

CASE 7394: STPRON ENERGY CORPORATION FOR
AN UNORTHODOX GAS WELL LOCATION, EDDY
COUNTY, NEW MEXICO

DOCKET MAILED

Date 10/9/81

Case No.

7394

Application

Transcripts.

Small Exhibits

ETC



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

November 18, 1981

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Mr. William F. Carr
Campbell, Byrd & Black
Attorneys at Law
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Re: CASE NO. 7324
ORDER NO. R-6836

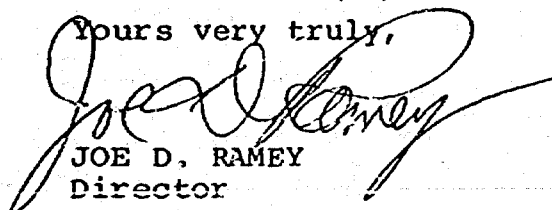
Applicant:

Supron Energy Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced
Division order recently entered in the subject case.

Yours very truly,


JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other Thomas Kellahin

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

BEST AVAILABLE COPY

CASE NO. 7394
Order No. R-6836

APPLICATION OF SUPRON ENERGY
CORPORATION FOR AN UNORTHODOX
GAS WELL LOCATION, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 21, 1981, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 18th day of November, 1981, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Supron Energy Corporation, seeks approval of an unorthodox gas well location 467 feet from the North line and 1650 feet from the West line of Section 13, Township 22 South, Range 24 East, NMPM, to test the Pennsylvanian formation, McKittrick Hills Field, Eddy County, New Mexico.

(3) That the N/2 of said Section 13 is to be dedicated to the well.

(4) That the NW/4 of said Section 13 is also the subject of a competing application wherein Uriah Exploration Incorporated seeks an order pooling all mineral interests in the Cisco, Canyon, and Morrow formations underlying the W/2 of said section and the drilling of a well at a standard location thereon.

(5) That in each case, the primary target is the McKittrick Hills-Upper Pennsylvanian Gas Pool.

-2-

Case No. 7394
Order No. R-6836

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(6) That the best available geologic data presented at the hearing demonstrated that the Upper Pennsylvanian reservoir underlays essentially all of the W/2 of said Section 13 but extends only to a very minor degree into the NE/4.

(7) That approval of the Uriah Exploration Incorporated application in Case No. 7393 for compulsory pooling will more nearly permit the dedication of productive acreage to the well to be drilled and more closely permit the owners of reserves thereunder to recover their share thereof than approval of the competing application, thereby protecting correlative rights.

(8) That the application in Case No. 7393 should be approved.

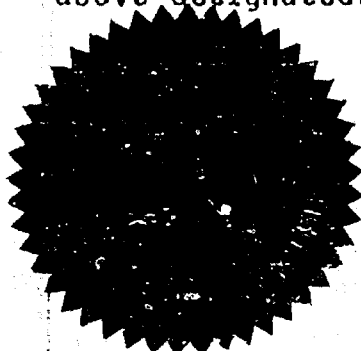
(9) That the application in Case No. 7394 should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of Supron Energy Corporation for an unorthodox gas well location for the Pennsylvanian formation for a well to be located at a point 467 feet from the North line and 1650 feet from the West line of Section 13, Township 22 South, Range 24 East, NMPM, McKittrick Hills Field, Eddy County, New Mexico, is hereby denied.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

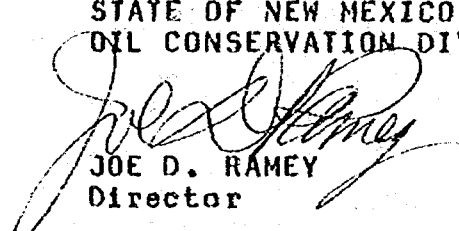
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



S E A L

fd/

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Director

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
21 October 1981

EXAMINER HEARING

IN THE MATTER OF:

Application of Uriah Exploration
Incorporated for compulsory pooling,
Eddy County, New Mexico.
and
Application of Supron Energy Corpor-
ation for an unorthodox gas well
location, Eddy County, New Mexico.

CASES
7393
and
7394

BEFORE: Richard L. Stamets

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:
Uriah Exploration, Inc.:

W. THOMAS KELLAHIN, ESQ.
KELLAHIN & KELLAHIN
500 Don Gaspar
Santa Fe, New Mexico 87501

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A P P E A R A N C E S

For Supron Energy:

William F. Carr, Esq.
CAMPBELL, BYRD, & BLACK P.A.
Jefferson Place
Santa Fe, New Mexico 87501

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1 MR. STAMETS: Call next Case 7393.

2
3 MR. PEARCE: Application of Uriah Explor-
4 ation, Incorporated, for compulsory pooling, Eddy County, New
5 Mexico.

6 MR. KELLAHIN: If the Examiner please,
7 I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf
8 of the applicant.

9 We would request that this case be con-
10 solidated with -- for purposes of hearing with the next case,
11 the Supron case, Case 7394.

12 MR. CARR: May it please the Examiner,
13 my name is William F. Carr, with the law firm Campbell, Byrd,
14 and Black, P. A., appearing on behalf of Supron Energy Cor-
15 poration.

16 We join with Mr. Kellahin in the request
17 that the cases be consolidated for purposes of hearing.

18 MR. STAMETS: Call Case 7394, and without
19 objection we will consolidate these cases.

20 MR. PEARCE: Application of Supron Energy
21 Corporation for an unorthodox gas well location, Eddy County,
22 New Mexico.

23 MR. KELLAHIN: Mr. Stamets, I have two
24 witnesses to be sworn.

25 MR. CARR: I also have two witnesses.

MR. STAMETS: I'd like to have all the witnesses stand and be sworn at this time, please.

(WITNESSES SWORN.)

MR. KELLAHIN: Mr. Stamets, just a brief opening statement to identify what we believe to be the issues in the case.

Uriah has filed a compulsory pooling application for the west half of Section 13 in Township 22 South, Range 24 East.

Supron Energy Corporation is the owner of the operating rights for the northwest quarter of the west half proration unit. The southwest quarter of that proration unit is divided vertically with 30 acres belonging to Mark Wilson and the other 30 acres belonging to Uriah. They have joined together and proposed to have a west half dedicated well to test the Cisco Canyon and the Morrow formations.

The subsequent -- the second case on the consolidation is Supron's case to request a dedication of the north half, so there is a dispute as to the dedication of acreage. In addition, Supron has requested an unorthodox location.

MR. CARR: By way of opening statement

in addition to what has already been stated by Mr. Kellahin, I would call to the Examiner's attention that Supron is proposing to dedicate the north half and is the owner of all operating rights, not only the northwest quarter but in the entire north half, and proposes to drill a well and to dedicate their acreage to that well.

MR. KELLAHIN: May we proceed?

MR. STAMETS: Yes.

DEAN BOUNDY

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please state your name, and your occupation?

A Dean Boundy. I am a geologist and I work for Uriah Exploration, Incorporated.

Q Mr. Boundy, when and where did you obtain your degree in geology?

A I graduated from the University of Wyoming in 1959 with a Bachelor of Science degree in geology.

Q Subsequent to graduation, Mr. Boundy,

1 where have you worked as a geologist?

2 A I have worked -- I served as an employee
3 of Belco Petroleum Corporation for 21 years and left them a
4 year ago to join with Uriah, and during the past ten years
5 the majority of all my exploration activity has been in
6 southeast New Mexico.
7

8 Q Have you done exploration geology for
9 Morrow and Cisco Canyon wells in Eddy County, New Mexico?

10 A Yes, uh-huh.

11 Q And have you prepared certain documents
12 for introduction in this case?

13 A Yes, I have.

14 MR. KELLAHIN: We tender Mr. Boundy as
15 an expert petroleum geologist.

16 MR. STAMETS: He is considered qualified.

17 Q Mr. Boundy, let me direct your attention
18 to what we've marked as Exhibit Number One and have you
19 identify for the Examiner what you're seeking to accomplish.

20 A Okay. Uriah just recently purchased an
21 80-acre tract of land in the southwest quarter of Section 13
22 and --

23 Q Which tract is that, Mr. Boundy?

24 A It would be the east half of the south-
25 west quarter.

Q All right, sir, and what -- who owns the west half of the southwest quarter?

A The west half is owned by Mark Wilson.

Q All right, sir. How did Uriah acquire its interest in that 80-acre tract?

A We purchased it from Larry Douglas.

Q Is that a Federal, State, or fee tract, Mr. Boundy?

A It's a KGS tract.

Q All right, so it's a Federal lease?

A Yes.

Q Do you know when the Federal lease was issued?

A It hasn't yet been issued but an inquiry that we made to their office yesterday, they said that it had been mailed out, so --

Q It will have an effective date of what?

A I don't know whether the effective date is the date that you buy it at the sale or whether it's the date that you receive it, so --

Q My question is, this is, is it not, a recent Federally issued lease?

A Yes, uh-huh.

Q All right, sir.

1
2 A Right.

3 Q Now, with regards to the southeast quart-
4 er, what is the ownership of that?

5 A Okay, the southeast quarter is open KGS
6 lands.

7 Q That's unleased Federal acreage?

8 A Yes.

9 Q All right, sir, and with regards to the
10 north half of Section 13, what's the ownership of that?

11 A It is owned by Supron Energy.

12 Q All right, what do you propose to do?

13 A Okay, we propose to form a proration
14 unit covering the west half of Section 13, to located a
15 drillsite location anywhere along where a standard location
16 would lie, and to then go ahead and drill a 10,700 foot
17 Morrow test.

18 Q What will be the principal objectives
19 of the well, Mr. Boundy?

20 A An upper sand in the Morrow formation,
21 which is commonly referred to as the Ross Sand, and the top
22 of the Cisco Canyon.

23 Q Let me direct your attention to what is
24 marked as Exhibit Number Two and have you identify that.

25 A Okay. That is a proposal letter that

1
2 we sent out to the owners in the west half of Section 13
3 whereby we proposed a joint interest unit covering the west
4 half of Section 13 to drill a 10,700 foot Morrow test, and
5 copies of that were sent to Supron and Mark Wilson.

6 Q All right, sir, and what, if any, re-
7 sponse did you receive from this letter?

8 A Okay, Supron informed us that they in-
9 tended to drill a well in the northwest quarter of Section 13
10 on a proration unit comprised of the north half of Section 13.

11 Q That's Exhibit Number 3?

12 A Yes, sir.

13 Q All right, sir, and what is Exhibit
14 Number Four?

15 A That is a follow-up letter that I wrote
16 to Supron whereby I was making what I called a last minute
17 appeal to them to go along with us in forming a west half
18 unit to avoid having to have a hearing.

19 Q All right, sir, and what, if any, re-
20 sponse did you receive from Supron to this letter?

21 A No response.

22 Q I direct your attention to what is marked
23 as Exhibit Number Five and ask you to identify this.

24 A Okay, it's a request to have a compulsory
25 pooling hearing.

Q All right, sir. Let me direct your attention, Mr. Boundy, to Exhibit Six and have you identify this exhibit.

A Okay. It is a structure --

Q No, sir.

A Oh, I'm sorry. Okay, Exhibit Number Six is a schedule from an operating agreement between Belco -- I mean between Uriah and Monsanto on a farm-out that we are involved with Monsanto about 3-1/2 miles to the southeast, and we --

Q Is this also a Morrow well?

A Yes, uh-huh, and in this recent operating agreement they have made provisions for a drilling well rate of \$2920 a day and a producing well rate of \$420 a day.

Q In the event the Commission should grant your application to pool the west half of this section, do you have a recommendation to the Examiner as to an overhead charge to be assessed against Supron's interest while drilling and after completion?

A I think these figures here would be very fair.

Q All right, sir. Let me direct your attention to Exhibit Number Seven and have you identify that.

A Okay, that's an AFE for the proposed

well in the west half of Section 13.

Q What is the total dry hole and completion cost for the well?

A The total dry hole cost is \$538,562 while the total completed cost is \$870,099.

Q Do you have a recommendation to the Examiner as to who should be designated the operator for the west half proration unit?

A Right. Uriah should be designated operator.

Q Mr. Boundy, let me direct you now to what we've marked as Exhibit Number Eight, which is in fact a structure map.

A Okay.

Q All right, sir, if you'll identify that exhibit for us.

A Okay, it's a structure contour map on top of the Cisco Canyon formation.

Q This is the primary objective you have for the west half proration unit?

A Right. This would be considered the primary objective because this is the formation which is productive in the Supron Shelby Federal No. 2 Well, located in Section 12.

Q In your opinion, Mr. Boundy, what portion of Section 13 would be reasonably productive from the Cisco Canyon formation for the proposed well?

A Well, it looks like the reservoir coincides almost exactly with the west half of Section 13.

Now, in this area we are blessed with having a lot of subsurface control points to use. The area that appears to be productive is the area that I have shaded red on the map, which is the area above a sub-sea datum of -4000 feet, and that is where I have estimated the gas/water contact for this reservoir.

Now, that value is based on the pick that I made off of the logs for the well and it could be that a person may want to move out a little bit lower based on where you would pick it on the logs, but it's been my experience that the true gas/water contact is usually a little bit higher than it actually appears to be on the log.

Q Let me ask you this, Mr. Boundy. What, if any, of these wells indicated on this plat actually produce from the Cisco Canyon?

A The only producer is the Supron, or Southern Union Production, as they were known at the time these wells were drilled, Shelby Federal No. 2 Well, located in Section 1, and that well --

1

2 Q Excuse me, is --

3 A I mean Section 12.

4 Q Section 12.

5 A I'm sorry.

6 Q It's north of this proration unit?

7 A Right.

8 Q All right.

9 A Okay, and in that well is productive

10 from the top of the Cisco Canyon formation. That well has

11 cumulative production through 6-8-81 of 3.9-billion cubic

12 feet of gas.

13 Q How long has this well been producing,

14 Mr. Boundy?

15 A I think it was 1974. I can --

16 Q Just an approximate date.

17 A Okay, approximately 1974.

18 Q All right, and as I understand it, that

19 is the only well that has produced or continues to produce

20 from the Cisco Canyon?

21 A That is correct.

22 Q All right, let me ask you this, then,

23 if you'll identify any of the other wells on your map that

24 penetrated through the Cisco Canyon and either were logged

25 or tested in that zone.

1
2 Okay, in the same section, being Section
3 12, the Southern Union Shelby No. 4 Well, which is a northeast
4 offset to the producer, it drill stem tested 200 feet of
5 water-cut drilling mud and 5700 feet of salt water from the
6 top 27 feet of the Cisco Canyon.

7 Then you drop down to the south and the--
8 in Section 13 --

9 Q Excuse me, now between the two wells in
10 Section 12 --

11 A Uh-huh.

12 Q -- the Southern Union Production 2 and
13 the Southern Union 4 --

14 A Uh-huh.

15 Q -- you've indicated a gas/water contact.
16 Have you used the logs from those two wells to determine the
17 location of the gas/water contact between those two wells?

18 A Right.

19 Q Let's go down to Section 13, then, that
20 Supron Energy Shelby Federal No. 1 Well.

21 A Okay, that well drill stem tested the
22 top 30 feet of the Cisco Canyon formation and it recovered
23 2,325 feet of gas-cut mud and 1540 feet of heavily gas-cut
24 salt water.

25 Q In your opinion why did this well not

1
2 J. Okay, in the same section, being Section
3 12, the Southern Union Shelby No. 4 Well, which is a northeast
4 offset to the producer, it drill stem tested 200 feet of
5 water-cut drilling mud and 5700 feet of salt water from the
6 top 27 feet of the Cisco Canyon.

7 Then you drop down to the south and the--
8 in Section 13 ---

9 Q Excuse me, now between the two wells in
10 Section 12 --

11 A Uh-huh.

12 Q -- the Southern Union Production 2 and
13 the Southern Union 4 --

14 A Uh-huh.

15 Q -- you've indicated a gas/water contact.
16 Have you used the logs from those two wells to determine the
17 location of the gas/water contact between those two wells?

18 A Right.

19 Q Let's go down to Section 13, then, that
20 Supron Energy Shelby Federal No. 1 Well.

21 A Okay, that well drill stem tested the
22 top 30 feet of the Cisco Canyon formation and it recovered
23 2,325 feet of gas-cut mud and 1540 feet of heavily gas-cut
24 salt water.

25 Q In your opinion why did this well not

1
2 encounter gas production in the Cisco Canyon?

3 A Because it was below the gas/water con-
4 tact.

5 Q All right. Before we leave this well,
6 does this well in fact produce from any Pennsylvanian forma-
7 tion?

8 A Yes, it does, it produces from the Atoka
9 and the Strawn.

10 Q And what's the proration unit assigned
11 for those two formations?

12 A The north half of Section 13.

13 Q All right. Now, let's go then immediately
14 to the west to Section 14 to the Southern Union McKittrick
15 Federal No. 1 Well, tell me about that well.

16 A Okay, that well was not drill stem
17 tested but the top of the Cisco Canyon was encountered con-
18 siderably low to the productive well and I would just assume
19 that they didn't have enough show in it to justify running
20 a drill stem test.

21 Q Have you used the two Supron wells, the
22 one in 14 and the one in 13 to determine where, in your
23 opinion, the gas/water contact is between those two wells?

24 A Yes, I have, uh-huh.

25 Q And that is what's indicated on your

1
2 structure map?

(RECAP ANSWER)

3 A Right.

4 Q Moving down to the south, then, looking
5 in Section 23, there's another McKittrick well, Standard of
6 Texas.

7 A Northern Natural.

8 Q All right, sir, tell me about that well.

9 A Okay, the top of the Cisco Canyon was
10 drill stem tested in that well and the recovery was 7,580
11 feet of salt water.

12 Q In your opinion, why did that well not
13 encounter the Cisco Canyon?

14 A Once again because it was below the
15 gas/water contact.

16 Q All right, sir, let's go to Section 24
17 and that J. E. Logan Well.

18 A Same thing there. That well -- the
19 drill stem test in it recovered 5300 feet of salt water and
20 it, too, lies below the gas/water contact.

21 Q In terms of well control for the Cisco
22 Canyon structure as you've depicted it here, Mr. Boundy,
23 would you characterize this as good control or inadequate
24 control?

25 A I would characterize it as wonderful

1
2 control.

3 Q All right, sir. In terms of drawing
4 your contour lines to identify this structure, particularly
5 in the southwest quarter of Section 13, I would like for you
6 to explain to me why, in your opinion, you believe the south-
7 west quarter to be productive from the Cisco Canyon.

8 A Okay, well, when I prepared this map,
9 first of all, on the west flank of the structure you have an
10 established dip rate between the Southern Union Production
11 McKittrick Federal Well in Section 14 and the Northern Natural
12 McKittrick Hills Federal Well in Section 23, and when you
13 take the rate of dip that you have between those two wells
14 and then project it northward, you end up with the rate of
15 dip that I have shown on this map.

16 And likewise, on the east side of the
17 structure, when you take the rate of dip that you have between
18 the Supron Energy Shelby Federal No. 1 Well in the east half
19 of 13 and the Marathon Miller Ranch Unit No. 1 Well in Section
20 18, you once again have a rate of dip established there.

21 And as you can see, the rate of dip on
22 the west flank of the structure is steeper than it is on the
23 east flank, and what I have done in preparing this map is to
24 take this established dip rate and continue it with the same
25 degree of conformity up both flanks of the structure, and in

1
2 so doing, I end up with a projected gas reservoir, as shown
3 on this map.

4 Q In your opinion does the northeast
5 quarter of Section 13 contain commercial quantities of gas
6 from the Cisco Canyon formation?

7 A Probably very minor. It is certainly
8 not enough, you know, to put a location anywhere in that
9 quarter.

10 Q All right, sir, and with regards to the
11 southeast quarter, then, same question.

12 A It's the same thing there, too, right.
13 It would be very difficult for anybody to locate a well in
14 the southeast quarter and encounter enough to end up with a
15 commercial well.

16 Q In terms of identifying appropriate pro-
17 ration unit to sign for the production here, what has the --
18 what, to your knowledge, is the Oil Commission rules with
19 regard to the number of acres to be dedicated to a Cisco
20 Canyon proration unit?

21 A It's statewide 320-acre spacing.

22 Q All right. What, if any, effect has
23 the Supron Energy Shelby Federal No. 1 Well in the east half
24 of 13 had upon your opinion of the lack of production in the
25 east half?

1
2 A Well, the dry hole there has condemned
3 the east half of Section 13, and this puts us in a position
4 where if we have to have a proration unit comprised of the
5 south half of Section 13, well, it forces us to take and pool
6 our productive acreage in the southwest quarter with non-
7 productive acreage in the southeast quarter.

8 Now, we have just recently purchased our
9 tract of land for in excess of \$1300 an acre and this south-
10 east quarter, when it comes open for a sealed bid sale, is
11 undoubtedly going to bring probably a very low amount, and
12 it just doesn't appear fair to us to have to take acreage
13 into our proration unit which is clearly non-productive.

14 Q All right, with regards, then, to a
15 north half dedication, as Supron suggests, or recommends,
16 what, if any, opinion do you have with such a recommendation?

17 A Well, if they go with a north half
18 proration unit, in effect they will be creating 160-acre
19 drainage for the Cisco Canyon reservoir, because they will
20 drill their well in the northwest quarter and we in turn will
21 then be forced to have to drill a well in the southwest
22 quarter.

23 Q In your opinion, Mr. Bundy, would that
24 constitute the drilling of unnecessary wells?

25 A Very definitely.

1

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Q Why?

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A Well, you're going to have two wells to drain the same gas, say, that should be capturable with one well.

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Q Let me ask you a question on drawing the structure. Looking at the southwest quarter, in your opinion as a geologist would it be reasonable to redraw the contour lines in such a way, using as control all the wells you have down here, so that the structure does not extend down into the southwest quarter?

A I don't think it would be reasonable. You know, you've got so much control in here that to me it appears pretty obvious how it has to go.

Q All right, sir, let's go on to Exhibit Number Nine. Would you identify Exhibit Number Nine for us, Mr. Boundy?

A Okay, this is a structure contour map drawn on the uppermost Morrow sand, which is oftentimes referred to as the Ross Sand.

Q All right, sir, tell me again for the Supron well in the northeast quarter, what -- what sand does that produce from? I thought you said the Strawn and the Atoka?

Q Yes, sir.

1
2 A. Okay. And this is the other sand in the
3 Pennsylvanian that you propose to pool by this application?

4 A. Yes, sir, uh-huh.

5 Q All right.

6 A. Actually we would be pooling all of the
7 Morrow but this is the one sand within the Morrow that is
8 mappable as a continuous sand body.

9 Q Well, I believe you're pooling just the
10 Cisco Canyon and the Morrow itself.

11 A. Right.

12 Q And excluding the Strawn and the Atoka.

13 A. Right.

14 Q And this is just the upper sand of the
15 Morrow.

16 A. Right, this is just the upper sand.

17 Q All right, sir. Describe generally what
18 you've concluded from your studies of the Upper Morrow sands.

19 A. Okay, you have a sand body here which
20 is -- which I know from experience in tracing it across other
21 parts of the southeast New Mexico, tends to be a channel sand
22 deposit, and it has a depositional pattern that is exactly
23 opposite of structural strike. In other words, these sand
24 channels just cut along structural strike. And whenever you --
25 and the sand channels can be very continuous in their longi-

1
2 tudinal direction, and whenever you catch one of these sand
3 units where it crosses up either over an anticline or a
4 structural ridge, it typically is productive on the crestal
5 area of that structure, and I know from doing a lot of regional
6 geology in this area that the Upper Morrow sand in this area
7 is one of those sand channels, and that sand channel crosses
8 up over the anticline that we see on the map and based on
9 the drill stem test information that we see in the flank
10 wells, that sand should be productive on the crestal part of
11 the structure.

12 Q I note, Mr. Boundy, that both your struc-
13 ture of the Cisco Canyon and structure of the Upper Morrow
14 run north/south.

15 A Yes, they do, uh-huh, they're compatible
16 with each other. It would be my opinion that the Cisco Canyon
17 anticline is probably, at least in part, a growth feature
18 superimposed over the top of this deeper seated structure.

19 Q In your opinion, Mr. Boundy, would ap-
20 proval of Uriah Exploration, Incorporated's application to
21 compulsory pool the west half of Section 13 be in the best
22 interests of conservation, the prevention of waste, and the
23 protection of correlative rights?

