be  
12 offset.

13                   Summarize that for us.

14           A.    Okay. Through all my series of maps I've  
15 determined that the wellbores seem to deviate when they  
16 reach the top of the Glorieta, they start turning towards  
17 the west. And they generally drift toward the west until  
18 they reach the Little Box Canyon lime, which is what we're  
19 calling the top of the Cisco lime out here. And then from  
20 there down they tend to turn slightly towards the top of  
21 the structure, at the Atoka and the Morrow.

22                   And based on these observations I've used my  
23 structure maps to predict the azimuth of drift in each of  
24 the intervals shown on page 6 from the Glorieta to the Abo,  
25 from the Abo to the Wolfcamp, from the Wolfcamp to the

1 Little Box Canyon Lime, from the Little Box Canyon Lime to  
2 the Atoka and from the Atoka to the lower Morrow and to the  
3 top of the sand. And those azimuths I've shown would be  
4 directly updip, according to the maps.

5 And from the interval from the surface to the top  
6 of the Glorieta, the wellbores don't seem to have a  
7 preferred drift direction. Some go north, some go east,  
8 south -- It just kind of varies, and they just wander  
9 around, more or less. And when they hit the Glorieta they  
10 start their westward turn.

11 So I used five different cases where I assumed an  
12 initial drift direction of north, south, east and west, and  
13 then one that would go updip at 230-degree azimuth. And I  
14 used these azimuths along with the Totco inclinations taken  
15 by the drilling contractor and combined them as if it were  
16 a true directional survey, and I calculated all those  
17 cases.

18 And the amount of west drift varies slightly,  
19 depending on the initial azimuth of the drift. When you  
20 average all the cases together, you come up with about 24  
21 feet of north drift and 132 feet of west drift, as an  
22 average case.

23 The plot that's shown as the Hypothetical Case  
24 Number 1 is Case Number 1, which assumes an initial north  
25 drift for the wellbore. It's just chosen at random to

1 illustrate how the drift curve would look in that  
2 particular case.

3 Q. The supporting documents and the other  
4 calculations you have made for this hypothetical wellbore  
5 drift are contained behind the green separator page, before  
6 we get to the engineering data?

7 A. That's correct, there's five cases there, and  
8 I've calculated the coordinates for each segment along the  
9 way for that well.

10 Q. Between the red divider sheet and the green sheet  
11 we've just talked about, what's contained within that  
12 section of your report?

13 A. The first page is the direction -- inclination --  
14 deviation survey provided by WEK Drilling Company. These  
15 are the Totco surveys that were taken during the course of  
16 drilling the Sweet Thing State 36, and these are the dip  
17 values that I used in my calculations.

18 Q. At the end of your report you have included a  
19 number of geologic maps?

20 A. Yes.

21 Q. What is the purpose of the maps?

22 A. The maps show the structural attitude, basically  
23 from the surface all the way down to the top of the lower  
24 Morrow. At the surface the Grayburg is exposed, and you  
25 reach the top of the San Andres about in 100 or 200 feet,

1 so I couldn't map the top of the San Andres. So I chose a  
2 marker within the San Andres to map on. That's the first  
3 page.

4 As you go downstructure, the Glorieta structure  
5 closely mimics the San Andres, as does the Tubb and the Abo  
6 and the Wolfcamp. Those structures pretty much are  
7 similar, showing a structural nose with the subject well  
8 and the Sweet Thing State 36 well being situated on the  
9 northeastern flank of that structural nose.

10 As you go down Wolf- -- isopach from the Wolfcamp  
11 to the Little Box Canyon lime and structure map on the  
12 Little Box Canyon lime, all the structure maps below the  
13 Wolfcamp show that the structure is getting increasingly  
14 more complex and pronounced, you know, more structural  
15 relief as you approach the Morrow.

16 Q. Have you utilized any technical published papers  
17 to authenticate your use of this hypothetical wellbore  
18 drift?

19 A. Yes, I have.

20 Q. Those references are shown on page 8 of Mr.  
21 Ulmo's report, Mr. Examiner.

22 Having established that with reasonable certainty  
23 you can predict the current bottomhole location of the  
24 Sweet Thing State 36-1 well, how do you propose to locate,  
25 drill and control the well that's the subject of this

1 hearing?

2 A. Okay, we believe the well will drift to the west  
3 approximately 135 feet, and so we moved our surface  
4 location to the east to allow sufficient room for that to  
5 occur.