24 A Yes, sir.

25 Q Now let me direct your attention to the

1
2 west half of Section 13, in fact, to the drilling of this
3 well in general.

4 Would you characterize for us in your
5 opinion what you think of the risk that is inherent in drilling
6 a well such as this?

7 A. I would -- my feelings are that it pro-
8 bably has a certain degree of risk to it, even though that it
9 is hemmed in by a number of wells, and I say that because the
10 Cisco Canyon is a carbonate reservoir and carbonate reservoirs
11 have a real tendency to be unpredictable. You can make a map
12 that looks real pretty like this and it looks like it's going
13 to be productive and that's the basis that you use for spending
14 your money and having your look, but it's very easy to have
15 something happen that you hadn't predetermined.

16 And the Morrow, it's -- although we are
17 projecting that there is a reservoir there, at this time it's
18 an unproven reservoir, so I would say that there's a reason-
19 able amount of risk to the location.

20 Q In compulsory pooling cases, Mr. Boundy,
21 the Commission by statute is authorized to assess against a
22 non-consenting party a penalty of 200 percent. In terms of
23 that statutory maximum do you have an opinion as to what the
24 risk involved in drilling this well is?

25 A I think that would be a fair assessment

1
2 to use in this issue.

3 Q What kind of drive mechanism do we have
4 for this reservoir, Mr. Boundy?

5 A As best I understand it, the Cisco Canyon
6 is a water-drive reservoir.

7 Q In terms of locating the size and the
8 volume of gas in this reservoir, do you have an opinion with
9 regards to whether engineering calculations might be helpful
10 to determine the size and extent of such a reservoir?

11 A They may could, but on the other hand,
12 they may very well not be, because in a water-drive reservoir
13 typically your pressure will stay high due to the water-drive
14 mechanism and it renders a reserve extrapolation based on
15 pressure drop inaccurate.

16 Q Mr. Boundy, were Exhibits One through
17 Nine prepared by you or compiled under your direction and
18 supervision?

19 A Yes, they were.

20 MR. KELLAHIN: We move the introduction
21 of Uriah's Exhibits One through Nine.

22 MR. STAMETS: These exhibits will be
23 admitted.

24 MR. KELLAHIN: That completes my exami-
25 nation of Mr. Boundy.

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2 MR. STAMETS: Are there questions of
3 Mr. Boundy? Mr. Carr.
4

CROSS EXAMINATION

BY MR. CARR:

7 Q Mr. Boundy, I believe you testified that
8 the tract which Uriah controls in the southwest quarter of
9 13 was recently sold in a KGS sale, is that correct?

10 A That is correct.

11 Q Do you know when that sale was held?

12 A Let's see, it was November, October, I
13 believe it was August, like August the 27th of this year.

14 Q And how long after that did you purchase
15 this from Mr. Douglas?

16 A We purchased it immediately from him.

17 Q Now I believe your Exhibit Number Two
18 is your letter dated August 28th in which you proposed a well
19 in the west half, is that correct?

20 A Yes, August the 28th.

21 Q Was this your first proposal?

22 A Yes, uh-huh.

23 Q At the time you made this proposal were
24 you aware of any plans that Supron had to develop the north
25 half of this section?

1
2 A No. No, we weren't aware at all of any
3 plans they may have. We send this kind of a letter out to,
4 you know, trying to find out those things, and when we did
5 this we had no idea about what Supron's plans were.

6 Q Now, I believe in your letter which is
7 Exhibit Number Four, which is a follow-up letter, you indicated
8 that you would be happy to drill or participate in a well on
9 the west half and Supron could be the operator.

10 A Uh-huh.

11 Q I gather from your testimony you've
12 changed your opinion on that.

13 A We would be willing to discuss that at
14 a later date.

15 Q Does Uriah have a rig available at the
16 present time to drill this well?

17 A We presently have a rig operating about
18 four miles southeast of here on a re-entry, and I do not know
19 whether that rig will be available to move from there over to
20 this location or what, but we do have a rig operating right
21 at the moment.

22 Q When you say move to this location, where-
23 about on the west half of Section 13 would you propose to
24 drill a well?

25 A Okay, I would feel comfortable with --

1
2 with a location somewhere in the north part of the interior
3 of the 320-acre tract; any spot that would be a normal loca-
4 tion.

5 Q Would that --

6 A Say -- say pick 1980 from the north and
7 1980 from the west.

8 Q So you would propose that the well be
9 located in the northwest quarter?

10 A Yes, uh-huh.

11 Q All right.

12 A That would be my first choice.

13 Q On the Supron tract?

14 A Yeah, right.

15 Q Do you believe a well drilled in the
16 southwest quarter could produce reserves from this spacing
17 unit?

18 A Yes, uh-huh, I believe that it would.

19 Q But you believe the northwest quarter is
20 a preferable location.

21 A Definitely.

22 Q Now I believe your Exhibit Eight, you've
23 talked about a gas/water contact.

24 A Uh-huh.

25 Q What is the drive mechanism in the Cisco

1 Canyon? Is it a water-driven reservoir?

2 A Yes, uh-huh.

3 Q Now this structure map is like all struc-
4 ture maps, an interpretation, your interpretation.

5 A Uh-huh.

6 Q And from your testimony I understand
7 that you based your interpretation on data from all the wells
8 surrounding the area which you've shaded in red.

9 A Yes, sir.

10 Q Have you had access to anything other
11 than just well data? Have you had access to any seismic work
12 or anything of that nature in the area?

13 A No. I haven't, and I made no attempt
14 to get any because it's my opinion that when you have this
15 much sub-surface control, that your interpretation based on
16 it is much greater than any seismic interpretation you would
17 make.

18 Q Could seismic data, if you had it avail-
19 able, confirm your interpretation?

20 A I've had a lot of bad experience with
21 seismic information and I'd use seismic information where
22 you have to have it because you don't have sub-surface con-
23 trol. But where you have sub-surface control, I would just
24 as soon not see any seismic.
25

1
2 Q When you were reviewing the control that
3 you have in the area, did you encounter any evidence of any
4 faulting in the area?

5 A No, sir.

6 Q If your interpretation is correct and
7 you were unsuccessful in proving this acreage, you could
8 develop the south half with a well in the southwest quarter,
9 could you not?

10 A Yes.

11 Q And as I look at your structure map, it
12 would appear to me that you would have potential reserves
13 available to you based on these interpretations to compare
14 fairly evenly with the reserves available to the northwest
15 quarter, is that correct?

16 A Uh-huh, right, uh-huh.

17 Q Is there any production in the Dakota
18 in the immediate area?

19 A Not that I know of.

20 Q I'm sorry, I mean in the Atoka.

21 A Yes, the Atoka is productive in the well
22 in the east half of 13. It's noncommercially productive but
23 it is productive.

24 Q You therefor have excluded that from
25 this hearing.

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A. Right, uh-huh. That's why we left it out.

Q. And you believe that the information that you've acquired from the No. 1 -- from the Supron Energy Shelby Federal No. 1 in the east half of 13 by and large condemned that acreage in the Cisco Canyon?

A. Yes, uh-huh.

Q. And would condemn virtually the entire east half.

A. Right.

MR. CARR: I have nothing further.

MR. STAMETS: Any other questions of this witness? He may be excused.

GLENN COPE

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Cope, would you please give us your name and occupation?

A. My name is Glenn Cope. I'm a petroleum engineer.

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Q Mr. Cope, what is your educational background?

A I have a degree in petroleum engineering from Texas Tech University.

Q In what year, Mr. Cope?

A 1962.

Q Subsequent to graduation have you been a practicing petroleum engineer?

A That's correct..

Q Would you give us a brief background of your work experience as a petroleum engineer?

A Since 1965 I've been employed in the Midland area as a petroleum engineer working with projects in the Permian Basin, southeast New Mexico, West Texas.

Q What is your current occupation?

A I'm President of Uriah Exploration, Incorporated.

Q Mr. Cope, have you had experience in the area of well costs for the drilling of Pennsylvanian wells in Eddy County, New Mexico?

A Yes, I have.

MR. KELLAHIN: We tender Mr. Cope as an expert petroleum engineer.

MR. STAMETS: He is considered qualified.

1
2 Q Mr. Cope, I'd like to direct your atten-
3 tion to what we've introduced as Uriah Exhibit Number Seven,
4 and have you identify that for us.

5 A That's what's commonly called an AFE, an
6 authority for expenditure, it's a cost estimate for drilling
7 a well.

8 Q This well, proposed well, is to be
9 drilled to what depth?

10 A 10,700 feet.

11 Q And that will be a depth sufficient to
12 test what formation?

13 A The Morrow.

14 Q In your opinion are the costs indicated
15 on this AFE for dry hole and completion reasonably consistent
16 with those charged by other operators in the area for a well
17 of this depth?

18 A Yes.

19 Q I note on your AFE that there is not
20 an entry for fracing or acidizing this well. Do you antici-
21 pate that that might be an expense necessary for the comple-
22 tion of this well?

23 A Possibly acidizing might be required,
24 but the Morrow, where it's well developed, normally doesn't
25 require fracing.

Q All right, sir, and I see the drilling rate here is on a daily basis and you anticipate 40 days drilling time for completion of the wall?

A That's right, including drill stem tests.

MR. KELLAHIN: That concludes my examination of the witness.

MR. STAMETS: Any questions of the witness?

MR. CARR: No questions.

MR. STAMETS: He may be excused.

MR. KELLAHIN: That concludes the presentation of our case, Mr. Stamets.

I think we tendered our exhibits.

MR. STAMETS: If you didn't, they are admitted in evidence.

MR. CARR: I would first like to call Bill Bahlburg.

BILL BAHLBURG

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

DIRECT EXAMINATION

BY MR. CARR:

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Q Will you state your full name and place
of residence?

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5

A My name is William Carl Bahlburg and I
live, or reside, in Dallas, Texas.

6

7

Q Mr. Bahlburg, by whom are you employed
and in what capacity?

8

9

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A I'm presently employed with Surpon Energy
Corporation as a Division Geologist for southeast New Mexico
and West Texas area.

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Q Have you previously testified before the
Commission Examiner and had your credentials made a matter
of record?

14

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A Yes.

Q In the State of New Mexico?

A No.

17

18

Q Will you briefly summarize for Mr.
Stamets your educational background and your work experience?

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A I received a Bachelor of Science degree
in geology from Oregon State University in 1974. I then
received a Master of Science degree in geology from Arizona
State in 1976. From 1976 to July 1st, 1980, I was employed
with Hunt Energy Corporation in the capacity of an exploration/
exploitation geologist for the entire Gulf Coast region, and
then subsequently as a Rocky Mountain District Geologist.

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From that period on I have been employed with Supron Energy Corporation as a Division Exploration Geologist for the Permian Basin area.

Q Are you familiar with the application that was filed on behalf of Supron Energy Corporation in this case?

A Yes.

Q Are you familiar with the subject acreage?

A Yes.

MR. CARR: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q Mr. Bahlburg, will you briefly state what Supron seeks in this hearing?

A The intent of this application is to show the necessity of an unorthodox development well location to maximize drainage of the Cisco gas reservoir in McKittrick Hills Field, Eddy County, that location being 650 feet from the west line and 467 feet from the north line of Section 13, Township 22 South, Range 24 East, and to propose the dedication of the north half of Section 13 as a proration unit for that well.

Q Have you prepared certain exhibits for introduction in this case?

1
2 A I have.

3 Q Will you please refer to what has been
4 marked for identification as Supron Exhibit Number One and
5 identify this and explain to the Examiner what it shows?

6 A Exhibit Number One is an acreage plat
7 which shows the oil and gas lease ownership in the McKittrick
8 Hills Field area in Eddy County. Supron's leases are indi-
9 cated in yellow. The proposed location in the northwest
10 quarter of Section 13 is indicated by a red dot, that loca-
11 tion, once again, being an unorthodox location 1650 from the
12 west line and 467 from the north.

13 Q Now the south half of Section 12 is also
14 colored yellow or cross hatched.

15 A Yes.

16 Q Is that acreage also controlled by
17 Supron?

18 A Yes, it is.

19 Q What would be a standard location for
20 a well drilled on a north half unit in Section 13?

21 A 1980 from the end of the proration
22 unit and 660 from the side.

23 Q So the proposed location is non-standard
24 both to the north and to the west.

25 A Yes.

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2

Q Who are you crowding to the north?

3

A We are crowding ourselves on the Shelby lease.

4

5

Q And you have all the operating rights in the south half of Section 12?

6

7

A No, we do not. We have rights only down to the depth encountered in the Shelby Federal No. 2, which is producing from the Cisco gas reservoir.

8

9

10

Q So in the Cisco you're only advancing on yourself.

11

12

A Right.

13

14

Q Now, to the west who are you moving towards?

15

16

A Well, we're moving towards Holley Energy acreage held by production and open KCS acreage in the northeast northeast of 14.

17

18

Q Supron owns all operating rights in the north half of 13, is that correct?

19

20

A Yes.

21

22

Q What is the primary objective of the proposed well?

23

A Cisco reservoir.

24

25

Q How deep do you plan to drill this well?

A We plan to drill this well down to --

1
2 approximately 10,700 feet to test the Morrow.

3 Q And if you encounter production in the
4 Morrow you would complete there?

5 A Probably.

6 Q But that is not your primary objective?

7 A No.

8 Q When did Supron first decide to drill a
9 well and dedicate the north half of Section 13?

10 A Approximately six to seven months ago.

11 Q And when did you first learn of Uriah's
12 proposal to put together a west half unit?

13 A When we first received notice, which I
14 believe, if I remember correctly, was August 28th.

15 Q How many wells has Supron drilled in
16 this immediate area?

17 A Supron has drilled four wells,
18 Southern Union Production.

19 Q And these are wells to the Cisco?

20 A Yes, sir. Pardon me, one well was a re-
21 entry and that's the well in the east half of Section 13.
22 That was originally drilled by Getty Oil Company and it was
23 designated the No. 1 Wilson. Supron re-entered that well
24 and did not test the Cisco at that time because Getty had
25 previously tested the Cisco and it was shown to be wet, and

1
2 deepened the well to test the Morrow Atoka formation.

3 Q This is the well that's producing from
4 the Atoka?

5 A The Atoka and Strawn.

6 Q Will you now refer to what has been
7 marked for identification as Supron Exhibit Number Two and
8 explain to Mr. Stamets what this shows?

9 A Exhibit Number Two is a structure map
10 which depicts the sub-surface structure on a horizon approxi-
11 mately 1300 feet below the Cisco formation on the top Atoka.
12 Now this interpretation is based on a combination of surface
13 control afforded by quite a bit of well control, and Supron's
14 proprietary seismic shooting in the area.

15 Q Now on this exhibit I believe you have
16 a trace that is for a --

17 A Also shown on this exhibit is a trace
18 of a northeast/southwest cross section, which we'll discuss
19 in just a moment.

20 Q Now I believe you also have shot holes
21 for two seismic lines depicted on this exhibit?

22 A Yes, sir, that is Supron proprietary
23 seismic data which was shot approximately five months ago in
24 the area.

25 Q Prior to the time Uriah acquired an

1
2 interest in the --

3 A Yes, sir.

4 Q And does this show faulting in the area?

5 A Yes, it does. We have identified a
6 fault, a relatively small fault on both lines that borders
7 the west half of the Atoka structure, centered in the common
8 corner of Sections 11, 12, 13, and 14.

9 Q Now, Mr. Bahlburg, if your primary ob-
10 jective is the Cisco, why are you presenting a structure map
11 on the top of the Atoka?

12 A Well, the Atoka horizon -- well, number
13 one, we used the added control of the seismic and incorporated it
14 with the sub-surface well tops to draw a more accurate struc-
15 ture map, and the Atoka horizon is really the first horizon
16 below the Cisco Canyon-Strawn sequence that can be accurately
17 mapped as a structural marker and representative of possibly
18 deeper structure, which was one of the reasons we did shoot
19 the lines for possible deeper exploration in the area.

20 Q Mr. Bahlburg, will you now go out of
21 order and refer to your cross section, which is marked Exhibit
22 Number Five and review this for Mr. Stamets?

23 A This Exhibit Number Five is a northeast/
24 southwest structural cross section hung on a sub-sea datum
25 which shows the configuration, our interpreted configuration

1
2 of the Cisco gas accumulation indicated in red with respect
3 to the only producing well in the area, the No. 2 Shelby
4 Federal, and it also shows the Supron proposed unorthodox
5 location along that cross section, showing the additional
6 Cisco gas reserves that would be gained through the drilling
7 of that unorthodox well.

8 Also shown is the Shelby Federal 4, which
9 of course drill stem tested, as you heard earlier, the Cisco
10 and recovered salt water. It was shown to be nonproductive
11 as well as the other well on the cross section which Supron
12 drilled, the McKittrick Federal, which did not test the Cisco
13 reservoir, but is shown also to be structurally low and outside
14 the gas accumulation.

15 It also shows some of the deeper forma-
16 tions and then, of course, our interpreted fault between the
17 McKittrick, Supron McKittrick Well and the Southern Natural
18 Gas McKittrick Hills Well.

19 Q Will you now refer to Supron Exhibit
20 Number Three, identify this, and explain it shows?

21 A Exhibit Number Three is a top Cisco re-
22 servoir to top Atoka Isopach map for the area, once again
23 showing the proposed unorthodox location in the northwest
24 quarter of Section 13.

25 You'll notice that the interval thickness

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has been estimated in three wells, one in Section 11; of course the productive well, the Shelby Federal No. 2 in Section 12; and also an Antweil well in Section 1.

This estimation was accomplished through an arithmetic subtraction of the seismic supported Atoka structural determination and the known Cisco structural values or well tops, in these wells.

Once again, this map, I might also add, does show the faulting; to a minor degree we bordered the Isopach interpretation by the fault because we feel the interval has been cut, although I do not think that the fault stands up into the Cisco by any means. I believe the base of the Atoka, the Cisco interval has been faulted slightly.

Q Mr. Bahlburg, will you now refer to Supron Exhibit Number Four and review this for Mr. Stamets?

A. This is a top Cisco structural map of the field area that outlines the original configuration of the Cisco gas accumulation at the time of first production from the Shelby Federal No. 2, in Section 12. The different cross hatchings serves to identify the drainage area which we feel will be affected by the proposed unorthodox location in the northwest quarter of Section 13.

This map was constructed through an integration of the Atoka structure and the Cisco Atoka Isopach

maps, which were superimposed and cross plotted to afford a more accurate determination in areas where there was no well control, and that's indicated by the small "X's" on the map.

Also shown in this exhibit are the drill stem test results of the wells on the periphery of the field and I won't bother to go through each one of those because I think they've been accurately stated before.

Q Mr. Bahlburg, based on your study of this area, has the east half of Section 13 been condemned for Cisco Canyon production?

A No.

Q And why not?

A Because I feel that, first of all, the bulk of the reserves as outlined on Exhibit Number Four are shown to be in the north half of Section 13 rather than the west half of Section 13.

I also feel that any additional gas to be recovered by the proposed unorthodox location is all on the north half of Section 13 and on the south half of Section 12, which are under the same lease.

Q Inasmuch as the reserves are in the north half of 13 and the south half of 12 on the same lease, in your opinion would correlative rights be impaired by the unorthodox location?

A. No.

Q. Is it your testimony that the proposed unorthodox location affords the best structural position to drain the Cisco?

A. Yes.

Q. And in your opinion is it the best location for drilling a well to this --

A. Yes.

Q. -- to the Cisco?

A. Yes.

Q. In an effort to prevent waste?

A. Yes.

I also feel that the inclusion of the southwest quarter of Section 13 would include a lot of non-productive -- or what we feel to be non-productive acreage in the proposed west half unit, and would not protect correlative rights because any well drilled in the northwest quarter of 13 would certainly be draining in the south half of 12.

Q. And is it your testimony that your correlative rights would be impaired because your interest would be diluted?

A. Yes, sir.

Q. I believe you heard Mr. Boundy testify that he thought a 200 percent risk penalty would be an appro-

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2 private penalty to assess against non-consenting working interest
3 owners in the west half of Section 13.

4 A Well, first of all, I agree with Mr.
5 Boundy that carbonate reservoirs are very unpredictable, but
6 I also feel that our location is of lesser risk because we're
7 moving closer to the producing well and we have additional
8 control in the area afforded by the seismic, and I agree that
9 seismic cannot be used alone very accurately, but I also be-
10 lieve that it is a tool that can be used in concert with well
11 control to better identify the structure of any given area.

12 Q Would you make a recommendation to the
13 Examiner of what an appropriate risk penalty would be?

14 A 50 percent.

15 Q Will Supron also call an engineering
16 witness?

17 A Yes.

18 Q In your opinion, will granting this appli-
19 cation be in the best interest of conservation, the prevention
20 of waste, and the protection of correlative rights?

21 A Yes.

22 Q Were Exhibits One through Five prepared
23 by you or under your direction and supervision?

24 A Yes.

25 MR. CARR: At this time, Mr. Stamets, we

would offer Supron Energy Corporation Exhibits One through Five.

MR. STAMETS: These exhibits will be admitted.

MR. CARR: I have nothing further on direct.

MR. STAMETS: Are there questions of this witness?

MR. KELLAHIN: Yes, sir.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Bahlburg, let's look at your Exhibit Number Four.

A All right, Mr. Bahlburg, I have placed before you your Exhibit Number Four, which is your structure of the Cisco.

A Uh-huh.

Q And I have also given you a copy of Mr. Boundy's Exhibit Number Eight, which is his structure of the Cisco.

A Uh-huh.

Q First of all, in looking at your map, am I correct in understanding that Supron has tested the Cisco

1
2 in four wells, is it?

3 A We've drilled through the Cisco or into
4 the Cisco in four wells, and have drill stem tested three.

5 Q And of those four wells only the Southern
6 Union well in the south half of 12 produces gas in paying
7 quantities from the Cisco.

8 A Producing or is capable of producing,
9 period.

10 Q Mr. Boundy's characterization of drilling
11 to the Cisco as being a high risk area is in fact true, is
12 it not, Mr. Bahlburg?

13 A Depending upon the location chosen.

14 Q Yes, sir, and when did you obtain this
15 seismic information? I don't think I heard.

16 A Approximately six to seven months ago.

17 Q You didn't have the seismic information,
18 then, when you drilled the well in the northeast quarter of
19 12.

20 A No, that well was drilled, I believe, in
21 1974, and is of the same vintage as the original discovery
22 well.

23 Q All right.

24 A I was still in school.

25 Q Now in comparing the two structure maps,

1
2 Mr. Bahlburg, it appears that the principal difference is that
3 you have shortened up the southern end of this structure, if
4 I might characterize it as such. You've shown that the struc-
5 ture, the productive limits of the structure is somewhere just
6 on the south side of the line dividing the north and south of
7 Section 13.

8 A Well, I've shown that the accumulation
9 is -- it's slightly below the line that divides the north and
10 south halves of Section 13.

11 But the structure itself is more south
12 and extends all the way into 24 and to 1 in the north.

13 Q Then you and Mr. Boundy are in agreement
14 about the fact that the structure is oriented north and south.

15 A It does have a slight direction to the
16 southeast and we feel that that is, of course, associated with
17 the small fault bounding the western side of the structure,
18 which controls this configuration.

19 Q I believe you just told me that you
20 thought the structure extended on through 13 into Section 24?

21 A Yes.

22 Q So apparently, then, the principal dif-
23 ference is where you two gentlemen have located the gas/water
24 contact and not how you draw the structure.

25 A No, the gas/water contact was drawn or

1
2 established by Supron through the use of drill stem test in-
3 formation and log analysis similar to Mr. Boundy's work.

4 And I believe the cross section that we
5 have submitted will indicate the reasons for establishing that
6 gas/water contact.

7 Q Let's look at Section 19 for a moment,
8 which is to the south and east of Section 13. That Antweil
9 Indian Hills Well, why do you not use that well as a control
10 well for drawing the structure?

11 A I was unable to acquire that log and I
12 believe that well was drilled into the -- or completed, or
13 attempted to be completed in the Morrow Atoka, but I just
14 don't have the information on that.

15 Q All right, sir. Mr. Boundy shows inform-
16 ation on that well in Section 19 and he shows a -4261. If
17 that in fact is correct, Mr. Bahlburg, what would that do to
18 the structure?