6 Q. Why would you want to do that, as opposed to  
7 simply trying to control a well vertically?

8 A. Well, the cost to maintain a vertical and  
9 straight wellbore is a lot more than just giving the well a  
10 push in the right direction. We ran a comparison, and DIG,  
11 who's the company who does the directional drilling out  
12 here, they've just done a well where they tried to maintain  
13 a vertical wellbore, and it cost \$100,000 or more to just  
14 maintain that, and the cost of just giving the well a  
15 slight push in the right direction, of about 50 feet or so,  
16 would run in the neighborhood of \$15,000 to \$20,000.

17 So we feel it's a lot more economical to allow  
18 the well to drift in the right direction and then just help  
19 it along as needed.

20 Q. Okay, and how will that be done?

21 A. Okay, we will set our intermediate pipe casing at  
22 about 1200 feet. Then we'll run a Monel -- I mean a  
23 gyroscopic survey at that point, determine where the  
24 bottomhole is.

25 And then from that point down we'll utilize a



1 Monel collar in our bottomhole assembly, and every 200 feet  
2 we'll take a directional survey. Like the Totco -- It's a  
3 directional Totco survey. So you get inclination and  
4 azimuth. And we can plot our course as we go, and just  
5 keep track of the wellbore.

6 When we get down to approximately 7000 feet --  
7 that will be around the top of the Atoka -- we'll know  
8 where our wellbore is heading. If it's heading towards  
9 target we'll just keep on drilling, and if it needs a  
10 little steering we'll put a mud motor with a bent sub  
11 assembly and just push the well -- just deviate it to the  
12 right inclination and azimuth to reach our target window.  
13 And then use packed-hole assemblies and whatever we need  
14 to, to penetrate the window.

15 Q. In your opinion, Mr. Ulmo, is this an appropriate  
16 and efficient manner in which to put a wellbore in this  
17 particular Section 31 in order to have a fair opportunity  
18 to recover its share of hydrocarbons in the Morrow?

19 A. Yes, it is.

20 MR. KELLAHIN: That concludes my examination of  
21 Mr. Ulmo, Mr. Examiner.

22 The engineering exhibits he's referred to are  
23 included in letter form from Mr. Mooney.

24 At this time we would ask you to admit the entire  
25 exhibit book into the record.

1 EXAMINER STOGNER: Exhibit Number 1, with all of  
2 its internal parts, will be admitted into evidence at this  
3 time.

4 EXAMINATION

5 BY EXAMINER STOGNER:

6 Q. The well in Section 36 was originally drilled at  
7 this -- at its location for geological purposes, or  
8 topographic?

9 A. Yes, for geological purposes. It -- There was  
10 believed to be a fault somewhere in the middle of Section  
11 36, based on another geologist's structural map. He wanted  
12 to have the well east of that fault. So we moved it as far  
13 as we could east in that section.

14 Originally the well was drilled for the Cisco or  
15 the Little Box Canyon lime pay, because we knew we could  
16 make a well there, and we decided to go ahead and drill it  
17 to the Morrow just in case we would get lucky.

18 Q. And you did?

19 A. Yeah, we got lucky.

20 Q. Good. So this well would just closely mirror --

21 A. Right, our attempt is to mirror, as close as we  
22 can tell, the bottomhole location of that well to the  
23 section line, to the common boundary.

24 Our normal Totco surveys, shown on Table 1, which  
25 is behind the first page of my report, I summarize all the

1     inclinations there and all the drift -- If you assume all  
2     the drift is in the same direction, at the top of the pay  
3     we could have been as far as 176 feet away from the surface  
4     location.

5             And, you know, we're asking for 135 feet, and  
6     that's the average of the west drift shown on the Number 2  
7     Little Box State and the Number 1 Sweet Thing Federal.  
8     Those wells, when you average their west drift together,  
9     it's 135 feet. And the average of our hypothetical case is  
10    132 feet. So we feel that we're pretty close to the norm  
11    here, so we're just asking for what the average of those  
12    two gyro surveys is.

13            Since those wells are on the same -- similar, I  
14    should say, locations on the structure, being on the east  
15    flank, those tend to drift directly updip for the most  
16    part.

17            So we're pretty certain that our well went west  
18    approximately 135 feet, and we think the new well will do  
19    the same.

20            Q.    In referring to your proposed box, behind the  
21    pink page --

22            A.    Okay. We need the -- The western boundary of  
23    that, we're asking to be a hard line of 435 feet from this  
24    section line, and then the 50-foot-wide-window.