19 A It wouldn't do anything to my structure
20 except possibly extend the 4250 contour that I have running
21 through nearly the center of Section 18 and would extend
22 around -- no, it would extend west of the Antweil well in
23 Section 19, as it looks like it's -- you can extrapolate what
24 I've drawn there to exactly that position.

25 I also notice that there's a difference

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2 exhibit prepared to show my structural pick.

3 Q Is that one of the exhibits you've in-
4 troduced here?

5 A No, no, but I do have it available if
6 you'd want me to submit it, Bill.

7 It shows the structural pick and then it
8 can be compared with the picks shown on the cross section that
9 we have submitted.

10 Q Now this information, is that copies of
11 logs that show this portion where a geologist or the Commission
12 could look at it independently and determine whether they
13 agree with your pick or Mr. Boundy's pick?

14 A Certainly.

15 Q Is that what we're looking for?

16 A Yeah.

17 Q Let me go back to 23 and 24 and 19. You
18 gentlemen have not come up with significance differences in
19 picks in Section 24 and 23, yet you have shortened up the
20 structure so that it doesn't extend very far back down into
21 the south half of Section 13. Could you explain that?

22 A I think that can be cleared up very
23 simply by saying that we relied on the seismic interpretation
24 to facilitate that configuration, interpretation of that
25 structure. We feel that the seismic shows that the structure

1
2 is dropping off much more rapidly through the west half of
3 13 to the south than is indicated by Mr. Boundy's maps; that
4 that is the difference.

5 Q And if I pick Exhibit Number Two, then,
6 I see this line of fault that runs generally north and south
7 through Section 14. Is that the fault line --

8 A Yes.

9 Q -- that was identified by the seismic
10 work upon which you say that there's a difference?

11 A I say that the fault, the rate of dip
12 is not necessarily associated with the placement of the
13 fault. The fault, however, does bound the western edge of
14 the structure. The rate of dip, as you can see, all of the
15 rate of dip in Section 13 is really not associated with the
16 placement of the fault. It is just occurring there as shown
17 by Supron's proprietary data, or as interpreted from our
18 seismic data.

19 But the basic configuration of the struc-
20 ture has changed due to our seismic analysis of the area in
21 conjunction with the well top control.

22 Q Did you, or did someone else from Supron
23 provide -- did you do the actual seismic interpretation or
24 did someone else do that for you and then you used the inform-
25 ation on your exhibit?

1
2 A. Someone else did that and I used the
3 information to draw a structural map to present here.

4 Q. The seismic shot is those indicated by
5 the little circles and the numbers running generally from the
6 northwest to the southwest?

7 A. Yes, sir.

8 Q. The northeast - southwest?

9 A. Yes.

10 Q. All right. Did this well in Section 14,
11 this McKittrick Federal Well, did that cut the fault? It
12 looks like it's real close to it.

13 A. Yes, it appears to be fairly close given
14 the two fault picks that we've had on both lines, and that
15 fault pick and its location is also shown on the cross sec-
16 tion submitted.

17 Q. Does the log of that cross section for that
18 well indicate the fault? Can you see it in the log?

19 A. It didn't -- the fault, the well did not
20 cut the fault, even though it appears to be proximal to it.

21 Q. Mr. Bahlburg, do you have information
22 to show what the contour lines are going to look like to the
23 west of this fault line to show the rate of dip down to that
24 McKittrick Hills Federal Well in 23?

25 A. I would like to say that the reliability

1
2 on the end of most seismic lines is not that accurate. We
3 thought it wasn't pertinent to the -- to the discussion here
4 because it is definitely outside the accumulation and there-
5 for is not presented at this hearing.

6 Q Do you have the seismic report upon
7 which you made this map?

8 A That is proprietary information known
9 only to Supron.

10 MR. KELLAHIN: Mr. Examiner, we request
11 the production of that seismic information with this witness
12 and does client desire to use it in his testimony we'd like
13 to have it.

14 If not, we move that the exhibit be
15 stricken.

16 MR. CARR: May it please the Commission,
17 we believe that in making an interpretation he is free to use
18 any well control data he has and any other tools he has to
19 do it, and we submit that it is appropriate to consider all
20 of these things and that the exhibit reflects his best effort
21 in interpreting the structure and is admissible and the ex-
22 hibit should not be stricken from the record and that it's
23 identical to the seismic data which is expensive and proprietary
24 and I resubmit it.

25 MR. STAMETS: The exhibit will be admitted

1
2 and we won't require submittal of the seismic data.

3 MR. KELLAHIN: I'd like the record to
4 reflect, Mr. Stamets, that I believe by your ruling I've been
5 precluded from an examination of the data upon which this
6 witness has drawn some expert opinions and I think it preju-
7 dices our case.

8 MR. STAMETS: Duly noted.

9 MR. KELLAHIN: Thank you.

10 Q In looking through your exhibits, Mr.
11 Bahlburg, it appears as if Exhibit Number Four is the one that
12 best describes what in your opinion is the extent of the
13 Cisco production in Section 13, or potential production.

14 A Yes, sir.

15 Q You're aware, are you not, that the
16 Commission requires the dedication of 320 acres to a proration
17 unit for the Cisco?

18 A Yes, sir.

19 Q All right. If you'll divide Section 13
20 into quarter sections, it would appear that the productive
21 limits as you've identified them, comparing the southwest
22 quarter to the northeast quarter, are approximately the same,
23 are they not?

24 A No, I disagree with that. I do not have
25 the exact numbers at hand. They'll be presented later. But

1
2 the one thing I would like to point out is that the accumu-
3 lation that I have indicated on Exhibit Number Four does re-
4 flect the original accumulation prior to the production of
5 the 3.9 Bcf of the Shelby Federal No. 2. I have no idea
6 where it is now; I can only guess; so that certainly that will
7 have shrunk slightly, if we can use that word.

8 And that also I've subdivided or differ-
9 entiated that accumulation into two segments, one that will
10 be drained, an area that will be drained by the Shelby Federal
11 No. 2 and another, an area that will be drained by the deve-
12 lopment drilling of the well in the northwest quarter of
13 Section 13. That second area is shown to be all in the north
14 half of 13, as well as the south half of 12.

15 Q When did you make your study of this
16 area, Mr. Bahlburg?

17 A I started studying this area back in
18 December of 1980.

19 Q I gather from your testimony that you're
20 not very enthusiastic about Cisco production in the southwest
21 quarter of Section 13?

22 A No, I feel that the majority of the
23 southwest quarter of Section 13 is non-productive in the
24 Cisco reservoir.

25 Q You heard Mr. Boundy testify that he

1
2 acquired his interest in this 80 acres, which is the east
3 half of the southwest quarter as a result of a KGS sale this
4 summer, did you not?

5 A Yes, sir.

6 Q Did you supply information to Supron
7 upon which they based their bid for that same acreage of a
8 bonus of \$50,000?

9 A Yes, I recommended that we buy that
10 acreage to prevent this from happening.

11 Q All right, sir, and you're --

12 A As protection acreage for the only reason.

13 Q And the \$50,000 was protection money as
14 opposed to an indication of your conclusions as to the poten-
15 tial production from this acreage.

16 A I thought that the south, predominantly
17 the southwest quarter was non-productive.

18 Q Now when did Supron first indicate that
19 they were going to drill a well in the northwest quarter of
20 13?

21 A Approximately two months ago, I believe,
22 we staked the well, and to jump ahead, we staked the well or
23 we were in the process of staking the well during the period
24 we received the proposal from Uriah; however, it's obvious
25 that we were pursuing this prospect for many months and spending

1 seismic dollars, et cetera, on it --

2 Q In fact you'd staked this location back
3 in 1974, or a location approximately at this --

4 A Yeah, there was a normal location staked
5 660, I believe, from the north line and 1980 from the east
6 line in Section 13, and I don't know why, but it was abandoned
7 back in '74. Apparently they had drilled enough dry holes
8 and management was a little bit disenchanted on the area.

9 Q Mr. Bahlburg, in your opinion would the
10 geology as you defined it support the drilling of a second
11 well in the south half of Section 13?

12 A No.

13 Q This Southern Union Well in 13, which is
14 just barely in the northeast quarter, this is the one that
15 produces from the Atoka and Strawn now?

16 A That is correct.

17 Q All right, and it tested water in the
18 Cisco?

19 A The original test was made in the ori-
20 ginal wellbore, the Getty No. 1 Wilson, and they did test the
21 Cisco and the drill stem test results I have indicated. As
22 I indicated before, Supron re-entered the well and took it
23 down into the Morrow Atoka and attempted to complete it and
24 did complete in the Atoka Strawn eventually, but not retest
25

1
2 the Cisco at that time.

3 MR. KELLAHIN: Thank you, Mr. Stamets,
4 I have nothing further.

5 MR. STAMETS: Any other questions of
6 this witness? He may be excused.

7 MR. CARR: At this time I would call
8 Myron Boots.

9
10 MYRON BOOTS .
11 being called as a witness and being duly sworn upon his oath,
12 testified as follows, to-wit:

13
14 DIRECT EXAMINATION

15 BY MR. CARR:

16 Q Will you please state your full name and
17 place of residence?

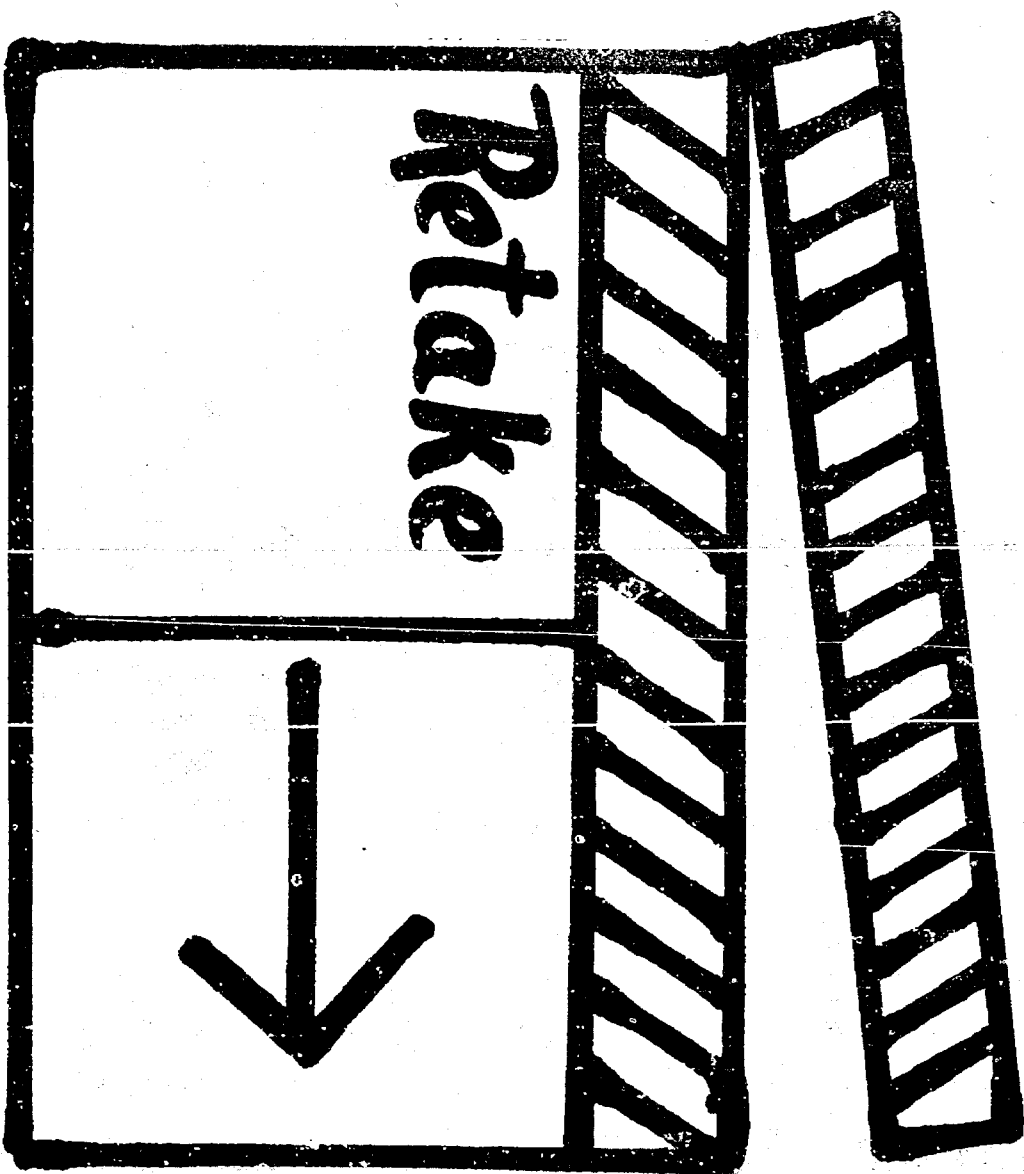
18 A My name is Myron Boots and I live in
19 Richardson, Texas, a suburb of Dallas. I'm employed by
20 Supron Energy in Dallas.

21 Q And in what capacity are you so employed?

22 A A petroleum engineer.

23 Q And have you previously testified before
24 this Commission or one of its examiners and had your creden-
25 tials made a matter of record?

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1
2 the Cisco at that time.

3 MR. KELLAHIN: Thank you, Mr. Stamets,
4 I have nothing further.

5 MR. STAMETS: Any other questions of
6 this witness? He may be excused.

7 MR. CARR: At this time I would call
8 Myron Boots.

9
10 MYRON BOOTS,
11 being called as a witness and being duly sworn upon his oath,
12 testified as follows, to-wit:

13
14 DIRECT EXAMINATION

15 BY MR. CARR:

16 Q Will you please state your full name and
17 place of residence?

18 A My name is Myron Boots and I live in
19 Richardson, Texas, a suburb of Dallas. I'm employed by
20 Supron Energy in Dallas.

21 Q And in what capacity are you so employed?

22 A A petroleum engineer.

23 Q And have you previously testified before
24 this Commission or one of its examiners and had your creden-
25 tials made a matter of record?

1
2 A. No, I've never testified before this
3 Commission.

4 Q Would you briefly summarize your educa-
5 tional background and your work experience?

6 A I graduated from the University of North
7 Dakota with a BS in mechanical engineering. I worked for
8 Amoco Production for five and a half years and for the past
9 eighteen months I've been employed by Supron Energy in Dallas.

10 Q Mr. Boots, are you familiar with the
11 application filed on behalf of Supron in this case?

12 A I am.

13 Q Are you familiar with the subject acreage?

14 A I am.

15 MR. CARR: Are the witness' qualifica-
16 tions acceptable?

17 MR. STAMETS: They are.

18 Q Have you prepared certain exhibits for
19 introduction in this case?

20 A I have.

21 Q Will you please refer to what has been
22 marked for identification as Supron Energy Corporation Exhibit
23 Number Six, and explain to Mr. Stamets what this is and what
24 it shows?

25 A Exhibit Number Six should be used in

conjunction with Exhibit Number Four, the red colored map.

The first entry on Exhibit Number Six is the total initial gas in place. This was determined by planimetering the area, the total red area in Sections 12, 13, 14, and 1. That amounts to 22.6 Bcf gas in place initially.

The second entry is the gas in place above the Shelby Federal No. 2, and the Shelby Federal No. 2 is shown in Section 12 there on Exhibit Four. The gas in place above the Shelby Federal No. 2 is 6.3 Bcf.

And the third entry is the gas volume in place above the Shelby Federal No. 3, which is the Supron proposed location 1650 from the west and 467 from the north line of Section 13, and that shows we had a planimetered volume, using a planimeter, of 250-million.

The fourth entry is the gas in place above a standard location for a laid down 320, which would be 1980 from the west and 660 from the north. The gas volume there is 682-million; the difference approximately 4.3 -- or 430-million cubic feet would be the gas that would be unrecoverable from a standard location, because of structural position.

Q Now as I'm looking at Exhibit Number Four, some of the red shaded area falls in the southwest quarter of Section 13. Have you made any estimates as to

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A. Okay. The Shelby Federal No. 2 Well will produce only until the water encroaches. A bottom water drive, the Cisco is thick enough to have a bottom water drive. When the water encroaches up to the perforations in the Shelby Federal No. 2 there will be no further production and it will not have drained any of the gas volume above those perforations, as indicated by the contour at 3930, approximately, on Exhibit Number Four.

Q Mr. Boots, is an additional well in the Cisco therefor necessary to produce the reserves in that formation?

A. Yes, it is.

Q And is the proposed location the best structural location for that well?

A. It is.

Q Would you now refer to your Exhibits Numbers Seven and Eight and explain to Mr. Stamets what these show?

A. Exhibits Numbers Seven and Eight are the production curves for the Shelby Federal Number 1, which is in Section 13.

MR. STAMETS: We've got a small problem there. The Shelby Federal No. 2 is identified as Exhibit Number Seven and the two exhibits on Shelby No. 1 are identi-

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2 filed as Eight and Nine.

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3 MR. CARR: Okay, they should be -- the
4 Shelby Federal No. 2 should be Exhibit Number Nine.

5 The Shelby Federal No. 1 is Exhibit Eight.

6 MR. STAMETS: That's the Atoka?

7 MR. CARR: Yes, sir.

8 MR. STAMETS: Okay.

9 MR. CARR: And the Strawn is Seven.

10 A. These are both production curves. This
11 is a commingled well by Commission order, and the ratios
12 between the wells have been established. The dots indicate
13 the daily -- or the monthly production. The triangles indi-
14 cate the cumulative production for each of the wells. As
15 has been stated previously that this is a marginally commer-
16 cial well from both horizons and drainage areas at present
17 look to be in the range of 20 to 30 acres instead of the 320.

18 Q Mr. Boots, what are the well location
19 spacing requirements for a well drilled in this area?

20 A In this area it would be 320 acre
21 spacing.

22 Q And how would wells be located on that
23 if they were standard locations?

24 A They would be 1980 from the -- for a
25 north half designation it would be 1980 from the west and

660 from the north.

Q If you drilled a well at that orthodox location how would it compare from a structural point of view as to the proposed location?

A It would be structurally low, resulting in less ultimate recovery and significant waste.

Q Were Exhibits Six through Nine prepared by you or under your direction?

A They were.

MR. CARR: At this time, Mr. Stamets, we would offer Supron Exhibits Six through Nine.

MR. STAMETS: These exhibits will be admitted.

MR. CARR: Nothing further on direct.

MR. STAMETS: Any questions of this witness?

MR. KELLAHIN: Yes, Mr. Stamets.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Boots, let's go back to Exhibit Number Four and the red shaded area.

A Uh-huh.

Q Explain to me again what you did when

1
2 you planimetered this area to determine how much original
3 gas was in place.

4 A For the total area I planimetered the
5 total red area. Contoured -- drew in the remaining contours
6 for more accurate planimetry on 10-foot intervals.

7 Q What are the factors you used to plani-
8 meter?

9 A The factors on the --

10 Q Yeah, what goes into the equation?

11 A You have the -- it's solved by the trapezi-
12 zoidal and pyramidal method for summing layers.

13 Q It's directly contingent or based upon
14 the size and shape of the structure given to you by the geol-
15 ogist.

16 A That's correct.

17 Q All right, sir. Have you made any effort
18 to make any volumetric reservoir calculations of the original
19 gas in place?

20 A Volumetric, you would use the -- you use
21 a method of volumetrics by -- when you planimeter you calcu-
22 late the acre feet and then you use volumetric method to
23 solve for the gas in place.

24 Q Is that what you did --

25 A Yes.

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2 Q -- in order to come up with the gas in
3 place?

4 A Yes.

5 Q But the amount of gas in place is directly
6 related to what the geologist just gives you as the shape and
7 size of the reservoir.

8 A Correct.

9 Q All right. Now if the shape and size of
10 the reservoir is as Mr. Boundy has depicted it on his Exhibit
11 Number Eight, the original gas in place is going to be some-
12 thing larger than you have indicated.

13 A For the total area or for --

14 Q For the same shaded area that he depicted
15 on his exhibit.

16 A Well, the approximate -- the red area
17 appears to be about the same. As for the total area, the
18 total gas in place would probably --

19 Q But whether or not it in fact extends
20 and covers the southwest quarter of 13 is something beyond
21 your knowledge.

22 A It's an interpretation of the --

23 Q Of the geologist.

24 A -- based on the geologist.

25 Q Of the geologist and not yours.

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A. That's right.

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Q. All right. So you don't know how much original gas in place underlies the southwest quarter of Section 13 for the Cisco, nor how much gas is recoverable from the southwest quarter, do you?

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A. Based on the geologist, Supron geologist interpretation, I do.

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Q. But you as an engineer without the assistance of the geologist can't make any determination of how much gas is underlying the southwest quarter.

12

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A. That's -- it's a joint concerted effort, a using of both talents.

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Q. All right, if we conducted the same engineering equation that you've done on Exhibit Number Four and did it for Exhibit Number Eight, again we could reach a conclusion that a substantial portion of Section -- the southwest quarter of Section 13 was gas productive.

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A. Based on that geologic interpretation, that's correct.

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Q. All right.

MR. KELLAHIN: I have nothing further of Mr. Boets.

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25

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case?

MR. REGLAHIN: No, sir. I have a brief statement.

MR. STAMETS: Mr. Carr, you may make a brief statement.

MR. CARR: Mr. Examiner, Supron Energy is appearing before you today merely seeking authority to drill a well at an unorthodox location in the north half of Section 13.

Supron has been actively working on this matter for -- working on a plan to develop the north half for six months to a year; they've done seismic tests; they've had this data in hand for five to seven months; and submit that we were the first ones in the area attempting to develop this acreage.

The primary objective is the Cisco. We've proposed a location that is necessary to prevent waste. The only acreage we are crowding is acreage to the north, acreage which in the Cisco Supron controls.

We submit that this is one lease, that the unorthodox location would not therefor impair correlative rights.

Uriah, on the other hand, has recently acquired acreage in the area. They want to drill a well in

1
2 the west half. The testimony here today shows that they in
3 fact want to drill in the northwest quarter, and naturally
4 they would. That's a preferable location because that is
5 where the reserves can be encountered.

6 They want to pool the acreage. Pooling
7 the acreage would impair the correlative rights of Supron
8 for we would be diluting their interest by asking them to
9 carry acreage in the southwest quarter, which according to
10 our interpretation, is not productive. According to our in-
11 terpretation, the entire north half is.

12 All we therefor are asking is permission
13 to develop our acreage and drill a well at the most prudent
14 location.

15 We also ask that you deny the application
16 of Uriah permitting them to proceed to develop their acreage
17 in the southwest quarter as they see fit and to drill a well
18 which would, according to their interpretation, encounter
19 commercial reserves.

20 MR. STAMETS: Do you have any final
21 comments, Mr. Kellahin?

22 MR. KELLAHIN: Yes, sir.

23 Mr. Stamets, I think the pooling case
24 and Supron's effort give you a fact situation which demon-
25 strates the -- a classic example of the reasons we have com-

1
2 pulsory pooling.

3 We are committed as an operator to abide
4 by the Commission rules, which require the dedication of 320
5 acres. In order to do that, we propose to you a location that
6 more adequately and fully overlies the Cisco formation as we
7 believe it to be.

8 It can't be disregarded that the fact
9 that Supron has got a well in the east half of 13 that is
10 not productive in the Cisco condenses to a great extent not
11 only the southwest quarter but the northeast quarter. We
12 think it's imperative that if we're going to continue to have
13 320-acre spacing for the Cisco, that you orient the proration
14 units in such a way that you don't dedicate nonproductive
15 acreage to that. We believe that the drilling of a second
16 well, if it's aligned on a north half southwest -- north half/
17 south half proration unit, will require us to drill an unnec-
18 cessary well to our economic disadvantage.

19 We've only had this lease for a matter
20 of months and we are ready to drill this acreage. Supron,
21 on the other hand, has had this for a great many years, and
22 apparently as early as '74. They staked a location and still
23 haven't drilled a well. We maintain that it's now our chance
24 and we believe that any other course of action you approve,
25 other than the force pooling of the west half of 13, will

adversely affect our correlative rights.

MR. STAMETS: If there is nothing further, the case --

MR. ADAMS: Mr. Stamets?

MR. STAMETS: Yes.

MR. ADAMS: May I make a statement?

MR. STAMETS: You certainly may.

MR. ADAMS: My name is Mark Adams from Albuquerque, New Mexico, and I represent Southern Union Exploration Company in this matter.

Southern Union Exploration Company owns a portion of the operating rights in the Supron lease covering the south half of Section 12 and the north half of Section 13, in Township 22 South, Range 24 East.

Southern Union Exploration has made an independent geological evaluation of this area and concluded on the basis of that that it's position coincides exactly with that of Supron in this case.

Southern Union Exploration believes that the unorthodox well location for which Supron has applied will be the best location for draining the reserves in the Cisco in this area.

Southern Union Exploration also believes that approving the application of Supron and denying the ap-

plication of Uriah for compulsory pooling, will best protect
its correlative rights and prevent impairment and dilution of
its interests by pooling with the southwest quarter of Section
13.

Thank you.

MR. STAMETS: Any other statements?

If not, the hearing will be taken under
advisement.

(Hearing concluded.)

C E R T I F I C A T E

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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 C.S.R.

SALLY W. BOYD, C.S.R.

Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

I do hereby certify that the foregoing is a complete record of the proceedings in the Examinar Hearing of Case no. 7393 7394 heard by me on 10-21-1981.

Richard O. Slom, Examiner
Oil Conservation Division

Docket Nos. 34-81 and 35-81 are tentatively set for October 21 and November 4, 1981. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: COMMISSION HEARING - WEDNESDAY - OCTOBER 14, 1981

9 A.M. - OIL CONSERVATION COMMISSION - ROOM 205
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

(The following cases are continued from the October 14, 1981, Commission hearing to October 16, 1981.)
CASE 7345: (Continued and Readvertised)

Application of Bass Enterprises Production Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres, Bone Springs and Pennsylvanian formations, Lovington Field, underlying the N/2 NE/4 of Section 13, Township 16 South, Range 36 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7323: (DE NOVO)

Application of Clements Energy, Inc., for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the E/2 of Section 32, Township 15 South, Range 27 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

Upon application of Southland Royalty Company, this case will be heard DE NOVO pursuant to the provisions of Rule 1220.

Docket No. 34-81

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 21, 1981

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for November, 1981, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas for November, 1981, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 7373: Application of J. C. Williamson for Amendment of Division Order No. R-6738, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the Amendment of Division Order No. R-6738, which approved an unorthodox location for a well 1560 feet from the North line and 1830 feet from the West line of Section 10, Township 23 South, Range 34 East. Applicant seeks the Amendment of said order to reflect the corrected location of said well at a point 1580 feet from the North line and 2614 feet from the West line of said Section 10.

CASE 7374: Application of Dugan Production Corporation for an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Farmington formation well located 330 feet from the South line and 990 feet from the East line of Section 9, Township 28 North, Range 11 West, the E/2 of said Section 9 to be dedicated to the well.

- CASE 7375: Application of Dugan Production Corporation for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Angel Peak Gallup-Basin Dakota production in the wellbore of its McAdams Well No. 2 located in Unit P of Section 34, Township 27 North, Range 10 West.
- CASE 7376: Application of Dugan Production Corporation for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Basin-Dakota and Bisti-Lower Gallup production in the wellbore of its Big 8 Well No. 1-E, located in Unit O of Section 8, Township 24 North, Range 9 West.
- CASE 7377: Application of Dugan Production Corporation for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of undesignated Gallup and Basin-Dakota production in the wellbore of its July Jubilee Well No. 1 located in Unit G of Section 30, Township 24 North, Range 9 West.
- CASE 7378: Application of Jerome P. McHugh for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Wildhorse-Gallup and Basin-Dakota production in the wellbore of his Apache E Well No. 1, located in Unit A of Section 18, Township 26 North, Range 3 West.
- CASE 7356: (Continued from September 23, 1981, Examiner Hearing)
- Application of S & I Oil Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the W/2 SW/4 of Section 12, Township 29 North, Range 15 West, Cha Cha-Gallup Oil Pool, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.
- CASE 7379: Application of JEM Resources, Inc., for vertical pool extension and special GOR limit, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the vertical extension of the Cave-Grayburg Pool to include the San Andres formation, and the establishment of a special gas-oil ratio limit for said pool to 6000 to one or, in the alternative, the abolishment of the gas-oil ratio limit in said pool, all to be effective October 1, 1981.
- CASE 7380: Application of Bird Oil Corporation for an unorthodox location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox Entrads location of a well to be drilled 2310 feet from the North line and 1325 feet from the East line of Section 10, Township 22 North, Range 9 West, the SW/4 NE/4 of said Section 10 to be dedicated to the well.
- CASE 7381: Application of H. L. Brown, Jr., for an unorthodox gas well location, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 330 feet from the South line and 2310 feet from the East line of Section 34, Township 7 South, Range 37 East, Bl Witt-Wolfcamp Gas Pool, the E/2 of said Section 34 to be dedicated to the well.
- CASE 7382: Application of TXO Production Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Morrow well to be drilled 660 feet from the South and West lines of Section 20, Township 17 South, Range 28 East, the W/2 of said Section 20 to be dedicated to the well.
- CASE 7383: Application of Amoco Production Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Upper Pennsylvanian formation underlying the NW/4 of Section 19, Township 19 South, Range 25 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

- CASE 7384: Application of Morris R. Antweil for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests from the surface to the base of the Abo formation underlying the NE/4 SW/4 of Section 5, Township 20 South, Range 38 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.
- CASE 7385: Application of El Paso Natural Gas Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blanco-Mesaverde and Basin-Dakota production in the wellbore of its San Juan 27-5 Unit Well No. 59, located in Unit A of Section 6, Township 27 North, Range 5 West.
- CASE 7386: Application of El Paso Natural Gas Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of South Blanco-Pictured Cliffs and Blanco-Mesaverde production in the wellbore of its San Juan 27-5 Unit Well No. 54, located in Unit L of Section 31, Township 27 North, Range 5 West.
- CASE 7387: Application of Sun Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 660 feet from the North and East lines of Section 32, Township 9 South, Range 37 East, West Sawyer-San Andres Pool, the N/2 NE/4 of said Section 32 to be dedicated to the well.
- CASE 7388: Application of Sun Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled in the Northeast Lusk Yates Pool, 2500 feet from the North line and 1880 feet from the East line of Section 15, Township 19 South, Range 32 East the SW/4 NE/4 of said Section 15 to be dedicated to the well.
- CASE 7389: Application of Yates Petroleum Corporation for an Amendment to Division Order No. R-4365, Eddy County, New Mexico. Applicant, in the above-styled cause seeks the amendment of Division Order No. R-4365, which promulgated special rules and regulations for the Penasco Draw San Andres-Yeso Pool, by amending Rule 5 to permit the simultaneous dedication of gas wells and oil wells and amending Rule 9 to provide for annual gas-liquid ratio tests in lieu of semi-annual tests.
- CASE 7365: (Continued from October 7, 1981, Examiner Hearing)
- Application of Yates Petroleum Corporation for the amendment of Order No. R-6406, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-6406, to permit recompletion of its State "JM" No. 2 Well, drilled at an unorthodox Morrow location 660 feet from the South line and 660 feet from the East line of said Section 25, Township 18 South, Range 24 East, in any and all Wolfcamp and Pennsylvanian pays in said well.
- CASE 7390: Application of Harvey E. Yates Company for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Mississippian formation underlying the W/2 of Section 18, Township 9 South, Range 27 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.
- CASE 7391: Application of Harvey E. Yates Company for statutory unitization, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order unitizing, for the purposes of a secondary recovery project, all mineral interests in the Travis Penn Unit encompassing 480 acres, more or less, underlying all or portions of Sections 12 and 13, Township 18 South, Range 28 East, Eddy County, New Mexico.

The unitized interval would be the Cisco-Canyon formation between the depths of 9815 feet and 9935 feet in Harvey E. Yates Company's Travis Deep Unit No. 2 Well. Among the matters to be considered at the hearing will be the necessity of unit operations; the designation of a unit operator; the determination of the horizontal and vertical limits of the unit area; the determination of the fair, reasonable, and equitable allocation of production and costs of production, including capital investment, to each of the various tracts in the unit area; the determination of credits and charges to be made among the various owners in the unit area for their investment in well and equipment; and such other matters as may be necessary and appropriate for carrying on efficient unit operations, including, but not necessarily limited to, unit voting procedures, selection, removal, or substitution of unit operator, and time of commencement and termination of unit operations.

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- CASE 7392: Application of Sam H. Snoddy, for an unorthodox gas well location in the Oil-Potash Area, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the location of a Pennsylvanian well to be drilled 660 feet from the North and East lines of Section 26, Township 20 South, Range 32 East, Oil-Potash Area, the N/2 of said Section 26 to be dedicated to the well.
- CASE 7393: Application of Uriah Exploration Incorporated for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Cisco, Canyon and Morrow Formations underlying the W/2 of Section 13, Township 22 South, Range 24 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.
- CASE 7394: Application of Supron Energy Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Pennsylvanian well to be drilled 467 feet from the North line and 1650 feet from the West line of Section 13, Township 22 South, Range 24 East, the N/2 of said Section 13 to be dedicated to the well.
- CASE 7395: Application of Curtis J. Little for Designation of a Tight formation, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Pictured Cliffs formation underlying portions of Townships 25 and 26 North, Ranges 6 and 7 West containing a total of 14,400 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271. 701-705.
- CASE 7300: (Reopened and Readvertised)
- Application of Dome Petroleum Corporation for designation of a tight formation, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Chacra formation underlying portions of Townships 21 and 22 North, Ranges 5, 6, and 7 West, containing 73,018 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271. 701-705.
- CASE 7352: (Continued from September 23, 1981, Examiner Hearing)
- Application of Yates Petroleum Corporation for designation of a tight formation, Eddy County, New Mexico. Applicant, in the above-styled cause, pursuant to Section 107 of the Natural Gas Policy Act 18-CFR Section 271. 701-705, seeks the designation as a tight formation of the Permo-Penn formation underlying all of the following townships:

Township 17 South, Ranges 24 thru
26 East;

18 South, 24 and 25 East,

19 South, 23 thru 25 East;

20 South, 21 thru 24 East;

20 1/2 South, 21 and 22 East;

21 South, 21 and 22 East;

Also Sections 1 thru 12 in

22 South, 21 and 22 East,

All of the above containing a total of 315,000 acres more or less.

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Supron Energy Corporation
SHELBY FEDERAL #3
1650' FWL AND 467' FNL
SEC. 13, T-22-S, R-24-E

	MMCF
TOTAL INITIAL GAS-IN-PLACE	22,662
GAS IN PLACE ABOVE SHELBY FEDERAL #2	6,326
GAS IN PLACE ABOVE SHELBY FEDERAL #3	250
GAS IN PLACE ABOVE STANDARD LOCATION (1980' FWL AND 660' FNL)	682

BEFORE EXAMINER OF METALS OIL CONSERVATION DIVISION	
SUPRON EXHIBIT #	6
CASE NO.	7394
Submitted by	REB
Hearing Date	10/21/81

EXHIBIT _____
DOCKET # _____
DATE _____

<p>34</p> <p>U.S.</p> <p>ALT CANYON UNIT</p> <p>U.S.</p> <p>10</p> <p>U.S.</p> <p>15</p> <p>U.S.</p> <p>22</p> <p>U.S.</p> <p>27</p> <p>U.S.</p> <p>34</p> <p>U.S.</p>	<p>35</p> <p>U.S.</p> <p>11</p> <p>U.S.</p> <p>14</p> <p>U.S.</p> <p>23</p> <p>U.S.</p> <p>26</p> <p>U.S.</p> <p>35</p> <p>U.S.</p>	<p>36</p> <p>State</p> <p>12</p> <p>U.S.</p> <p>13</p> <p>U.S.</p> <p>24</p> <p>U.S.</p> <p>25</p> <p>U.S.</p> <p>36</p> <p>State</p>	<p>37</p> <p>U.S.</p> <p>18</p> <p>U.S.</p> <p>19</p> <p>U.S.</p> <p>30</p> <p>U.S.</p> <p>31</p> <p>U.S.</p>	<p>38</p> <p>U.S.</p> <p>17</p> <p>U.S.</p> <p>20</p> <p>U.S.</p> <p>29</p> <p>U.S.</p> <p>32</p> <p>U.S.</p>	<p>39</p> <p>U.S.</p> <p>16</p> <p>U.S.</p> <p>21</p> <p>U.S.</p> <p>33</p> <p>U.S.</p>	<p>40</p> <p>U.S.</p> <p>25</p> <p>State</p>
--	---	---	---	---	---	--

August 28, 1981

To Interest Owners:

In Re: Proposed Morrow Test
W/2 Section 13, T-22-S,
R-24-E, Eddy County,
New Mexico

Uriah Exploration, Inc. has acquired an 80 acre lease covering the E/2 of the SW/4 of Section 13, T-22-S, R-24-E, Eddy County, New Mexico.

Uriah proposes to form a 320 acre proration unit covering the W/2 of the section and drill a 10,700' Morrow test to be located 1980' FNL and 1500' FWL of Section 13. A proration unit covering the W/2 of the section, as opposed to a proration unit covering the S/2 of the section, has been proposed because the Cisco-Canyon and Morrow potential has been condemned in the E/2 of the section by the Shelby Federal #1 well.

According to our records the lease ownership in the proposed proration unit is as follows.

SUPRON	- 50%
Mark Wilson	- 12½%
Rio Pecos Corporation	- 12½%
Uriah Exploration, Inc.	- 25%

If you wish to participate in the proposed test we will submit an AFE and operating agreement. If, however, you choose not to participate, we will accept a farm-in of your interest which delivers a 75% NRI till payout with a 1/16 ORI converting to a 1/3 BI at payout.

Page Two
Interest Owners
August 28, 1981

We are anxious to get this project going as soon as possible, so an early response will be appreciated.

Sincerely,

Scott A. Bryant,
Landman

SAB:cc

cc: SUPRON Energy Corporation
Building V, 5th Floor
10300 North Central Expressway
Dallas, Texas 75231

Mr. Mark Wilson
1705 Briscoe Ave.
Artesia, New Mexico 88210

File
EC-100X Land File

SUPRON ENERGY CORPORATION

BLDO. V, FIFTH FLOOR
10300 NORTH CENTRAL EXPRESSWAY
DALLAS, TEXAS 75231

G. BJERKE
LANDMAN

TELEPHONE (214) 891-9141
TWX (910) 861-9117
SUPCO DAL.

Sogon Collection

September 11, 1981

228 - 982 - 9280

Uriah Exploration, Inc.
Suite 322
Building of the Southwest
Midland, Texas 79701

Attention: Scott A. Bryant
Landman

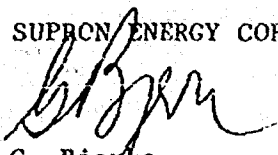
RE: Proposed Morrow Test
W/2 Section 13
T-22S - R-24E
Eddy County, New Mexico

Gentlemen:

In reply to your proposal of August 21, 1981, we wish to advise you that Supron Energy has staked a well in the NW/4 of Section 13 and our proposed unit will cover the N/2 of Section 13.

Yours very truly,

SUPRON ENERGY CORPORATION


G. Bjerke
Landman

GB/ph

Frank Montevideo

October 9, 1981

BEST AVAILABLE COPY

Mr. Mark Reishus,
Exploration Manager
Supron Energy Corporation
Building V, 5th Floor
10300 N. Central Expressway
Dallas, Texas 75231

Re: Section 13, T-22-S, R-24-E,
Eddy County, New Mexico
EC-300X Prospect

Dear Mr. Reishus:

Uriah Exploration and Mark Wilson, each, own an 80 acre leasehold in the SW/4 of Section 13, T-22-S, R-24-E. Uriah submitted to Supron a proposed unit covering the W/2 of Section 13 to drill a 10,700' Morrow test. Supron's response was that they planned to drill in the NW/4 of the section on a proration unit covering the N/2 of the section. Subsequently, Uriah filed a pooling application for the W/2 of Section 13 which will be heard in Santa Fe October 21, 1981.

We can appreciate your position of wanting a 100% owned proration unit, but we also feel that it makes good sense to communitize the W/2 of the section. The east half of the section has been condemned for the Morrow and Cisco-Canyon by the Supron Shelby Federal No. 1. If the west half of the section is developed by two horizontal proration units it will create 160 acre drainage for the south half of the Cisco-Canyon reservoir. This in turn will cause each operator to absorb the cost of a well to capture and share an amount of gas that could otherwise be captured with a 50% well cost.

We are now appealing to you to form a proration unit covering the W/2 of the section, with Supron to be the operator. We are prepared to pay our share of the costs and to participate as quickly as you can get the well started. This action will eliminate the time and expense

Page Two
Mr. Mark Reishus
Supron Energy Corporation
October 9, 1981

for both parties to plead their case to the New Mexico Oil
and Gas Commission and would also let the Cisco-Canyon
reservoir be drained in an orderly, controlled fashion.

Thank you for considering this proposal.

Sincerely,

Dean C. Boundy

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DCB:cc

10. Taxes

All taxes of every kind and nature assessed or levied upon or in connection with the Joint Property, the operation thereof, or the production therefrom, and which taxes have been paid by the Operator for the benefit of the Parties.

11. Insurance

Net premiums paid for insurance required to be carried for the Joint Operations for the protection of the Parties. In the event Joint Operations are conducted in a state in which Operator may act as self-insurer for Workmen's Compensation and/or Employers Liability under the respective state's laws, Operator may, at its election, include the risk under its self-insurance program and in that event, Operator shall include a charge at Operator's cost not to exceed manual rates.

12. Other Expenditures

Any other expenditure not covered or dealt with in the foregoing provisions of this Section II, or in Section III, and which is incurred by the Operator in the necessary and proper conduct of the Joint Operations.

III. OVERHEAD

1. Overhead - Drilling and Producing Operations

- i. As compensation for administrative, supervision, office services and warehousing costs, Operator shall charge drilling and producing operations on either:

- (X) Fixed Rate Basis, Paragraph 1A, or
() Percentage Basis, Paragraph 1B.

Unless otherwise agreed to by the Parties, such charge shall be in lieu of costs and expenses of all offices and salaries or wages plus applicable burdens and expenses of all personnel, except those directly chargeable under Paragraph 2A, Section II. The cost and expense of services from outside sources in connection with matters of taxation, traffic, accounting or matters before or involving governmental agencies shall be considered as included in the Overhead rates provided for in the above selected Paragraph of this Section III unless such cost and expense are agreed to by the Parties as a direct charge to the Joint Account.

- ii. The salaries, wages and Personal Expenses of Technical Employees and/or the cost of professional consultant services and contract services of technical personnel directly employed on the Joint Property shall () shall not (X) be covered by the Overhead rates.

A. Overhead - Fixed Rate Basis

- (1) Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate \$ 2,920.00

Producing Well Rate \$ 420.00

- (2) Application of Overhead - Fixed Rate Basis shall be as follows:

(a) Drilling Well Rate

- [1] Charges for onshore drilling wells shall begin on the date the well is spudded and terminate on the date the drilling or completion rig is released, whichever is later, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days.
- [2] Charges for offshore drilling wells shall begin on the date when drilling or completion equipment arrives on location and terminate on the date the drilling or completion equipment moves off location or rig is released, whichever occurs first, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days.
- [3] Charges for wells undergoing any type of workover or recompletion for a period of five (5) consecutive days or more shall be made at the drilling well rate. Such charges shall be applied for the period from date workover operations, with rig, commence through date of rig release, except that no charge shall be made during suspension of operations for fifteen (15) or more consecutive days.

(b) Producing Well Rates

- [1] An active well either produced or injected into for any portion of the month shall be considered as a one-well charge for the entire month.
- [2] Each active completion in a multi-completed well in which production is not commingled down hole shall be considered as a one-well charge providing each completion is considered a separate well by the governing regulatory authority.
- [3] An inactive gas well shut in because of overproduction or failure of purchaser to take the production shall be considered as a one-well charge providing the gas well is directly connected to a permanent sales outlet.
- [4] A one-well charge may be made for the month in which plugging and abandonment operations are completed on any well.
- [5] All other inactive wells (including but not limited to inactive wells covered by unit allowable, lease allowable, transferred allowable, etc.) shall not qualify for an overhead charge.

- (3) The well rates shall be adjusted as of the first day of April each year following the effective date of the agreement to which this Accounting Procedure is attached. The adjustment shall be computed by multiplying the rate currently in use by the percentage increase or decrease in the average weekly earnings of Crude Petroleum and Gas Production Workers for the last calendar year compared to the calendar year preceding as shown by the index of average weekly earnings of Crude Petroleum and Gas Fields Production Workers as published by the United States Department of Labor, Bureau of Labor Statistics, or the equivalent Canadian index as published by Statistics Canada, as applicable. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.

GLENN COPE
DRILLING WELL
AUTHORITY FOR EXPENDITURE - No. 8

LEASE EC-300X WELL NO. 1

LOCATION _____
COUNTY Eddy STATE New Mexico PROSPECT NAME EC-300X

IN EVENT OF
A DRY HOLE

IN EVENT OF
A PRODUCER

DEVELOPMENT EXPENSE

Drilling			
01	feet @ \$	(or Turnkey Price)	\$
02	40 days @ \$	6,500	250,000
	Drill Pipe Rental		40,000
	Bits, reamers, Contractor's moving in expense, etc.		
	\$20,000 Mobilization - \$20,000 Bits, etc.		
Other Expense			
03	Electrical Surveys		11,000
04	Drill Stem Tests (four)		7,608
05	Coring Costs		
06	Mud and chemicals		20,000
07	Cementing:		
	Surface Pipe		
	Intermediate String		10,979
	Oil String		3,600
	Temperature Surveys, Scratchers & Float Equipment		
08	Perforating and Radioactive logs		4,751
09	Swabbing, Bailing and Testing		45,000
10	Fracing and Acidizing		
11	Roads, Location and Pits		35,000
12	Geological and Engineering Services and Expense		15,000
13	Auto and Truck Expense		
14	Salaries and Wages - Company		
15	Salaries and Wages - Outside		2,000
16	Fuel, Water and Power		20,000
17	Special Services and Rentals		5,000
18	Miscellaneous		42,500
38	District Expense		
39	Overhead		
TOTAL DEVELOPMENT EXPENSE			\$469,087
			\$533,938

EQUIPMENT

80	Tubular			
	2,500	feet of	9 5/8" (\$27.79/ft)	\$ 69,475
	10,300	feet of	5 1/2"	140,539
	2,640	feet of	2 3/8" Tubing (Gas Sales Line)	10,898
		feet of		
		feet of		
	10,150	feet of tubing	2 7/8" (\$7.66/ft)	77,749
		feet of other pipe		
	Labor to lay flow lines			
81	Well Head & Subsurface Equipment			18,500
82	Tank Battery			
	Separator			10,000
	Treater			
	Tanks			5,000
	Walkway & Stairway, Complete			2,000
	Connections for Hook-up			1,000
	Labor to set equipment			1,000
TOTAL EQUIPMENT				\$ 69,475
				336,161
TOTAL COST OF FLOWING WELL				\$870,099
TOTAL COST OF DRY HOLE				\$538,562

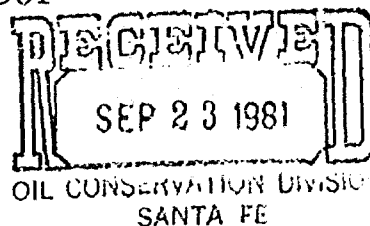
CAMPBELL, BYRD & BLACK, P.A.
LAWYERS

JACK M. CAMPBELL
MARK D. BYRD
BRUCE D. BLACK
MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
WILLIAM G. WARDLE

JEFFERSON PLACE
SUITE 1100 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87501
TELEPHONE: (505) 988-4421
TELECOPIER: (505) 983-6043

September 23, 1981

Mr. Joe D. Ramey
Division Director
Oil Conservation Division
New Mexico Department of
Energy & Minerals
Post Office Box 2088
Santa Fe, New Mexico 87501



Case 7394

Re: Application of Supron Energy Corporation for an
Unorthodox Gas Well Location, Eddy County, New Mexico

Dear Mr. Ramey:

Enclosed in triplicate is the application of Supron Energy Corporation in the above-referenced matter.

The applicant requests that this matter be included on the docket for the examiner hearing scheduled to be held on October 21, 1981.