25            Q.    Okay, how -- That 50-foot-wide window, is that

1 more of an internal thing between you and --

2 A. Yes, that's what we agreed upon with Wilson and  
3 Barr.

4 EXAMINER STOGNER: Is it necessary that that 50-  
5 foot window appear in the order, Mr. Kellahin?

6 MR. KELLAHIN: No, sir, I don't think so, but  
7 it's of no adverse consequence to have it in there. We've  
8 agreed to do it, and that's what we'll try to hit. If we  
9 miss it, we may have to come back and amend it and explain  
10 to you why we missed it.

11 THE WITNESS: You know, we intend to -- If we  
12 miss it and have to plug back the well and redrill it, it's  
13 mechanically more risky and just more expensive.

14 Typically out here we do experience some lost  
15 circulation in the shallow portion of the well, and the  
16 shorter our drilling time is, you know, the better off we  
17 are. So we fully intend to hit that window on the first  
18 try.

19 Q. (By Examiner Stogner) Okay, I -- Let me rephrase  
20 that question. I can understand the hard 435 and the hard  
21 660. I'd have a problem with you missing that one. But I  
22 wouldn't have a hard time if you missed the 485 or 660.

23 Is that more -- Is those boundaries back to the  
24 east and to the south more of an internal verification with  
25 you and Mr. Wilson?

1           MR. KELLAHIN: Well, it's also a potential issue  
2 with the Bureau of Land Management. They're requiring us -  
3 - They've made a protection-against-drainage demand and  
4 have asked for a comparable wellbore in the Morrow.

5           So we have no objection to having you give us a  
6 smaller drilling window than you would otherwise approve  
7 under Rule 111.

8           THE WITNESS: The north-south dimension is not  
9 the critical dimensions. The east-west is the one we  
10 adhere to more stringently.

11          MR. KELLAHIN: Yes, sir.

12          EXAMINER STOGNER: Well, within the last year  
13 we've redone the Rule 111, and essentially what I'm giving  
14 everybody now is a barn door to stay in. So what I was  
15 proposing is an order that says no closer than 435 nor  
16 closer than 660 to that north and western boundary.

17          But is there any need for my order to say  
18 anything about that minimal distance?

19          MR. KELLAHIN: Because of the settlement with  
20 Wilson and Barr and our obligations with the BLM, we would  
21 appreciate your giving us a smaller window than you  
22 otherwise do.

23          EXAMINER STOGNER: Okay, that's the purpose I was  
24 getting at, because this is going to differ than what we're  
25 trying to get through with the new Rule 111 --

1 MR. KELLAHIN: I understand.

2 EXAMINER STOGNER: -- and so this will be an  
3 exception to what I was -- I'm going to give you a knothole  
4 instead of a barn door at your request.

5 MR. KELLAHIN: Well, it's got some unusual  
6 circumstances that make it different than other cases.

7 EXAMINER STOGNER: Okay. And with that -- so  
8 whenever we -- In fact, this one might be one that when we  
9 revisit Rule 111, that we'll keep in tabs, because it was a  
10 special interest.

11 Okay. I don't have any other questions of Mr.  
12 Ulmo.

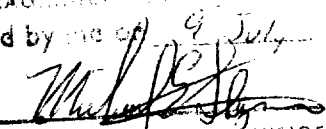
13 THE WITNESS: Thank you.

14 EXAMINER STOGNER: You may be excused.  
15 Anything further in Case 12,004?

16 MR. KELLAHIN: That concludes our presentation,  
17 Mr. Examiner.

18 EXAMINER STOGNER: Case Number 12,204 [sic] will  
19 be taken under advisement.

20 (Thereupon, these proceedings were concluded at  
21 11:21 a.m.)

22 \* \* \*  
23 I do hereby certify that the foregoing is  
24 a complete and correct transcript of the proceedings in  
25 the Examiner's Court of Case No. 12004,  
heard by me on 9 July, 1998.  
 Examiner  
Off. Conservation Division

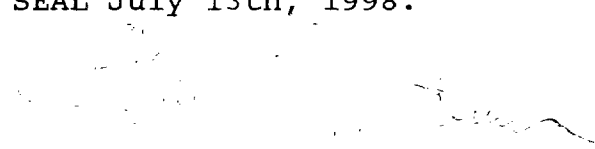
## CERTIFICATE OF REPORTER

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 July 13th, 1998.

  
\_\_\_\_\_  
STEVEN T. BRENNER  
CCR No. 7

My commission expires: October 14, 1998