Very truly yours,

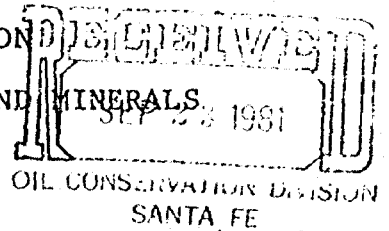
William F. Carr

WFC:lr

Enclosures

cc: Mr. Gaby Bjerke
Mr. Myron Boots
Mr. Bill Bahlburg

BEFORE THE
OIL CONSERVATION DIVISION
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS



IN THE MATTER OF THE APPLICATION
OF SUPRON ENERGY CORPORATION FOR
AN UNORTHODOX GAS WELL LOCATION,
EDDY COUNTY, NEW MEXICO.

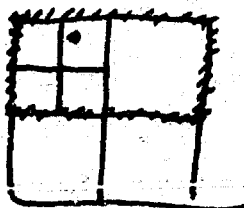
Case 7394

APPLICATION

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Comes now SUPRON ENERGY CORPORATION, by and through its undersigned attorneys, and hereby makes application to the Oil Conservation Division for an unorthodox well location and in support thereof would show the Division:

1. Applicant is the operator of the Pennsylvanian formation underlying the N/2 of Section 13, Township 22 South, Range 24 East, N.M.P.M. and proposes to drill its Shelby Federal No. 3 Well at a point 467 feet from the North line and 1650 feet from the West line of said Section 13.
2. Applicant seeks an exception to the well location requirements of Rule 104 C II (a) of the Oil Conservation Division to permit the drilling of the well at the above-mentioned orthodox location to a depth sufficient to adequately test all formations in the Pennsylvanian system.
3. That a standard 320 acre gas proration unit comprising the N/2 of said Section 13 should be dedicated to the Shelby Federal No. 3 Well.
4. That approval of its application will afford applicant the opportunity to produce its just and equitable share



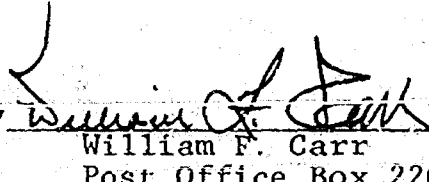
of the gas in the Pennsylvanian formation and will otherwise be in the best interest of conservation, the protection of correlative rights and the prevention of waste.

WHEREFORE, Applicant requests that this matter be set for hearing before a duly appointed examiner of the Oil Conservation Division on October 21, 1981, that notice be given as required by law and the rules of the Division, and that the Division enter its order approving the unorthodox location of the Shelby Federal No. 3 Well and granting such other and further relief as is proper in the premises.

Respectfully submitted,

CAMPBELL, BYRD AND BLACK, P.A.

By


William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

DRAFT

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

BEST AVAILABLE COPY

CASE NO. 7394

ORDER NO. R- 6836

APPLICATION OF SUPRON ENERGY CORPORATION

FOR AN UNORTHODOX GAS WELL LOCATION,

EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 21,
19 81, at Santa Fe, New Mexico, before Examiner Richard L. Stamets

NOW, on this _____ day of October, 19 81, the Division
Director, having considered the testimony, the record, and the
recommendations of the Examiner, and being fully advised in the
premises,

FINDS:

(1) That due public notice having been given as required by
law, the Division has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Supron Energy Corporation,
seeks approval of an unorthodox gas well location 467
feet from the North line and 1650 feet from the
West line of Section 13, Township 22 South
Range 24 East, NMPM, to test the Pennsylvanian
formation, McBric Hills Field Pool, Eddy
County, New Mexico.

(3) That the N/2 of said Section 13 is to be
dedicated to the well.

(4) That the NW/4 of said Section 13 is also the subject of a competing application wherein Uriah Exploration Incorporated seeks an order pooling all mineral interests in the Cisco, Canyon, and Morrow formations underlying the W/2 of said section and the drilling of a well at a standard location thereon.

(5) (4) That in each case, the primary target is the McKittrick Hills Upper Pennsylvanian Gas Pool.

(6) (5) That the best available geologic data presented at the hearing demonstrated that the Upper Pennsylvanian reservoir under lays essentially all of the W/2 of said Section 13 ~~and~~ but extends only to a very ~~and~~ minor degree into the NE/4.

(7) (6) That approval of the Uriah Exploration Incorporated application in Case No 7393 for compulsory pooling will ~~more~~ ^{more} nearly permit the dedication of productive acreage to the well to be drilled and ~~and~~ more closely permit the owners of reserves thereunder to recover their share, thereof, than approval of the competing application, thereby protecting correlative rights.

(8) (7) That the application in Case No 7393 should be approved.

(9) (8) That the application in Case No 7394 should be denied.

IT IS THEREFORE ORDERED:

The application of S. pram Exploration Energy Corporation for
(1) That an unorthodox gas well location for the Pennsylvanian

formation is ~~hereby~~ approved for a well to be located at a point 467
feet from the North line and 1650 feet from the West
line of Section 13, Township 22 South, Range 24 East
NMPM, McKittrick Hills Field - Pool, Eddy County,
New Mexico, is hereby denied.

(2) That the N/2 of said Section 13 shall be dedicated to
the above-described well.

(2) ~~(3)~~ That jurisdiction of this cause is retained for the entry of such
further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

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CASE 7394: SUPRON ENERGY CORPORATION FO
UNORTHODOX GAS WELL LOCATION, EDDY
COUNTY, NEW MEXICO DE NOVO

7394

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DOCKET MAILED

Date 12/28/81
1/25/82

Case No.

7394 DE NOVO

Application

Transcripts.

Small Exhibits

ETC



BRUCE KING
GOVERNOR
LARRY KEHGE
SECRETARY

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

POST OFFICE BOX 2068
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

April 24, 1982

Mr. William F. Carr
Campbell, Byrd & Black
Attorneys at Law
Post Office Box 2208
Santa Fe, New Mexico

Re: CASE NO. 7394
ORDER NO. R-6836-A

Applicant:

Supron Energy Corporation

Dear Sir:

Enclosed herewith are two copies of the above-referenced
Commission order recently entered in the subject case.

Yours very truly,


JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

Other Thomas Kellahin, Mark Adams

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

BEST AVAILABLE COPY

CASE NO. 7394 DE NOVO
Order No. R-6836-A

APPLICATION OF SUPRON ENERGY
CORPORATION FOR AN UNORTHODOX
GAS WELL LOCATION, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 2, 1982, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 23rd day of April, 1982, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Supron Energy Corporation, seeks approval of an unorthodox gas well location 95 feet from the north line and 1790 feet from the west line of Section 13, Township 22 South, Range 34 East, NMPM, to test the Pennsylvanian formation, McKittrick Hills Field, Eddy County, New Mexico.

(3) That the N/2 of said Section 13 would be dedicated to the well.

Case No. 7394 De Novo
Order No. R-6836-A

(4) That the NW/4 of said Section 13 is also the subject of a competing application wherein Uriah Exploration Incorporated seeks an order pooling all mineral interests in the Cisco, Canyon, and Morrow formations underlying the W/2 of said section and the drilling of a well at a standard location thereon.

(5) That the matter came on for hearing at 9 a.m. on October 21, 1981, at Santa Fe, New Mexico, before Examiner Richard L. Stamets and, pursuant to this hearing, Order No. R-6836 was issued on November 18, 1981, which denied Supron's application, and granted the application of Uriah.

(6) That on November 24, 1981, application for Hearing De Novo was made by Supron Energy Corporation and the matter was set for hearing before the Commission.

(7) That the matter came on for hearing de novo on February 2, 1982.

(8) That the evidence adduced at said hearing indicates that Division Order No. R-6836 entered November 18, 1981, should be affirmed.

IT IS THEREFORE ORDERED:

(1) That Division Order No. R-6836, entered November 18, 1981, is hereby affirmed.

-3-

BEST AVAILABLE COPY

Case No. 7394 De Novo
Order No. R-6836-A

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

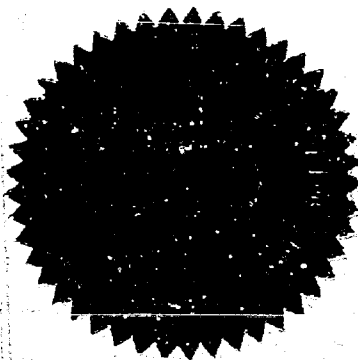
DONE at Santa Fe, New Mexico, on the day and year herein above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

ALEX J. ARMIJO, Member

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary



S E A L

NEW MEXICO OIL CONSERVATION COMMISSION

COMMISSION HEARING

SANTA FE, NEW MEXICO BEST AVAILABLE COPY

Hearing Date

FEBRUARY 2, 1982

Time: 9:00 A.M.

NAME	REPRESENTING	LOCATION
Mark D. Wilson Dean C. Brandy W. S. H. Co. Gusby Bjork DAVE DAVIS	Seaf Unish P. S. H. Co. Supron "	Albuquerque, NM Midland, Texas Albuquerque Dallas TX " " " "
W. T. Kellolin Glenn Cape Sue Umshler Mark Adams Dennis Morgan Max Judy William L. Can Terry Abernathy MARVIN GIBSON MYRON P. BOOTS	Kellolin & Kellolin Unish Expl. Inc. Minerals Management Service Rodey Lawfirm So. Union Exploration So. Union Exploration Fanghella, Lynd & Black Supron Supron Supron	Santa Fe Midland, Tex Albuquerque, NM Albuquerque Dallas TX Dallas, TX Santa Fe Dallas Midland Dallas

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
2 February 1982

COMMISSION HEARING

IN THE MATTER OF:

Application of Uriah Exploration
Incorporated for compulsory pooling,
Eddy County, New Mexico.

CASE
7393

and

Application of Supron Energy Cor-
poration for an unorthodox gas
well location, Eddy County, New
Mexico.

CASE
7394

BEFORE:

Commissioner Ramey
Commissioner Arnold

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

Uriah
For the Applicant:

W. Thomas Kellahin, Esq.
KELLAHIN & KELLAHIN
500 Don Gaspar
Santa Fe, New Mexico 87501

A P P E A R A N C E S

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For Supron Energy:

William F. Carr, Esq.
CAMPBELL, BYRD, & BLACK P.A.
Jefferson Place
Santa Fe, New Mexico 87501

For Southern Union:

Mark K. Adams, Esq.
RODEY, DICKASON, SLOAN, AKIN
& ROBB P. A.
Post Office Box 1888
Albuquerque, New Mexico 87103

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REDUCED COPY

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1
2 MR. RAMEY: The hearing will come to
3 order.

4 We're going to consolidate Cases 7393
5 and 7394, and we'll call those cases.

6 MR. PEARCE: Case 7393 is the application
7 of Uriah Exploration, Incorporated, for compulsory pooling,
8 Eddy County, New Mexico.

9 And Case 7394 is the application of
10 Supron Energy Corporation for an unorthodox gas well loca-
11 tion, Eddy County, New Mexico.

12 MR. KELLAHIN: If the Commission please,
13 I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf
14 of Uriah Exploration, Inc., and I have three witnesses.

15 MR. CARR: May it please the Commission,
16 my name is William . Carr, with the law firm Campbell, Byrd,
17 and Black, P. A., of Santa Fe, appearing on behalf of Supron
18 Energy Corporation.

19 I have four witnesses who need to be
20 sworn.

21 MR. RAMEY: I ask that all witnesses
22 stand at this time.

23 MR. ADAMS: If the Commission please,
24 I'm Mark Adams with the Rodey Law Firm in Albuquerque, re-
25 presenting Southern Union Exploration Company.

I have one witness.

(Witnesses sworn.)

MR. CARR: May it please the Commission, initially I need to point out that the Bureau of Land Management has concluded that the proposed unorthodox location for the Supron well is located in a drainage area, and they have required that it be moved to a location 95 feet from the north line and 1790 feet from the west line. This remains --

MR. RAMEY: What?

MR. KELLAHIN: You said 95 feet from the north line.

MR. RAMEY: 95 from the north.

MR. CARR: 95 from the north.

MR. RAMEY: 1795?

MR. CARR: And 1795 from the west.

Now, this will require that the case be readvertised. It does not affect our presentation and we request permission to go forward with the hearing here today.

MR. RAMEY: All right, with the understanding that it does have to be readvertised, we will proceed.

MR. KELLAHIN: If the Commission please,

1

2 I have a brief opening statement.

3

4 The Uriah Exploration, Incorporated,
5 case is one for compulsory pooling, and as you can see from
6 the docket, the Supron Energy Corporation is an unorthodox
7 location.

8

9 Essentially, the two operators are in
10 competition to have the Commission determine what is the most
11 appropriate 320-acre proration unit for Section 13.

12

13 The evidence will show you, and I'll
14 show you a land map just to orient you, the evidence will
15 show you that Uriah Exploration seeks the dedication of the
16 west half of Section 13 for a 320-acre proration unit in
17 order to drill a test for -- to the Pennsylvanian formations,
18 Cisco Canyon and the Morrow. Those are the two formations
19 for which we're seeking pooling.

20

21 The evidence will show you that the
22 northwest quarter of the 320-acre proration unit comprising
23 the west half is operated and controlled by Supron.

24

25 The southwest quarter is divided into
two 80-acre tracts each of which stands up.

26

27 The west half of the southwest quarter
28 is under operation by Mark Wilson.

29

30 The east half of the southwest quarter
31 is under operation by Uriah.

32

1
2 Uriah seeks to demonstrate to you that
3 the underlying Cisco and Morrow formations in this area more
4 closely approximate a west half proration unit, as opposed
5 to a north half proration unit, which Supron seeks.

6 This matter came for hearing before Mr.
7 Stamets, the Commission Examiner, on October 21st, and as a
8 result of that hearing Mr. Stamets entered an order denying
9 Supron's unorthodox location and entered an order approving
10 Uriah's compulsory pooling.

11 We are seeking four things from you
12 today. One is reaffirmation of the compulsory pooling order
13 with two changes, one, to give us a new starting date on com-
14 mencement of the well. The current order provides for a
15 commencement date of March 1st, and as a result of the de
16 novo hearing, we would request a new 120-day period commencing
17 with the date of the de novo order.

18 In addition, we will seek an increase
19 in the risk penalty factor. The Examiner awarded 150 percent
20 penalty. We will seek to demonstrate to you that a 200 per-
21 cent penalty is appropriate.

22 And then fourth, and finally, we'll re-
23 quest that you deny Supron's application.

24 MR. RAMEY: Do you want to say anything
25 Mr. Carr?

1
2 MR. CARR: Yes, I do, Mr. Ramey.

3 May it please the Commission, Supron
4 appears before you today seeking approval, as Mr. Kellahin
5 noted, of an unorthodox well location in the northwest quarter
6 of Section 13. Supron proposes to dedicate its lease, the
7 north half of Section 13, to this well. They own all inter-
8 ests in the north half of Section 13.

9 We will present evidence that will show
10 that it is essential that a well be drilled at an unorthodox
11 location to be high enough on the structure to produce the
12 gas underlying that tract without leaving reserves in the
13 ground, thereby causing waste.

14 We will show that a well at the proposed
15 location will drain reserves from the south half of Section
16 12 and from the north half of Section 13. These are one
17 lease and Supron only seeks authority to move toward itself.

18 We will also oppose the application of
19 Uriah to pool the west half. We believe that the evidence
20 presented will show that the reserves in Section 13 lie
21 primarily under the northwest quarter and that approval of
22 a west half spacing unit would require Supron to produce a
23 well and then share the proceeds with the interest owners
24 in the southwest quarter, owners of virtually nonproductive
25 lands. We will present evidence to show that approval of a

West half unit will in fact impair the correlative rights of Supron.

We will ask you therefor to approve our application for an unorthodox location and deny the pooling application, thereby enabling Supron to dedicate the north half of Section 13, its lease, to its well.

MR. RAMEY: Does Supron have the north half of 13, all ownership rights?

MR. CARR: Yes, sir.

MR. KELLAHIN: We're ready to call our first witness, Mr. Ramey.

MR. RAMEY: Please proceed, Mr. Kellahin.

MR. KELLAHIN: Mr. Boundy.

DEAN BOUNDY

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Boundy, would you please state your name and your occupation, sir?

A Dean Boundy. I'm a geologist.

Q And by whom are you employed and in what

1
2 west half unit will in fact impair the correlative rights of
3 Supron.

4 We will ask you therefor to approve our
5 application for an unorthodox location and deny the pooling
6 application, thereby enabling Supron to dedicate the north
7 half of Section 13, its lease, to its well.

8 MR. RAMEY: Does Supron have the north
9 half of 13, all ownership rights?

10 MR. CARR: Yes, sir.

11 MR. KELLAHIN: We're ready to call our
12 first witness, Mr. Ramey.

13 MR. RAMEY: Please proceed, Mr. Kellahin.

14 MR. KELLAHIN: Mr. Boundy.

15
16 DEAN BOUNDY

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

19
20 DIRECT EXAMINATION

21 BY MR. KELLAHIN:

22 Q Mr. Boundy, would you please state your
23 name and your occupation, sir?

24 A Dean Boundy. I'm a geologist.

25 Q And by whom are you employed and in what

1
2 capacity?

3 A. I work for Uriah Exploration and I'm an
4 Assistant -- I mean I'm a Vice President, I'm sorry.

5 Q. All right, sir. And you're a geologist
6 by degree?

7 A. Yes, sir.

8 Q. When and where did you obtain your de-
9 gree?

10 A. I graduated from the University of
11 Wyoming in 1959 with a Bachelor of Science degree in geology.

12 Q. Subsequent to graduation, Mr. Boundy,
13 when and where have you been employed as a geologist?

14 A. I worked for twenty-one years for Belco
15 Petroleum Corporation. That was up through September a year
16 ago. At that time I went to work for Uriah Exploration and
17 have served with them for about a year and a half.

18 Q. Have you done exploration geology in the
19 Cisco Canyon and Morrow formations of Eddy County, New Mexico?

20 A. Yes, sir, about the last ten years of
21 my geological experience has been primarily working with the
22 Morrow and other formations in southeast New Mexico.

23 Q. As a result of your education, knowledge,
24 and experience, Mr. Boundy, have you had occasion to work
25 with and use seismic information in exploration geology?

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25

A. Yes, sir, uh-huh.

Q. And were you the expert geologist that testified on behalf of Uriah at the Examiner Hearing on October 21st of 1981?

A. Yes, sir.

Q. Have you prepared certain exhibits and testimony with regards to this de novo hearing?

A. Yes, sir.

MR. KELLAHIN: We tender Mr. Boundy as an expert geologist.

MR. RAMEY: He is so qualified, Mr. Kellahin. Please proceed.

Q. Mr. Boundy, let me direct your attention to what we have marked as Uriah Exhibit Number One.

All right, Mr. Boundy, would you take a moment and generally identify for us your Exhibit Number One?

A. Yes, sir. It is a structure contour map on top of the uppermost Morrow Sand, which is commonly referred to as the Ross Sand.

Q. All right, sir, do you also have as part of your other exhibits a structure map on the Cisco Canyon formation?

A. Yes, sir.

Q. What is your understanding of what Uriah

1
2 seeks to accomplish by this application?

3 A. Uriah is attempting to form a 320-acre
4 proration unit covering the west half of Section 13 in which
5 to drill a 10,700 foot Morrow well at a legal location to
6 test the Morrow and the Cisco Canyon formations.

7 Q All right, sir, would you take a moment
8 and describe for us what is the ownership with regards to the
9 west half of Section 13?

10 A. Uriah Exploration owns the east half
11 of the southwest quarter of Section 13, Township 22 South,
12 24 East. That lease was issued 1-1-82.

13 Q And how about the west half of the
14 southwest quarter?

15 A. That is owned by Mark Wilson and that
16 lease was issued 7-1-79.

17 Q What is the composition of the southwest
18 quarter in terms of State, fee, or Federal acreage?

19 A. It is all Federal acreage.

20 Q All right, sir, and with regards to the
21 northwest quarter, then, what is the status of that acreage?

22 A. It is owned by Supron. It's held by
23 production by the well in the northeast quarter.

24 MR. RAMEY: This exhibit is on the top
25 of the Morrow Sand?

1
2 A. Yes, uh-huh. It's the top of the upper-
3 most Morrow Sand.

4 MR. RAMEY: Thank you.

5 A. Uh-huh.

6 Q. Let's come back to the specific informa-
7 tion on your Morrow structure map in a moment, Mr. Boundy.
8 Let's leave that for a moment, though, and go to what you have
9 marked as Exhibit Number Two and have you identify that for
10 us.

11 A. Okay, it is an assignment whereby
12 Larry Douglas assigned his interest in the east half of the
13 southwest quarter of Section 13 to Uriah.

14 Q. All right, sir. At the time of the Exa-
15 miner Hearing this acreage had been issued to -- Mr. Douglas
16 had been the successful bidder on this acreage but the actual
17 lease had not been issued until January of this year.

18 A. That is correct.

19 Q. All right, let's go to Exhibit Number
20 Three and have you identify that for us.

21 A. Okay, Exhibit Number Three, it's a let-
22 ter agreement whereby Uriah purchased the Strawn, Atoka, and
23 Morrow rights underneath the south half of Section 12.

24 Q. Now identify that for me. Where is the
25 south half of 12?

1

2

A. It's immediately north of Section 13.

3

Q. All right, who -- who's the operator of

4

that well in the south half of 12?

5

A. Supron is the operator and they own the

6

rights down through the Cisco Canyon.

7

Q. All right, sir, and be letter agreement

8

you've acquired certain other rights in that acreage?

9

A. Yes, uh-huh.

10

Q. And those include the Strawn, Atoka,

11

and Morrow?

12

A. Right.

13

Q. All right. All right, sir, if you'll

14

turn to Exhibit Number Four and identify that for us, please.

15

A. This is a proposal letter that we sent

16

to Supron, Mark Wilson, and also Rio Pecos, which is a sub-

17

sidiary or separate company owned by Mark Wilson, and in

18

the letter we proposed to form a 320-acre proration unit

19

covering the west half of Section 13 and to drill a 10,700

20

foot Morrow well at a legal location on that 320-acre prora-

21

tion unit.

22

Q. All right, sir, and what, if any, re-

23

sponse did you receive from your August 28th, '81 letter

24

from the other interest owners in the west half of 13?

25

A. Mark Wilson and Rio Pecos Corporation,

1
2 they both said that -- that they would join in the -- in the
3 proposed unit.

4 Q. And how about Supron?

5 A. And Supron said that they could not join
6 the proposed unit, that they were planning to drill an unorthodox well in the north half of Section 13 on a 320-acre
7 proration unit covering the north half of 13.
8

9 Q. All right, sir, let's turn to Exhibit
10 Number Five now, and have you identify that letter for us.

11 A. Okay. After we heard from Supron that
12 they did not want to join, we went ahead and filed a forced
13 pooling application and Supron in turn filed an application
14 whereby they were requesting a nonstandard location, and as
15 a last minute effort, I wrote this letter to Supron trying
16 to work out some kind of solution between the two companies
17 to avoid a hearing.

18 Q. As of today have you been able to work
19 out an agreement with Supron with regards to the dedication
20 of acreage for the drilling of this Cisco/Morrow test?

21 A. No, sir.

22 Q. All right, sir, let me direct your attention to -- while we have the packet of exhibits -- to Exhibit
23 Number Seven, and have you identify that for me, please.
24

25 A. It is a drilling cost estimate, an AFE,

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1
2 for the drilling of our proposed well in the northwest quarter
3 of Section 13.

4 Q All right, sir, is this the same AFE
5 that was presented to the Examiner at the hearing on October
6 21st?

7 A No, sir, it -- it is not.

8 Q What, if any, changes have been made?

9 A We have increased the dollar amounts.

10 Q Why has -- why have you done that?

11 A We just recently re-entered and com-
12 pleted a well in the east half of Section 30 of Township 22
13 South, 25 West, and as a result of that effort, we decided
14 that we had been a little bit conservative in our cost esti-
15 mates for the -- that we'd originally used.

16 Q In your opinion, Mr. Boundy, is the
17 proposed AFE, as evidenced by Exhibit Number Seven, repre-
18 sents the current reasonable estimated cost for a well at
19 this location for this depth?

20 A As best we can determine right now.

21 Q All right, sir. Now, Mr. Boundy, in the
22 event the Commission elects to enter a forced pooling order,
23 do you have a recommendation to the Examiner -- to the Com-
24 mission with regards to appropriate overhead charges to be
25 assessed against the nonconsenting owners?

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1
2 A. Yes, sir. It's our experience in re-
3 viewing what other operators charge in this area, that a
4 fair charge would be approximately \$2920 a day for -- for a
5 drilling operation, and \$420 per -- I said day, that should
6 be per month -- and \$420 per month for an operating well.

7 Q All right. Were those the charges adopted
8 in the Examiner order in this case?

9 A. Yes, sir.

10 Q All right, let's go back to Exhibit Num-
11 ber One, Mr. Boundy.

12 With regards, now, to the Morrow pros-
13 pects for this well, would you identify for me any well in
14 this area or this reservoir that currently produces from the
15 Morrow formation?

16 A. There are no Morrow producers on the
17 westernmost structure.

18 Now there is a recent Morrow producer
19 in Section 30 on the structure to the east, located in Town-
20 ship 22 South, 25 East.

21 Q All right, sir, would you describe for
22 us the process you went through in order to determine that
23 the Morrow reservoir is oriented in an -- the configuration
24 for that reservoir is as you've represented on this exhibit?

25 A. Okay. Well, first of all, in preparing

1
2 this map I utilized the -- my experience with the regional
3 trend of structures in this area, and for that reason, for
4 this hearing I included some new information on the east
5 side of the map which we previously had not used at the first
6 hearing. And I included that to show that the trend of an
7 established field and structure is northeast by southwest.

8 And using that same structural trend
9 and then moving over to the area in question, when you take
10 all of the wells that you have and -- and start drawing your
11 structure contours accordingly and utilizing this established
12 northeast by southwest structural trend, you end up with a
13 structure that looks like what I have drawn.

14 Q All right, sir. Would you characterize
15 for us the degree of well control you've had available to
16 you to determine the location and orientation of this Morrow
17 reservoir?

18 A Yes, sir. The prospect structure is
19 well controlled with -- with six -- excuse me, five control
20 points. You've got a control point on each flank of the
21 anticline and when you utilize this excellent control, there
22 is very little you can do to come up with an interpretation
23 that's much different from what I've shown here.

24 Q All right, sir, let's look at Section
25 13 specifically and to the Supron well in the northeast

1
2 quarter of Section 13. Would you describe for us what kind
3 of well that is?

4 A. That well is a dry hole in the Morrow
5 formation, and --

6 Q. Does it produce from the Cisco?

7 A. It produces from both the Strawn and
8 the Atoka,

9 Q. So it does not produce --

10 A. It is also a dry hole in the Cisco.

11 Q. All right, sir. Who originally drilled
12 that well, do you know?

13 A. That well was originally drilled by
14 Getty and was plugged in January of 1968, and it was subse-
15 quently -- Getty drilled it originally through the Cisco
16 Canyon and subsequent to that Supron re-entered the well,
17 drilled it down through the Morrow formation and completed
18 the well in the Strawn and the Atoka in February of 1975.

19 Q. What is the Strawn and Atoka proration
20 unit for that well?

21 A. It is the north half of Section 13.

22 Q. All right. That is, I assume, the first
23 well you've used as a control point in drawing your struc-
24 ture for the Morrow?

25 A. Well, I don't know whether I could say

1 that that's the first -- the first well.

2 Q It is one of the wells?

3 A It is one of the wells.

4 Q The first one we have talked about.

5 A Okay, fine.

6 Q Would you, going in a counterclockwise
7 direction now, identify the next control well?

8 A Okay, the next well would be the Supron
9 Shelby Federal No. 4 Well, located in the northeast quarter
10 of Section 12. And that well was plugged in December of
11 1974 as a dry hole. They failed to find any production in
12 the Morrow.
13

14 Q I note that you have not shaded in the
15 Morrow Sand in Section 12 and have stopped it along the sec-
16 tion line. Is there a reason why you did that?

17 A Yes, sir. The control well in Section
18 13 and the control well in Section 14 both have approximately
19 25 feet of Morrow Sand.

20 The well in Section 12 in the northeast
21 quarter has no sand, and obviously the sand pinches out some-
22 where between the two wells where you have sand and the
23 well where you don't have sand. I chose to just kind of
24 arbitrarily put it about halfway in between those three
25 wells and it may well lie farther to the north or farther

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2

to the south.

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Q All right, sir, as we move counterclockwise, then, around the structure, would you identify the next control well?

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A The next well is the Supron McKittrick Federal No. 1 Well in the northeast quarter of Section 14, and that well is the highest Morrow structural point on the anticline. It drill stem tested the uppermost Morrow Sand. They had gas to surface in fifteen minutes. It flowed a final gas rate of 290 Mcf per day. The recovery was 2,443 feet of salt water and 90 feet of gas and water cut mud. The initial shut-in pressure was 3984 pounds for a 60-minute shut-in period and the final shut-in was 3971 pounds for a 180-minute shut-in period.

That well was plugged as a dry hole in December of 1973.

Q With regards to this Morrow reservoir, Mr. Boundy, as between the well in 14 and the Supron well in 13, do you have an opinion as to the extent of the Morrow reservoir between those two wells?

A Yes. It would appear from the information on the well in Section 14, where it had a sustained gas flow of 290 Mcf per day but where it recovered formation water, that that well would appear to lie very close to the

1
2 gas/water contact, and I have chosen to put the gas/water
3 contact immediately at that well, and accordingly, all of the
4 anticline that lies structurally above that elevation should
5 be gas productive.

6 Q Do you have an opinion as to whether
7 this is a water drive Morrow reservoir or not?

8 A No, I don't have any idea. It's not
9 productive yet and, you know, until you have established
10 production I think it would be difficult to determine, you
11 know, what kind of a drive mechanism you may have.

12 Q Let's proceed south, then, to Section 23
13 and have you describe for us the next control well.

14 A Okay. That is the Standard of Texas
15 Smith Well, located in the northwest quarter of Section 23.
16 That well was plugged as a dry hole in April of 1957. It had
17 a drill stem test on the uppermost Morrow Sand. It flowed
18 a final rate of 94 Mcf per day. The recovery was 810 feet of
19 water cushion and 1170 feet of salt water. And that was back
20 during the time when they just ran one shut-in pressure and
21 that pressure was 2880 pounds for 20 minutes.

22 Q Let's go then to the well in Section 24
23 and have you identify that one for us.

24 A Yes, sir, that is the J. E. Logan Rain
25 Spring No. 1 Well. It is located in the southeast quarter

1
2 of Section 24. It was plugged as a dry hole in August of
3 1965. They drill stem tested this Upper Morrow Sand, recov-
4 ered 120 feet of drilling mud. The initial shut-in was 3098
5 for 60, and the final shut-in was 2252 pounds for 60 minutes.

6 Q Where do you propose you would locate
7 a well in the west half of Section 13, Mr. Boundy?

8 A The location that we have selected,
9 which appears to be located at a location where we -- it
10 would be effective for both the Morrow and the Cisco Canyon,
11 would be a legal location 1980 from the north and 1350 feet
12 from the west line.

13 Q In your opinion, Mr. Boundy, what por-
14 tion of Section 13 would be reasonably productive from the
15 proposed well?

16 A It looks like all of the west half
17 would be underlain by the indicated Morrow reservoir.

18 Q Do you have an opinion as to whether or
19 not it would be appropriate to orient proration units north
20 and south?

21 A Well --

22 Q So that, you know, you had a north half
23 dedication and a south half dedication?

24 A The problem with a north half dedication
25 is that you would be including acreage that has already been

1
2 condemned by the dry hole in the northeast quarter of Sec-
3 tion 13, and if you arranged it that way, whereby you'd have
4 condemned acreage as part of that proration unit, it would
5 force us into the position whereby we would have to include
6 worthless acreage in our proration unit.

7 And it just makes sense to us to have
8 the thing line up in a direction that corresponds to where
9 the reservoir is.

10 Q In studying your information in this
11 area and making your preparation, Mr. Boundy, have you seen
12 any indication of faulting in this Morrow reservoir?

13 A No. The faults that you have in this
14 area tend to be very high angle faults and so you very seldom
15 ever see a fault cut in the -- on the electric logs, and
16 there's no evidence in this area of any faulting that I can
17 see.

18 It's probably optional, you know, some-
19 body may want to put in a fault where you have west dip,
20 but I don't really see any -- any strong reason to have one.

21 Q All right, sir, is there anything else
22 you want to add to your testimony with regards to that
23 portion of the application that deals with pooling of the
24 Morrow formation?

25 A No. This is obviously an unproven re-

All right, Mr. Boundy, let me direct

1
2 your attention to Exhibit Number Six and have you identify
3 that for us, please.

4 A. It is a structure contour map prepared
5 on top of the Cisco Canyon formation.

6 Q All right, and I'll ask you to character-
7 ize in your opinion the degree and quality of well control
8 that you have found in order to identify the Cisco structure?

9 A. Obviously, it's excellent subsurface
10 control. You've got a control point, really, you've got two
11 on the east flank, two on the west flank, one on the north
12 end of it, one on the south end of it, and with this amount
13 of control it's -- the resulting interpretation you draw
14 from it has to be very meaningful.

15 Q Are these the same wells that you used
16 as control for the Morrow formation?

17 A. Partially.

18 Q All right, sir.

19 A. Some of the wells that penetrated the
20 Cisco Canyon did not go deep enough to penetrate the Morrow.

21 Q All right, let's start, then, with the
22 well in the northeast quarter of 13, and if it's one you've
23 already discussed, you can make reference to the fact that
24 you've just discussed it, and then discuss in some detail
25 those wells that are new for the Cisco.

1
2 A. Okay. Right. I did discuss that well
3 for the Morrow, that well in the northeast quarter of 13
4 is the Supron Shelby Federal No. 1 Well. It is below the
5 gas/water contact for the anticline. The top 40 feet drill
6 stem tested 2325 feet of gas cut mud and 1540 feet of heavily
7 gas cut salt water. It's clearly below the gas/water con-
8 tact.

9 Q. All right, let's go to the well in the
10 south half of 12.

11 A. That well is the Southern Union, or
12 Supron Shelby Federal No. 2 Well. It is productive from the
13 upper portion of the Cisco Canyon formation. It has cumu-
14 lative production through June of 1981 of 3.9 billion cubic
15 feet of gas.

16 Q. Are there any other wells besides this
17 one that produce from any portion of the Cisco formation?

18 A. No, sir.

19 Q. All right, then describe for us the next
20 well that you used for control for the Cisco.

21 A. Okay, also in Section 12, in the north-
22 east quarter, the Supron Shelby Federal No. 4 Well. It lies
23 also below the gas/water contact. A drill stem test on the
24 top 27 feet recovered 200 feet of water cut drilling mud
25 and 5700 feet of salt water.

1
2 Q Then the next well for control going
3 counterclockwise?

4 A Okay, it would be the Morris Antweil
5 "MH" Federal No. 1 Well, located in Section 1. That well
6 also lies below the gas/water contact. A drill stem test
7 across the top 17 feet recovered 28 feet of salt water.

8 That well was plugged in March of 1979.

9 The next well is the Flag Redfern
10 McClellan Federal No. 1 Well, located in the southeast quart-
11 er of Section 11. That well is also below the gas/water
12 contact. A drill stem test of the top 9 feet recovered 279
13 feet of oil and gas cut drilling mud and 4528 feet of salt
14 water.

15 That well was plugged in September of
16 1978.

17 South of that well in Section 14 the
18 Supron McKittrick Federal No. 1 Well, located in the north-
19 east quarter of Section 14 is also below the gas/water con-
20 tact. That well was not drill stem tested. I would guess
21 that the operators, when they saw how low it was, recognized
22 that it was outside the reservoir and thought that it was
23 not necessary to drill stem test it in order to condemn it.

24 The next well is the Northern Natural
25 McKittrick Hills Federal No. 1 Well, located in the north-

1
2 west quarter of Section 23. It also was well below the
3 gas/water contact. The drill stem test on it recovered
4 7580 feet of salt water.

5 Then moving to the east, in the south-
6 east quarter of Section 24, the J. E. Logan Rain Spring Unit
7 No. 1 Well was located below the gas/water contact. A drill
8 stem test of the top 30 feet in that well recovered 5300
9 feet of salt water.

10 So you can see you've got a -- you've
11 got a ring of wells that goes completely around the anti-
12 cline and all of these wells are at structural elevations
13 that are below the gas/water contact, and when you take and
14 prepare structure contour maps utilizing this control, you
15 end up with the structure like I have represented on the
16 map.

17 You can see that at this point that
18 there's only been one well successfully completed in the
19 reservoir, but it looks like there's an excellent case that
20 the reservoir is much more extensive than -- and we hope
21 that this will be proven up with future drilling.

22 Q With regard to this gas/water contact,
23 Mr. Boundy, what in your opinion is the drive mechanism for
24 this Cisco formation?

25 A It appears to be at least partially

1
2 a water drive reservoir.

3 Q In terms of Section 13, Mr. Boundy, in
4 your opinion what dedication of 320-acre proration spacing
5 unit would more closely approximate the Cisco reservoir that
6 you've identified?

7 A The -- a proration unit consisting of
8 the west half of Section 13 would appear to coincide with
9 the reservoir.

10 Q In your opinion does the northeast
11 quarter of Section 13 indicate commercial quantities of
12 Cisco gas?

13 A Well, the dry hole in that quarter sec-
14 tion, well, condemns it for all practical purposes. You
15 could have a little bit of slopover along the fringe of it,
16 but there doesn't appear to be anywhere near enough re-
17 serves for anybody to want to drill a well there.

18 Q In the event the Commission should de-
19 termine that a proration unit composed of the north half of
20 13 was the appropriate proration unit, what, if any, impact
21 will that have on Uriah?

22 A Once again it would force us to have
23 to communitize acreage which has been previously condemned
24 by drilling with acreage that appears to be productive, and
25 I would say that the value of this acreage which is clearly

established by the amounts of money that people have paid for it at the recent sales, for instance, we -- we had to pay approximately \$1300 per acre for the 80 acres that we own. And at that same sale I believe Supron bid approximately \$600 per acre.

In the southeast quarter, that tract was successfully purchased by Cibola last month for approximately \$100 per acre, and Supron didn't even bother to bid on that tract.

So I think you can just look at the dollar values that people are paying for this and get a pretty good idea of what they think it's worth.

Q In your opinion would a north half - south half proration unit orientation require you to drill an unnecessary well?

A Yes, it would, because if Supron drilled in the north half, well then, we obviously would have to drill in the south half and in effect you'd end up with two wells capturing the same gas that would be capturable with a single well.

Q Mr. Boundy, with regards to the Cisco formation, have you seen any indication or evidence of faulting in this reservoir?

A No, sir. I believe most of the faulting

1 that's recognized in this portion of southeast New Mexico,
2
3 Seven River comes up high enough into the section to be evi-
4 dent at the Cisco Canyon level.

5 Q Subsequent to the Examiner Hearing at
6 our request Supron has provided you with some seismic inform-
7 ation. Have you had an opportunity to review any of that
8 seismic information, Mr. Boundy?

9 A Yes, sir.

10 Q Have you incorporated or used any of that
11 seismic information in the preparation of either of your
12 structure maps for either the Cisco or the Morrow formation?

13 A No, sir.

14 Q Do you have that seismic information,
15 Mr. Boundy?

16 A Yes, uh-huh.

17 Q Mr. Boundy, let me identify for the re-
18 cord what we've placed on the wall.

19 The far left exhibit is Exhibit Number
20 Two from the Examiner Hearing, a Supron exhibit, which evi-
21 dences a line of seismic and then a fault.

22 And then the next exhibit is a northeast
23 seismic -- tell me what it is.

24 A Which one?

25 Q The one in the middle.

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A. Okay, the one in the middle is the seismic line that starts down here and is continuous up to this area.

Q. You're going to have to speak up. Nobody can hear you.

A. Okay, this is Supron Line No. 1. It starts right down here and continues northeast toward -- up into Section 6.

Q. Okay.

A. The other one is Supron Line No. 2. It starts over here and is continuous over to this point.

Q. Have you had an opportunity to examine the seismic lines, the northeast line and the southeast line and compare it to the structure map that Supron presented at the Examiner Hearing, Mr. Boundy?

A. Yes, sir.

Q. All right. Have you elected to use the seismic information in preparation of either your Cisco or Morrow structure maps?

A. No, sir.

Q. Why not?

A. Well, in the first place, at the last hearing that we had, I believe Mr. Carr asked me if I had had an opportunity to get any seismic or looked at any, and

1
2 I told him that I thought that this was an area that -- that
3 seismic was not nearly as good as the subsurface information,
4 and that I felt much more comfortable using subsurface in-
5 formation -- interpretation than having seismic, and that I
6 just chose not to try to get any seismic.

7 Q Subsequent to the hearing they provided
8 us with their seismic information and have you had an oppor-
9 tunity to look at that.

10 A Yes, sir.

11 Q Have you changed your opinion concerning
12 the seismic?

13 A No.

14 Q Why not?

15 A Well, when you look at this stuff and
16 compare it to all the seismic that I've seen and used during
17 my years as an exploration geologist, I would rate this as
18 the type of data that would be fine if you were out trying
19 to drill a wildcat well in an area where you didn't have
20 any subsurface control to use, but it just is not good
21 enough to try to use for drilling a reservoir like -- like
22 they're using it for.

23 Q Can you identify anything specific for
24 us, Mr. Boundy?

25 A Okay. Well, first of all, the yellow

1
2 event that's shaded in on both maps, that represents the
3 top of the Cisco Canyon. And you can see that that event
4 is -- is a fairly continuous event on both -- on both record
5 sections.

6 But it takes more than one, you know,
7 good, continuous event in order to have reliable information,
8 and the problem with this stuff, the way I see it, is that
9 when we look at all the area underneath the Cisco Canyon,
10 it's just kind of -- kind of a mumble-jumble of events, and --

11 Q Have you been able to identify the
12 second --

13 A And you can sight across it or look at
14 it and there's just no way that you can trace any events
15 across there below the Cisco Canyon with any reliability.

16 And so I don't know how you'd use this
17 stuff for trying to prepare a structure map on top of the
18 Morrow.

19 Q How about using it for a Cisco Canyon
20 structure map?

21 A Well, it -- it's fine for -- for drawing
22 a Cisco Canyon structure map. The only problem is you don't
23 know how far you should believe it, and --

24 Q Let me ask you this specifically with
25 regards to the yellow line, which is the line for the Cisco

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2

Canyon?

3

A. Yes, uh-huh.

4

Q. All right, sir, do you see anything in

5

there that would cause you to conclude that there is a fault

6

in the Cisco Canyon?

7

A. Not at the Cisco Canyon level, but it

8

looks like it's all fairly continuous across there.

9

Q. Would you identify for us, using Supron's

10

Exhibit on the far left corner of the wall, a shot point at

11

which they located the fault?

12

A. Okay, they have a fault here at shot

13

point 185.

14

Q. Would you relate shot point 185 to the

15

northeast seismic data?

16

A. That's this point right here.

17

Q. All right.

18

A. And as you can see, at that point you

19

are clear out on the tail end of the line where the data is

20

broken and -- and totally nonreliable.

21

And then let me continue, if I may, just

22

for a minute with -- I believe we got to the point where I

23

was saying that you have a Cisco Canyon event here but the

24

problem is -- is how much of it you want to believe. I mean

25

this stuff looks pretty as far as that event goes, but you

1
2 have to ask yourself what assurance do you have that it's
3 going to be right.

4 And normally, when we have good seismic
5 information such that we feel comfortable with, you'll have
6 some kind of a shallow reflector that is continuous, and
7 it's real important to have that because only by having some
8 kind of a continuous shallow reflector can you determine in
9 what degree the near surface faults and topography, topo-
10 graphy, and everything, is affecting what you're seeing at
11 the Cisco Canyon level.

12 And this is an area where you have lots
13 of problems as far as making reliable seismic interpretation,
14 is a topographically -- well, topographically the area has
15 a lot of relief, so your line is going up and down. It's
16 common when you drill wells in this area to lose circulation
17 in the Seven Rivers formation, and you obviously lose circu-
18 lation because of vugular and cavernous porosity in that
19 formation.

20 And when you have cavernous porosity
21 coming and going, that's obviously going to affect your
22 velocity and in turn, that will effect what you're looking
23 at at the Cisco Canyon level.

24 Q Mr. Boundy, let me show you what has
25 been introduced at the Examiner Hearing as Supron Exhibit

1
2 Number four.

3 By the use of the seismic information
4 and the location of a fault along the southwestern side of
5 the Cisco structure, Mr. Boundy, what has happened to Supron's
6 interpretation of the structure?

7 A. Well, the -- the real problem with their
8 interpretation, as much as anything, involves around their
9 handling of the Antweil Indian Hills Well in Section 19.

10 Q All right.

11 A. And --

12 Q Let's talk about that first. Would you
13 identify for us what you're talking about?

14 A. Okay, it's the Morris Antweil Indian
15 Hills Well, located in the southeast quarter of Section 19.
16 They show no information on that well.

17 Q Do you have information on that well?

18 A. Yes, sir. But -- and they also -- well,
19 they show no information but they show that well on their
20 top Atoka structure map to be structurally flat with the
21 J. B. Logan Well in Section 24.

22 Q Have you studied the well information
23 from the Antweil Well to determine its structural location?

24 A. Yes, sir. That well is actually about
25 250 feet low to the Logan Well, and so when you use the cor-

1
2 rect information for this well, you immediately take out the
3 structure that they've drawn here, which is their basis for
4 running a structural trend to the southeast rather than to the
5 southwest the way we have it drawn.

6 Q Apart from the Antweil information,
7 now, let me direct your attention to the location of the
8 fault line in the southwest. What has been the impact of
9 using the fault line through there in terms of the structure
10 as depicted?

11 A Well, in putting a fault at that posi-
12 tion, they then extend it back to the southeast and run it
13 parallel to the structure that they've drawn in there, which
14 is erroneously drawn. The two are drawn to be parallel to
15 each other but one is wrong, so you would assume that the
16 fault is probably also wrong.

17 Q What is the net effect of using seismic
18 information and the erroneous information on the Antweil
19 well, Mr. Boundy, in terms of Supron's depiction of the
20 Cisco structure?

21 A Well, when they prepared their maps,
22 they started off with the top of the Atoka structure map as
23 the base on which all their other maps were prepared. They
24 started off with this. Then they worked up an Isopach from
25 the top of the Atoka to the top of the Cisco Canyon, and

1 subtracted one from the other and came up with a resulting
2 structure map on top of the Cisco Canyon.
3

4 But, if you start off with the wrong
5 interpretation for your base map, that's automatically going
6 to make all the rest of the maps wrong.

7 Q Why don't you have a seat.

8 Mr. Boundy, you have given us your opin-
9 ion with regards to what you believe to be the risk factor
10 inherent in the drilling of a Morrow test.

11 Do you have an opinion with regards to
12 that portion of the application that refers to the Cisco
13 test?

14 A Yes, uh-huh.

15 Q And what is that opinion?

16 A Well, I think once again, a fair factor
17 to use would be 200 percent. We -- we think that our loca-
18 tion will be productive from the Cisco Canyon but you have
19 to remember that this is a carbonate formation and carbonate
20 formations are notorious for changing very quickly over
21 short distances.

22 And also, in this instance we need to
23 have a 200 percent penalty because otherwise if -- if Supron
24 would elect to go nonconsent under a lesser penalty, it would
25 make it very difficult for us to find somebody to carry the

1
2 nonconsenting portion. We're just a small company and we --
3 we have to sell our deals to -- to individuals to get them
4 drilled and it's very difficult to sell a nonconsent -- a
5 nonconsenting interest.

6 Q Mr. Boundy, were Exhibits One through
7 Eight, I believe, compiled by you and prepared under your
8 direction and supervision?

9 A Yes, sir.

10 MR. KELLAHIN: If the Commission please,
11 we will move the introduction of Supron Exhibits One through
12 Eight, and we would also mark the two seismic data maps and
13 request the introduction of the two Supron structure maps
14 that Mr. Boundy referred to out of the Examiner Hearing.
15 After the hearing I'll have those appropriately marked.

16 MR. CARR: Are those Nine through
17 Twelve?

18 MR. KELLAHIN: I guess they would be
19 Nine through Twelve.

20 MR. RAMEY: Okay, you do intend that
21 they be labeled Uriah exhibits --

22 MR. KELLAHIN: Yes, sir.

23 MR. RAMEY: -- not Supron?

24 MR. KELLAHIN: Yes, sir.

25 MR. RAMEY: Okay. Then Uriah Exhibits

1
2 One through Twelve will be admitted.

3 MR. KELLAHIN: That concludes my exam-
4 ination of Mr. Boundy.

5 MR. RAMEY: Any questions of Mr. Boundy?
6 Mr. Carr?

7
8 CROSS EXAMINATION

9 BY MR. CARR:

10 Q Mr. Boundy, first I'd like to direct
11 your attention to Uriah Exhibit Number Six.

12 A Okay.

13 Q And the shaded area, I assume, is the
14 area in which you believe there are commercial gas reserves,
15 is that correct?

16 A Yes, uh-huh.

17 Q On that east side of that you drew the
18 line of the 4000 foot contour so it more or less parallels
19 the center line of Section 13, is that correct?

20 A Yes, sir.

21 Q Why did you place this line there?

22 A I placed it there because -- well, you
23 had an established dip rate between the Marathon Well in
24 Section 18 and the Supron Well in the east half of 13.

25 The well in 18, the datum is a -4263,

1 and the datum in the well in the east half of 13 is a 4075.
2 Well, you can see that -- that you have dip to the southeast,
3 or principally just to the east, and what you do, you esta-
4 blish what your dip is between those control points, and
5 then I just more or less just continued it off to the west
6 at that same rate of dip, and that's the basis for placing
7 that 4000 foot contour where it is.
8

9 Q Were there gas shows in the Shelby Fed-
10 eral No. 1 in the Cisco when it was originally completed?

11 A There -- there were no gas shows on the
12 drill stem test.

13 Q So you're aware of no gas shows in the
14 Cisco at all when that well was initially tested?

15 A There, like I say, there's no -- none
16 indicated on the drill stem test. All they got was salt
17 water.

18 Q If there had been some gas shows, would
19 that tend to move your line toward that well location in the
20 northeast of 13?

21 A Probably not, because, like I say,
22 it's just -- drill stem tested water and, you know, it's
23 commonplace sometimes to get some solution gas along with
24 water, but -- but that doesn't mean, you know, that -- that
25 it's closer to a gas/water contact.

1 Q So that would not make you think that
2 it was closer to the gas/water contact?
3

4 A Not in my opinion.
5

6 Q Now looking at this structure map, if
7 you were required to drill a well in the southwest quarter
8 of Section 13, in your opinion could you make a commercial
9 producer in that area?

10 A Yes, sir.

11 Q And are you seeking to be designated
12 operator drilled in the west half of 13?

13 A Yes, sir.

14 Q I believe you testified that in this
15 area you think a 200 percent risk penalty would be appro-
16 priate in the Cisco formation.

17 A Yes, sir.

18 Q Is that based just on the risk that you
19 see in completing the well or is that partially based on
20 Uriah's internal financial situation?

21 A Actually both. You know, any time you
22 drill a well you've got a high degree of risk, and especially
23 in this area. This is an area where you could have lots of
24 mechanical problems. People commonly lose circulation out
25 here when they drill through the shallow beds; you have to
dry drill through them and then set casing. You've got the

1
2 potential to lose circulation in the lower part of the Cisco
3 Canyon. It's a high risk drilling area, and any time you're
4 involved in a high risk area, you should be awarded a proper
5 incentive.

6 Q Now, I believe you testified that you
7 have excellent control in this area.

8 A Yes, sir.

9 Q And you are fairly confident of this
10 depiction of the reservoir?

11 A Yes, sir.

12 Q And yet you still believe that a 200
13 percent risk penalty is appropriate.

14 A Like I say, you draw these maps and
15 believe in them, but you also recognize at the same time all
16 the things that could go wrong along the way.

17 And like I say, if we had a real light
18 penalty it would make it real easy for Supron just to go non-
19 consent and not have to get involved in any of the risk
20 taking.

21 Q How often have you used seismic for
22 making a recommendation as to whether or not a well should
23 be drilled?

24 A I would say that I have been involved
25 using -- using seismic probably about the past fourteen

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1 years.

2 Q And how many wells did you say you've
3 been involved in making recommendations as to drilling loca-
4 tions during this fourteen year period?

5 A Oh, I'd guess probably on the average
6 of about 15 to 20 wells a year, during that period of time.

7 Q So between 1000 and 1500 wells?

8 A Let's see, --

9 Q Just as a ballpark figure.

10 A No, I think you're getting too -- if
11 you had 20 wells in ten years you'd have 200 wells.

12 Q Okay.

13 A So let's say 200 to 400.

14 Q If we say 200, how many of these have
15 you used the seismic interpretation in making your projection?

16 A Okay, at one time when I was with Belco,
17 I went back and did a statistical summary, and during the
18 ten years that we had a district office in Midland, approxi-
19 mately 90 percent of the prospects that we drilled were
20 prospects that had some degree of seismic involved in justi-
21 fying and then to be drilled.

22 But the amazing thing was, that in
23 spite of the fact that 90 percent of our prospects utilized
24 seismic, 90 percent of the production that we found during
25

1
2 this period came from the prospects where we had no seismic
3 at all.

4 Q Could that be because you used seismic
5 in more questionable areas?

6 A I -- that could be part of it, obviously.
7 You know, the way you use it has a big impact on it. I
8 would say probably the -- one of the main problems is that
9 people are trying to use seismic for something that it's not
10 really intended for.

11 For instance, if you had one percent
12 of error, which I think you would judge to be an ideal cond-
13 ition, in other words, if you were trying to map a formation
14 at 8000 feet of depth, and your data was as good as you could
15 ever get it, you would expect to have, like one degree of
16 error, which would give you approximately 80 feet of error
17 in your interpretation.

18 So, if you get into areas like this,
19 where you've got lots of problems and surface variations and
20 everything, you can very easily increase that error to 2
21 percent, or even more, and when you're trying to do accuracy,
22 you know, to 20 feet, it just doesn't make much sense to be
23 using information, you know, that's got built in there of
24 at least 100 to 150 feet.

25 Q Isn't compilation of seismic data a

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1 very expensive process?

2 A. Yes, it is.

3 Q. Why do you suspect the companies invest
4 that kind of money in 90 percent of their wells?

5 A. I'd say that most people do it because
6 it tends to be a crutch, you know. A lot of the people
7 that are involved in -- in making judgments as to whether
8 wells should be drilled or not, they're not the ones that
9 originated the prospects. They don't have the same belief
10 in them and feel for them that the geologist did that ori-
11 ginated the prospect, and so they like to see something very
12 tangible in front of them that they can use as a caliper
13 in grading prospects.
14

15 And so like I say, I think it really
16 tends to be a crutch which is used in the industry.

17 Q. Do you believe that seismic data is of
18 any value, generally speaking, in interpreting the formation?

19 A. I think it's wonderful if you're looking
20 for -- for big structures in areas, you know, where you don't
21 have anything else to guide you where to go.

22 Q. Have you ever seen seismic data in this
23 general area before?

24 A. I've not seen any right here, but I have
25 seen some off to the northeast.

1

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Q And on these two profiles of the seismic lines, you've shaded an area in yellow.

3

4

A. Uh-huh.

5

6

Q What is that yellow area supposed to depict?

7

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A. That would depict the -- the seismic top of the Cisco Canyon. It would be generally the interface between the overlying shale and the Cisco Canyon carbonate.

10

11

Q How do you know that that's the Cisco when you look at something like that?

12

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A. Well, you first of all would use the velocity control from a -- from a well point, and you would identify from that where the Cisco Canyon occurs timewise, and with that information you can look at your record section and identify where that top is, and once you've done that, then it's just, you know, kind of a routine matter to trace that event across the record section.

19

20

Q Is -- is this your own interpretation?

21

A. That -- that yellow line that's drawn in there is not my interpretation.

22

23

Q It is not?

24

A. No.

25

Q By whom was it prepared?

A. That line was drawn in by Chuck Holstrom.

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Q. Do you have any independent knowledge that would establish that that in fact is the Cisco?

A. No.

MR. CARR: Then I'm going to object here, may it please the Commission, to any testimony from this witness to the fact that that is the Cisco. By his own admission he's indicated that he has no knowledge on that and has relied on someone else's data.

I'm going to request that any testimony along those lines be stricken from the record.

MR. KELLAHIN: I would be opposed to that. This is the same quality evidence that's traditionally and historically admitted into cases here. It goes not to its admissibility but to its weight, and you're free to judge it on its weight and merit, but it certainly is admissible.

MR. CARR: I would submit that it is not admissible unless the individual had determined that this in fact is the Cisco he's talking about.

MR. KELLAHIN: Mr. Carr must have read the Examiner transcript. I made the very same motion he did before the Examiner with regards to his seismic work, and was denied. I think it's appropriate in this case, as we have often done, to compile information that is not the sole work product of the given witness, but is a compilation of work

1 products, and for that reason it is admissible.

2 MR. RAMEY: We're overruling your ob-
3 jection, Mr. Carr. As always, we will -- we will take all
4 information and consider it for what it's worth.
5

6 Q Mr. Boundy, is the Cisco in this area
7 a mappable interval?

8 A Yes, uh-huh.

9 Q I assume that would have to be the an-
10 swer because of this yellow line here.

11 A Right.

12 Q I believe that you stated that one of
13 the reasons that this kind of data is not reliable is sur-
14 face conditions can in fact, I guess, distort the information.

15 A Well, surface topography, yes. If you
16 have a flat -- in any area where you've got a very flat
17 surface, well, everything tends to be very uniform, and if
18 you're in an area where you've got rolling hills or valleys,
19 or anything like that, well, you tend to have your regular
20 surface conditions, and it just adds one more variable.

21 Q Are you familiar with the use of a
22 floating datum point some distance subsurface to eliminate
23 irregularities that result from --

24 A I don't understand it intimately. I
25 generally know, you know, that that's one of the techniques

1
2 that is utilized.

3 But I couldn't, you know, go through
4 and explain it all to you on a point by point basis.

5 Q Do you know if that was employed in this
6 situation or not?

7 A I think it was.

8 Q Now, when you, just using traditional
9 geological points, well datum, to draw a structure, you take
10 that data for what it's worth and evaluate and make a deter-
11 mination, is that correct?

12 A Uh-huh.

13 Q And seismic is another tool that could
14 be used --

15 A Right.

16 Q -- is that right?

17 A Right.

18 Q Now I'd like you to look briefly at
19 Exhibit Number One, which is your structure map on top of
20 the Morrow Sand.

21 A Okay.

22 Q Now as I understand this, there is,
23 according to your interpretation in the Morrow, a pinchout
24 of the Ross Sand as we move, say, from Section 13 to Section
25 12.

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A. Yes, sir.

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Q. What, and you may have stated it, but why did you place the line exactly where you did?

5

6

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A. Okay, well, like I said, you have it in the well in Section 13 and Section 14. In each of those wells the sand is about 25 feet thick.

8

9

10

Okay, then you move to the well in the northeast quarter of Section 12, and that well has no sand at all.

11

12

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14

15

And so I just arbitrarily placed it halfway between the wells that have sand and the well that has no sand. And that, obviously, you know, is subject to slide either to the south or to the north. I don't know where the exact zero line will be.

16

17

18

Q. I believe you also testified that around the area in which you are hopeful there will be Morrow production there are a number of dry holes in the Morrow.

19

20

21

22

A. Yes, sir, uh-huh.

Q. How many feet of sand in the Morrow were there in the Supron Energy Shelby Federal No. 1 in the northeast of 13?

23

24

25

A. That well's got approximately 24 feet of sand.

Q.

And then if we go up to the well in Sec-

1 tion 12, the Southern Union Shelby Federal, how many feet of
2 sand do we have?

3 A. It has no sand at all.

4 Q. Was there sand in the well in Section

5 14?

6 A. Yes, the sand thickness there is almost

7 identical to the well in Section 13.

8 Q. So that would be 24 feet there.

9 A. It's got 24 feet, also, right.

10 Q. And then down in Section 23, I think

11 that was another --

12 A. Well, I don't -- you know, if you'd

13 like to have the exact thicknesses, I have the logs here and

14 I can pull them out and quote you exactly what --

15 Q. I think that --

16 A. -- it is, but it does tend to thin as

17 you go to the south and to the wells in 23 and 24, and then

18 the sand, it's also present in the Gulf Well there in Sec-
19 tion 26.

20 What you have is kind of a meandering
21 sand channel that cuts across this area.

22 Q. Morrow production to date is down in
23 Section 30, is that correct?

24 A. Yes, sir, uh-huh.

25

1
2 Q How close is that to the proposed loca-
3 tion?

4 A Oh, I'd say two, two miles, two and a
5 half miles, approximately.

6 Q Now, when you drill this well, what will
7 be the primary objective, assuming you drill it?

8 A In my mind, I've looked at it this way.
9 I say we have two objectives of nearly equal importance and
10 in my mind I'm saying we've got a Morrow objective, we've
11 got a Cisco Canyon objective. If things go right, we should
12 end up with production in at least one of them.

13 Q And you would state that based on the
14 structure map of the Morrow and the structure map of the
15 Cisco, that the Morrow is as good a prospect as the Cisco?

16 A I think very definitely.

17 Q Surrounded by dry holes as it is.

18 A Right. I'd like to point out that this
19 well that we recently completed in Section 30, that was a
20 dry hole, and we re-entered that and successfully completed
21 it in the Morrow.

22 So you know, one company's dry holes can
23 be another company's gas field.

24 MR. CARR: We have no further questions
25 on cross.

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2 MR. RAMEY: Any other questions of the
3 witness?
4

CROSS EXAMINATION

BY MR. RAMEY:

7 Q Mr. Boundy, your application states
8 you're going to drill a well at an orthodox location?

9 A Yes, sir.

10 Q And your location would be 1980 from
11 the north and --

12 A 1350 from the west.

13 Q Is the 1350 an orthodox location?

14 A Well, it only has to be 660 feet in
15 from the side.

16 Q And it also has to be 330 feet from a
17 quarter quarter --

18 A Well --

19 MR. KELLAHIN: It's too close to the
20 quarter quarter.

21 MR. RAMEY: Okay.

22 MR. KELLAHIN: Our purpose, Mr. Ramey,
23 is a standard location at some point within the interior of
24 the proration unit.

25 Mr. Boundy's proposal, obviously, has

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to be moved out of the quarter quarter section line.

MR. RAMEY: Either moved or some kind of an exception granted.

A. That's no problem.

MR. RAMEY: Any other questions of the witness? He may be excused.

We'll take a short recess.

(Thereupon a recess was taken.)

MR. RAMEY: All right, Mr. Kellahin, you may proceed with your next witness.

MR. KELLAHIN: Mr. Cope.

GLENN COPE

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Cope, would you please state your name and occupation, sir?

A. My name is Glenn Cope. I'm President

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to be moved out of the quarter quarter section line.

MR. RAMEY: Either moved or some kind of an exception granted.

A. That's no problem.

MR. RAMEY: Any other questions of the witness? He may be excused.

We'll take a short recess.

(Thereupon a recess was taken.)

MR. RAMEY: All right, Mr. Kellahin, you may proceed with your next witness.

MR. KELLAHIN: Mr. Cope.

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We'll take a short recess.

(Thereupon a recess was taken.)

MR. RAMEY: All right, Mr. Kellahin, you may proceed with your next witness.

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2
3 MR. RAMEY: Either moved or some kind of
4 an exception granted.

5 A. That's no problem.

6 MR. RAMEY: Any other questions of the
7 witness? He may be excused.

8 We'll take a short recess.

9
10 (Thereupon a recess was
11 taken.)

12
13 MR. RAMEY: All right, Mr. Kellahin,
14 you may proceed with your next witness.

15 MR. KELLAHIN: Mr. Cope.

16
17 GLENN COPE

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

20
21 DIRECT EXAMINATION

22 BY MR. KELLAHIN:

23 Q Mr. Cope, would you please state your
24 name and occupation, sir?

25 A. My name is Glenn Cope. I'm President

of Uriah Exploration, Incorporated.

Q What is your educational background, Mr. Cope?

A I have a degree in petroleum engineering.

Q When and where did you obtain your degree?

A I obtained my degree at Texas Tech and graduated in 1962.

Q Subsequent to graduation would you summarize for us your work experience as a petroleum engineer?

A I was first employed by British American Producing Company; then secondly by Samedan Oil Corporation; and then by Belco Petroleum Corporation.

In 1974 I went into the consulting business and in '75, why, I started my own company, and this is a summary of my work experience.

Q All right, sir, have you had experience in preparing authorities for expenditures of well costs for Cisco and Morrow wells in this area?

A Yes, I have.

MR. KELLAHIN: We tender Mr. Cope as an expert petroleum engineer.

MR. RAMEY: He is so qualified.

Q Mr. Cope, I'd like to direct your at-

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tention to what we've introduced as Uriah Exhibit Number Seven, which is the AFE for the proposed well, and ask you if this was prepared specifically by you?

A. Yes, it was.

Q. Have you updated the AFE from the Examiner Hearing to reflect in your opinion the current costs of drilling this proposed well?

A. That is correct.

Q. And in your opinion are those costs fair and reasonable to use in terms of this pooling effort?

A. That's correct.

Q. All right, sir. Would you describe for us what your rig availability is for the drilling of this well, Mr. Cope?

A. We have a rig that's going to be working for us by the 15th of the month, and we had hoped to drill this well as soon as we complete drilling the first well.

Q. All right, sir. If the Commission reaffirms the Examiner order and provides for a new commencement date within 120 days of the date of the de novo order, in your opinion would that be a sufficient period of time in which for you to obtain a rig for this proposal?

A. That's correct.

Q. All right, sir. Let me direct your at-

I'd like to direct your attention to Supron's request for an unorthodox location amended at this hearing to be a location 95 feet from the north line in Section 13. What, if any, objection or problems would approval of that location for Supron have for you and Uriah?

Q In the event the Commission should approve an unorthodox location for Supron, in your opinion is there a method or a way to calculate an appropriate penalty factor that would offset the adverse impact it would have upon Uriah's interests in the south half of 12?

Q In the event the proration unit is oriented to a north half - south half proration unit, what would you do with regards to the drilling of Morrow wells?

A. Well, if the order is issued as it stands now, it would only require one well in the west half

1
2 of Section 13; however, if the order is reversed and Supron
3 is allowed to drill their well 95 feet from the north line,
4 we would have to drill two additional Morrow wells to pro-
5 tect against drainage; one in the south half of 13 and one
6 in the south half of 12.

7 Q In your opinion, Mr. Cope, would it be
8 in the best interests of conservation, the prevention of
9 waste, and the protection of correlative rights to affirm
10 the Examiner order and approve the forced pooling of the
11 Supron acreage?

12 A. Yes.

13 MR. KELLAHIN: That concludes my exam-
14 ination of Mr. Cope.

15 MR. RAMEY: Any questions of Mr. Cope?
16 Mr. Carr?

17
18 CROSS EXAMINATION

19 BY MR. CARR:

20 Q Mr. Cope, it's my understanding that
21 since you have no interest in the Cisco, you are not seeking
22 a penalty on Cisco production at the proposed location, is
23 that correct?

24 A. That's -- that's not correct.

25 Q If the well is producing in the Cisco

1
2 95 feet from the north line you would ask for a penalty on
3 Cisco production?

4 A. 95 feet from the north line?

5 Q. Uh-huh, of Section 13.

6 A. Okay, I thought we were talking about
7 the orthodox location.

8 Q. Let me restate the question. If Supron
9 was permitted to drill 95 feet from the north line of 13,
10 you're seeking a penalty in the Morrow, is that correct?

11 A. No, I said that I could not think of a
12 penalty that would suffice to counterweight drilling 95 feet
13 from the north line.

14 Q. But you are opposed to that location in
15 the Morrow, that's my question.

16 A. That's correct.

17 Q. Okay, and you don't have any objection
18 or any interest that would cause you to object to production
19 in the Cisco in that connection, is that correct?

20 A. That's correct.

21 Q. Now, I believe you stated you'd have
22 to drill a Morrow well in the south half of Section 12 to
23 protect yourself if a Morrow well was drilled at the proposed
24 location and completed in the Morrow -- the Supron proposed
25 location?

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A. That's correct.

Q. Doesn't your Exhibit One indicate that the Morrow -- that the Ross Sand is in fact absent in virtually all of the south half of Section 12?

A. It doesn't show it absent 95 feet from the lease line.

Q. Does it show it absent in virtually all of the south half of that section?

A. Well, that's just an arbitrary line. That really doesn't mean that the formation truncates there.

Q. But that was the best guess of your geologist, wasn't it?

A. Well, he just picked the middle point between a well where it was absent and a well where it was 24 feet thick and drew it in there.

Q. Isn't it possible that that might also be south of the Supron location?

A. It's possible.

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

MR. RAMEY: Any other questions of Mr. Cope? He may be excused.

MR. KELLAHIN: That concludes our presentation of our case, Mr. Ramey.

Mr. Carr, you may proceed.

MR. CARR: At this time I would call
Mr. Bill Bahlburg.

BILL BAHLBURG

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

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your full name, please?

A William Carl Bahlburg.

Q Where do you reside?

A Dallas, Texas.

Q By whom are you employed?

A I'm employed by Supron Energy.

Q In what capacity?

A As Division Geologist and Exploration
Manager.

Q Have you previously testified before
this Commission or one of its Examiners and had your cre-
dentials as a geologist accepted and made a matter of re-
cord?

A Yes.

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Q

Are you familiar with the application of -- the applications of Supron and Uriah in this case?

4

A.

Yes.

5

Q

Are you familiar with the subject lands?

6

A.

Yes.

7

8

MR. CARR: Are the witness' qualifications acceptable?

9

MR. RAMEY: Yes, they are.

10

Q

Will you briefly state what Supron seeks with this application?

12

A.

Supron seeks to drill a well in the north half of Section 13, Township 22 South, Range 24 East, in the McKittrick Hills Field, in an unorthodox location 95 feet from the north line and 1795 -- 1795 feet from the west line, in order to test the Cisco reservoir.

17

Q

Will you please refer to what has been marked for identification as Supron Exhibit Number One, identify this and explain what it shows?

20

A.

Exhibit Number One is a lease, oil and gas lease ownership map, and it shows the lease ownership in the McKittrick Hills Field vicinity.

23

24

25

Colored in yellow are Supron's lease rights and they are differentiated with the south half of 12 with operating rights only to 8575 feet. Supron's only

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earned down to 8575 -- 8075 feet, and Supron has all rights at all depths in the north half of Section 13.

3

4

Q Your interest in the south half of 12 would include the Cisco formation?

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A Yes. But, by the way, the south half of 12 is HBP by that Cisco producing well and the north half of 13 is HBP by the Strawn-Atoka producing well.

8

9

Both Southern Union or Supron wells.

10

Q

This also shows the proposed location?

11

A

Right.

12

Q

What would be a standard location in the north half of 13?

13

14

A

A standard location would be 660 from the north line and 1980 from the west line.

15

16

Q

In the Cisco formation who are you crowding to the north?

17

18

A

Ourselves.

19

Q

What is the primary objective in the proposed well?

20

21

A

Cisco Canyon gas reservoir.

22

Q

Will this well also be drilled to the Morrow?

23

24

A

No, it would not. We plan on taking the well only down to 8200 feet.

25

1
2 Q When did Supron first decide to drill
3 a well in the north half of this section?

4 A In the middle of last year, 1981; we
5 started working on the area back in November of 1980.

6 Q And when did you first learn of Uriah's
7 plans to put together a west half unit in Section 13?

8 A Early August, 1981. I believe early
9 August, middle August, sometime.

10 Q How many wells in the Cisco has Supron
11 drilled in the immediate area?

12 A Supron has drilled four wells in the
13 area. They've completed one in the Cisco. Two others were
14 dry holes in the Cisco. And they have re-entered the well
15 in the northeast of Section 13, which was, prior to the
16 Supron re-entry, the Getty No. 1 Wilson Federal Well, so
17 that is a re-entry and we drilled three other wells.

18 Q Will you now refer to what has been
19 marked for identification as Supron Exhibit Number Two,
20 identify this and explain what it shows?

21 A Exhibit Number Two is an Isopach map
22 of the interval from the top of the Atoka, or base of the
23 Strawn formation, to the top of the Cisco Canyon reservoir.

24 What this map shows is a build-up in the
25 Cisco Canyon in the vicinity of the McKittrick Hills Field,

1 which, of course, is accountable, partially accountable for
2 the production. The contour interval is 50 feet. The pro-
3 posed location is once again shown in Section 13. There are
4 three estimated points in wells in Section 1, 11, and 12,
5 in 22 South, 24 East. Those are estimated wells because --
6 or estimated interval thicknesses because the wells did not
7 penetrate the entire Cisco Canyon-Strawn interval.
8

9 The other points were taken from the
10 well logs directly.

11 This map also shows two faults on either
12 side of the Cisco pick, Cisco Canyon pick, and those faults
13 are interpreted entirely from seismic data, and are possible
14 but have really no effect on this interpretation whatsoever.
15 I just put them in to honor what control we had.

16 Q This also has a trace on it for a sub-
17 sequent cross section?

18 A Right. Also shown on this cross sec-
19 tion, or on this map is a line of cross section running from
20 the southwest to the northeast, that starts at Section 23
21 in the north, Northern Natural Gas No. 1-A McKittrick Hills
22 Federal Well, and goes up through the Southern Union
23 McKittrick Federal Well, in through the proposed location
24 in 13, up into the producing well, the No. 2 Shelby in the
25 south half of 12, and then finished in the No. 4 Shelby Well

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1
2 in the north half of Section 12.

3 Q Mr. Bahlburg, will you now refer to that
4 cross section, which has been marked for identification as
5 Supron's Exhibit Three, and review that for the Commission?

6 A May I put it up on the wall?

7 I've hung Exhibit Number Three up with
8 Exhibit Number Two, and using Exhibit Number Two as just re-
9 ference to show where the line of cross section is.

10 This is a structural cross section which
11 generally shows several things.

12 One is that there is a slight structural
13 roll along the northeast-southwest direction in the vicinity
14 that is documented through well control. I've put in this
15 dashed fault, once again identifying it as taken from the
16 seismic work. It's a very small, insignificant fault, but
17 once again I'm trying to honor the control. The fault does
18 not extend very far up into the section and therefor has no
19 bearing whatsoever on the Cisco reservoir accumulation.

20 This cross section also shows the
21 stratigraphic character of the Cisco Canyon build-up. In
22 other words, there is an increased amount of dip, for instance,
23 between the Southern Union producing -- or the Supron, now
24 Supron No. 1 McKittrick Federal, to the Northern Natural Gas
25 1-A McKittrick Federal, on the top of the Cisco as opposed

1
2 to any of the deeper markers. So much of that dip seen at
3 that particular horizon, the producing horizon, is due to
4 stratigraphic change down in the section.

5 This cross section also identifies the
6 oil -- or the gas accumulation in the Cisco reservoir, and
7 I've identified an original gas/water contact that was con-
8 structed from a compilation of drill stem test information
9 between the No. 4 and No. 2 Shelby Federal Wells. That more
10 or less identifies the original gas/water contact.

11 Also shown on this cross section is our
12 interpretation of additional Cisco gas reservoirs to be
13 gained through an unorthodox development well, in an unortho-
14 dox location in the north half of Section 13, as we propose.

15 That's really what that cross section
16 shows.

17 Oh, I might also add that the location
18 on the proposed -- or on the Supron Energy Corporation's
19 proposed location is incorrect, and it needs to be changed
20 to 1795 feet from the west line and 95 feet from the north
21 line.

22 So it moves slightly.

23 Q Mr. Bahlburg, will you now refer to what
24 has been marked for identification as Supron Exhibit Number
25 Four, which is a structure map, and review this for the

Commission?

A. Exhibit Number Four is a top Cisco limestone structure map. It's contoured on a 50-foot interval. Included on this map is the pertinent drill stem test information of course, showing once again the wet or dry holes on the periphery of the accumulation.

It outlines the accumulation to the best of my knowledge. I would like to also point out, as I mentioned earlier, that there is an established rate of dip between the Southern Union McKittrick Federal Well in Section 14 to the Northern Natural Gas McKittrick Federal Well in Section 23 of over 300 feet.

Q And that's indicated by the black arrow?

A. That is true, and I believe that that dip can be extrapolated into the southwest quarter of Section 13, if you're to honor strictly the subsurface control without any other manipulation of the data.

Also, the line of cross section is shown on this map, as well, and corresponds to the stratigraphic configuration and structure in the Cisco shown on the cross section.

It also shows the proposed location in the north half of 13, the unorthodox location, and which is shown to be approximately 50 to 75 feet high to the current

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1 producing well.

2 Also, I have differentiated the gas re-
3 servoir with respect to those reserves that will be, or could
4 be produced by the No. 2 Shelby Federal Well, and those ad-
5 ditional reserves to be gained through the unorthodox develop-
6 ment location in the north half of 13.

7 Q Now, Mr. Bahlburg, following up on that,
8 if you cross hatched the red area, the -- is it your testimony
9 that everything above the, I guess it's 4050 contour --

10 A No, it's 4000.

11 Q The 4050 contour would be produced in
12 the new well?

13 A No, that's the 3950 contour would be
14 produced from the new well.

15 Q And then the overall is what would be
16 produced by the existing well, the red --

17 A That is correct. I might also add that
18 there's been testimony given that the well -- the current
19 producing well has produced in excess of 3.9 Bcf. Actually
20 that figure is closer to 4.2 Bcf, and I feel that this con-
21 figuration here, the largest, that outlines the largest pos-
22 sible accumulation of gas in this reservoir, was the original
23 configuration, and most assuredly has shrunk through time
24 and depletion of reservoir accumulation through the No. 2
25

Shelby Federal Well.

Q. Now, the No. 2 Well is the well in -- well, I guess it's the southwest quarter of 12, is that correct?

A. That's correct.

Q. Why is this unorthodox location important?

A. Well, we feel the location is important to maximize recovery in the reservoir.

Q. If you were required to drill at a standard location, what effect would that have?

A. Well, I believe that in a standard location we would permit waste of reservoir gas.

Q. How is that?

A. Well, in other words, we would not be maximizing our best structural position on the structure and therefor under the water drive mechanism that's apparent here, the well would water out and there would be remaining reserves in a crestal position.

Q. Now, Mr. Bahlburg, does this exhibit also have some drill stem test data on it?

A. Yes, it does. Do you want me to go through all that?

Q. Only if it's important to you.

A. No, as I stated earlier, the drill stem

1
2 test information basically shows what you've seen before
3 in that you can -- the configuration of the original reser-
4 voir accumulation can be outlined, roughly, through the
5 drill stem test information, showing that on the periphery
6 the wells tested wet.

7 Q Is this exhibit similar to the structure
8 map that you offered in the Examiner Hearing?

9 A Yes, it is identical.

10 Q And since that time have you acquired
11 data concerning the Antweil Well located in Section 19?

12 A Yes, I have.

13 Q How has that affected your interpretation?

14 A It has affected -- it has -- one thing
15 it's done to the interpretation, really, is if I may be per-
16 mitted to go up to my old exhibit to make that comparison?

17 The only thing that has occurred since
18 the last Examiner Hearing is that I do have this control
19 point now.

20 Q Now, when you say this control point,
21 you're talking about --

22 A The Antweil Indian Hills Well in Section
23 19, 22 South, 25 East. I did not have it. I made an at-
24 tempt to get it prior to the last hearing and did not get
25 it. This time I got a partial log that did give me a Cisco

1
2 top, but I did not get a complete log down through the Mor-
3 row Atoka, but which I feel is totally irrelevant in this
4 case, because we're applying for a Cisco proration unit, and
5 a Cisco development well.

6 What's happened since then is you can
7 just extrapolate this line into the Antweil line and I just
8 closed a few more contours down on the end, but other than
9 that they are identical.

10 Q Mr. Bahlburg, in preparing Exhibit
11 Number Four did you also use some seismic information?

12 A Yes, I did. This map is really, once
13 again, it's an integrated approach by superimposing the Iso-
14 pach map, which of course, you can see that the Isopach dif-
15 ferences have -- do have a profound affect on structure, at
16 least on the Cisco accumulation, and it is going to differ
17 from that structure seen on the Atoka Morrow. That's proven
18 between these two wells, is that there will be some differ-
19 ences.

20 I have used the geophysical interpreta-
21 tion of structure, which of course incorporates not only the
22 well control usually used in just a straight geologic sub-
23 surface interpretation, but also some geophysical evidence
24 that we have. And what I did, is I oriented my Isopach map
25 on that geophysical structure and came up with a resultant

1 Cisco, top Cisco structure map, which I feel most accurately
2 depicts the Cisco structure.

3 Q Now base on this structure map, where
4 are the bulk of the reserves in Section 13?

5 A All the reserves to be gained through
6 development drilling are in the north half of Section 13,
7 the additional reserves.

8 Q Now, where would the gas to be produced
9 from that well come from?

10 A It would be coming from the south half
11 of Section 12 and the north half of Section 13.

12 Q Do you have any estimate as to what
13 percentage of the gas lies in the southwest quarter of Sec-
14 tion 13?

15 A Well, as I stated earlier, I feel that
16 the reasonable case would be that there would be some shrink-
17 age in this outline, and it does taper to a feather edge
18 towards the southwest, the accumulation, and at present I
19 feel there are no reserves in the southwest quarter. There
20 may have been originally in 1974 when the well was drilled,
21 but I don't feel there are now.

22 Q Mr. Bahlburg, will Supron call another
23 witness to testify as to this geological -- or geophysical
24 data which you have relied on?

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2

A. Yes, but one thing I do want to point

3

out that was brought out earlier, that there is significant

4

control in the area, and the statement was made as to there

5

is only one way to contour, well, I disagree with that, and

6

another statement I would like to make, have already made,

7

is that there is proven dip in a southwest direction, and

8

using that dip and extrapolating, for instance, to this well

9

down here, which is the J. E. Logan Rain Spring Unit Well

10

in Section 24, there is no doubt in my mind that that rate

11

of dip does extrapolate through the southwest quarter, the

12

majority of the southwest quarter of the section, and there-

13

for puts it outside the gas accumulation and wet.

14

Q. Mr. Bahlburg, will you now refer to

15

what has been marked for identification as Supron Exhibit

16

Four-A, identify this and explain what it shows?

17

A. Exhibit Four-A is a depth comparison

18

between the original Getty Wilson Federal Well and the sub-

19

sequent Southern Union Shelby Federal Well in the northeast

20

quarter of Section 13, 22 South, 24 East.

21

What this exhibit serves to show is that

22

the top of the Cisco was logged twice in the same borehole;

23

originally logged by Getty and they, of course, were the

24

operators who originally tested the Cisco wet in this vici-

25

nity. Supron did not make a subsequent drill stem test when

1 re-entering the well in the Cisco.

2 Their calculated structural top is
3 -4077 on the top of the Cisco, which I think agrees very
4 closely with the Uriah exhibit.
5

6 The top on the Southern Union Shelby
7 Federal Well is 4049, a -4049, and there is a 28-foot discre-
8 pancy, and we chose to use that 28-foot discrepancy to put
9 this particular well higher than the opposition, and the
10 reason being that this, in my opinion, did have a signifi-
11 cant gas show when drill stem testing the Cisco. Heavily
12 gas cut salt water is at least suggestive of a proximal loca-
13 tion to a possible gas/water contact. It certainly wouldn't
14 move it away.

15 But I just wanted to make you aware of
16 that discrepancy.

17 The Getty Oil Company No. 1 Wilson Fed-
18 eral was drilled and logged in 1956 and the subsequent Supron
19 Well was drilled and logged in 1973.

20 Q Mr. Bahlburg, were Exhibits One, Two,
21 Three, and Four-A, this last exhibit is Number Four-A, were
22 those five exhibits, One through Four and Four-A prepared by
23 you?

24 A Yes.

25 MR. CARR: At this time, Mr. Ramey, we

would offer Supron Exhibits One through Four, and Four-A, into evidence.

MR. RAMEY: Supron Exhibits One through Four, and Four-A, will be admitted.

MR. CARR: May it please the Commission, at -- this concludes the bulk of our direct testimony from Mr. Bahlburg, and at this time we would like permission to proceed to our next witness and reserve the right to recall Mr. Bahlburg after the geophysical data has been presented for very short testimony, simply showing how he has integrated his geological work into the geophysical.

So we would conclude our direct and request permission to recall Mr. Bahlburg later.

MR. RAMEY: I don't see anything wrong with that, do you, Mr. Kellahin?

MR. KELLAHIN: No, sir. I'd like to cross examine him based on his present testimony.

MR. RAMEY: I think that would be proper. Go ahead.

MR. KELLAHIN: Okay.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q

Mr. Bahlburg, you testified on behalf

1
2 of Supron at the Examiner Hearing on October 21st, did you
3 not, sir?

4 A. Yes, sir.

5 Q At that time Supron had an exhibit that
6 showed a location somewhat to the south of the current pro-
7 posed location, did it not?

8 A. Approximately 380 feet.

9 Q All right, sir. And you told us at the
10 Examiner Hearing that that first location, the one we talked
11 about at the Examiner Hearing, was a location that Supron
12 had staked back in 1974 but had never drilled.

13 A. The location staked in '74, to my know-
14 ledge, was 1980 and 660, 1980 from the west and 660 from the
15 north.

16 Our subsequent location, 467 from the
17 north -- I believe, pardon me, I want to backtrack.

18 The original location was staked earlier,
19 I believe, in 1974. Our location, the one we came -- proposed
20 at the last Examiner Hearing, was made in 1981, and it was
21 467 from the north and 1650 from the west.

22 Q The proration unit for that well ori-
23 ginally staked in '74 would have been a north half of Section
24 13 proration unit?

25 A I have no knowledge one way or the other.

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Q. What was the order in which the Supron and Southern Union Wells were drilled in this area, Mr. Bahlburg? Which was the first well?

A. The first well, I believe, was the Southern Union Shelby Federal No. 1 in Section 13.

Q. And that's the Getty re-entry.

A. That was the Getty re-entry.

Q. Okay.

A. I believe that's true.

Q. That well is now completed and produces from the Atoka and Strawn formations?

A. That is correct.

Q. At the time you made those completions did you have your new log of that well?

A. When those completions were made I was not under employment by Supron, so I have no --

Q. I said you; I meant Supron, to your knowledge.

A. Did they have the new log?

Q. Yes, sir.

A. Yes, I'm -- I am positive they ran the logs prior to any completion in that well.

Q. Your Exhibit Number Five shows the Getty original log and the re-entry deepening log?

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A. That is correct.

MR. CARR: That was Exhibit Four-A,
I'm sorry, Tom, I misnumbered.

MR. KELLAHIN: All right.

Q So at the time Supron re-entered this
well they -- they had this log here that shows this discre-
pancy in the Cisco.

A. No, that's incorrect.

Q. All right.

Q Supron re-entered the well, deepened it,
then logged it. Prior to re-entry the only log that was
available to Supron was the Getty Oil Company No. 1 Wilson
Federal.

Q After it was re-entered, deepened, and
logged, then it was perforated in the Atoka and the Strawn.

A. That's correct.

Q All right, sir.

It was not perforated or tested in the
Cisco.

A. I don't think that, and I'm guessing
here, I don't feel they saw any need to test it in the Cisco
because the Cisco reservoir had already been tested once
before in '68.

Q Well, you seemed to make some point just

1
2 now under direct examination that there's a significance in
3 the differences here in the -- in the completion in the Cisco,
4 and I thought I understood you to mean that although it had
5 been tested in the Cisco by Getty, that you credited some
6 Cisco formation gas reserves to the northeast quarter because
7 of the new well log.

8 A. No, I said that the well, given the
9 drill stem test information and the apparent gas show asso-
10 ciated with the drill stem test, that it was possibly sug-
11 gestive that the well was proximal to the gas/water contact.

12 Q Okay. I understood you to say that you
13 don't propose, or Supron doesn't propose to drill this well
14 to the Morrow formation.

15 A. That is correct.

16 Q Would you recommend the drilling of a
17 Cisco well at any location in the northeast quarter of Sec-
18 tion 13?

19 A. Not given the present situation.

20 Q Would you recommend the drilling of a
21 Cisco well at any location in the southeast quarter of Sec-
22 tion 13?

23 A. No. I feel the entire south half is
24 nonproductive.

25 Q And apparently the east half, as well.

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1
2 A. No, I think the better location is in
3 the northwest quarter, and since we own the entire north half
4 it's our prerogative.

5 Q. And you've had that prerogative for at
6 least prior to or at some time in 1974 and have yet to drill
7 that acreage.

8 A. That is correct.

9 Q. In fact, you bid on the southwest
10 quarter, did you not, Mr. Bahlburg?

11 A. We did.

12 Q. What did you bid for the southwest
13 quarter?

14 A. It was a little over \$600 an acre.
15 We made that bid primarily on a protection basis, because at
16 the time the sale was up we were interpreting currently --
17 or were interpreting our seismic information and we felt that
18 it was necessary to make a bid on offset acreage in an area
19 in which we plan to drill a well.

20 Standard oil company practice, I believe.

21 Q. That was some \$50,000 bid, protection
22 bid, is what you called it?

23 A. \$48,000.

24 Q. \$48,000. I think I misunderstood you,
25 but I thought you initially said that Exhibits Two and Ex-

1
2 hibit Four of your testimony today were drawn exclusively
3 using the subsurface control.

4 A. That is correct, except I did incorporate
5 the -- the Isopach map in Exhibit Number Two was drawn ex-
6 clusively using the subsurface control.

7 The structure map on the top of the
8 Cisco was drawn using the subsurface control as well as the
9 seismic as an aid.

10 But all data points have been honored
11 and that's -- it was additional information that was avail-
12 able to me, and so I used it.

13 Q All right, let me make sure what you
14 did that was different than what you had at the Examiner
15 Hearing.

16 As I understand it, the only difference
17 is that you had available to you the Antweil information from
18 that well in Section 19.

19 A. On the Cisco structure map?

20 Q Yes, sir.

21 A. That's true.

22 Q Okay.

23 A. And as I stated, I just continued some
24 contours down to the southeast to incorporate that new data
25 point.

1

2

Q All right.

3

A I might also add, if I could --

4

Q Let me ask you the questions and Mr. Carr

5

can ask you some more --

6

A All right.

7

Q -- if you feel it necessary.

8

To make sure I understand Exhibit Num-

9

ber Two and its relation to Exhibit Number Four, Two is your

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Cisco-Atoka Isopach?

11

A That's correct.

12

Q Four is the Cisco structure.

13

A That's correct.

14

Q If I understood you correctly, you took

15

the Isopach, you honored all the data points for that Iso-

16

pach, and then to prepare the Cisco structure you go up in

17

formations and using the Cisco Isopach information then draw

18

the Cisco structure, is that right?

19

A I think the correct inference to be

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made through the utilization of both those maps, is the fact

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that the Cisco structure through a stratigraphic phenomenon

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does not coincide with the deep Morrow or Atoka structure in

23

the vicinity, and that's what the Isopach map was used for.

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It was an attempt to integrate stratigraphy in the struc-

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tural interpretation of the Cisco gas reservoir.

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Q All right.

A I might also add, if I could --

Q Let me ask you the questions and Mr. Carr
can ask you some more --

A All right.

Q -- if you feel it necessary.

To make sure I understand Exhibit Num-
ber Two and its relation to Exhibit Number Four, Two is your
Cisco-Atoka Isopach?

A That's correct.

Q Four is the Cisco structure.

A That's correct.

Q If I understood you correctly, you took
the Isopach, you honored all the data points for that Iso-
pach, and then to prepare the Cisco structure you go up in
formations and using the Cisco Isopach information then draw
the Cisco structure, is that right?

A I think the correct inference to be
made through the utilization of both those maps, is the fact
that the Cisco structure through a stratigraphic phenomenon
does not coincide with the Deep Morrow or Atoka structure in
the vicinity, and that's what the Isopach map was used for.
It was an attempt to integrate stratigraphy in the struc-
tural interpretation of the Cisco gas reservoir.

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Q Okay, so if -- let me start then with Exhibit Number Two, which is the information, then, which was used to draw the Cisco structure, is that right?

A. It was used as an aid to draw the Cisco structure map.

Q All right, sir. On Exhibit Number Two, Mr. Bahlburg, do you have that in front of you? Let's get you a copy.

A. There is one on the wall right there behind you, taped up there.

Q All right, sir. This is the Isopach. We've got the Atoka Isopach and the Cisco structure. Do you have an Atoka structure map?

A. That will be presented in later testimony.

Q Did you prepare that?

A. No, I did not.

Q Did you use that in making the Cisco structure?

A. Yes, I did. That influenced that.

Q All right. You'll have to help me if I don't understand this. You -- you would build from this Isopach, the Atoka Isopach, and you would draw an Atoka structure map, is that the sequence?

A. No, that is incorrect.

Q All right, tell me how it is done.

A What you do is first you would draw, or construct a structural map on a horizon that was truly representative of subsurface structure in the area.

Q Which one did you pick?

A That horizon was the top Atoka, base Strawn. Now, the deeper you go the structure may change a little bit, but this was the closest good, accurate structural marker that we could find to the Cisco Canyon reservoir.

Then the Isopach map was constructed, and you can relate to the cross section, was constructed from the top of the Atoka, base of the Strawn, to the top of the Cisco. That Isopach map shows two things: It shows that there is a stratigraphic build-up in the vicinity, and it also shows that there are differences in dip on the top of that stratigraphic build-up, with those dips encountered on deeper horizons.

And I feel that -- that in order to determine an accurate picture of what the top of the Cisco reservoir, or reef, looks like, we're going to have to have an Isopach of that reef to see what changes we should make in structural configuration.

Q All right.

A You'll notice that the Isopach and the

1
2 Cisco structure map show an anomaly, if you will, in almost
3 identical positions. The only major change, and I'll repeat
4 that, is the increased amount of dip to the southwest between
5 the Southern Union McKittrick Federal Well in 14 to the
6 Northern Natural Gas McKittrick Federal Well in Section 23,
7 and that's a fact.

8 Q Let's look at Exhibit Number Two, which
9 is the Isopach. Look in Section 26 for me. There's a --
10 there's a Gulf Well there.

11 A Uh-huh.

12 Q What's -- what's the thickness of the
13 Cisco for Isopach purposes in that well?

14 A I do not have that as a data value be-
15 cause I feel it's irrelevant to the case in 13.

16 Q So you didn't use that as a value in
17 drawing the Isopach?

18 A No, I had to limit where I would stop
19 using my control at some point, and I felt that that well
20 was so far removed from the proposed location, and I had
21 evidence, factual evidence, of rates of dip from that pro-
22 posed location, I thought it completely unnecessary to move
23 out into a superfluous area that has no bearing on the case.

24 Q Wouldn't it have been important to you
25 to determine what happens to your Isopach map if you honor

1
2 that well?

3 A It would if I was prospecting in the
4 vicinity and if I came here to show everybody my prospects,
5 but as far as the case is concerned, it has no bearing, in
6 my opinion, at all on the well proposed in Section 13.

7 Q You weren't afraid that by honoring
8 that point it would orient your structure and your Isopach
9 to a north/south orientation and show Cisco reserves in the
10 southwest quarter of Section 13, were you?

11 A Certainly not.

12 Q Let's look at Section 19. What is the
13 data value you used for the Antweil Well?

14 A Well, once again I'll repeat that while
15 I did receive a log on that well through the PI Service
16 Drilling Information, I could not get, for some reason, I
17 tried repeatedly, the log on the deeper portion of the sec-
18 tion.

19 Q That information would affect the --

20 A That information could have some effect
21 on interpretation.

22 Q Let's look at Exhibit Number Four.
23 You've got a value on that Gulf Well in 26 for your struc-
24 ture, you show a -4450. How come you didn't draw that into
25 your structure map?

1
2 A I felt, once again, that it was not
3 relevant to the picture.

4 There could just as easily be another
5 structure down there. It could be dipping any which direction,
6 I have no idea.

7 Q If that point is honored, it would have
8 a tendency to move your Cisco structure to a more north/south
9 orientation, would it not?

10 A Not necessarily. It -- it depends on
11 how I chose to contour it. Just as Uriah chose to contour
12 two separate features on their Cisco map, or at least their
13 Morrow map, I could choose to contour a separate feature
14 here.

15 In fact, I'll just be honest with you,
16 I don't have enough information in that area to really make
17 an accurate determination as to which way it would go.

18 Once again I'll repeat that I did use
19 the seismic and the seismic did indicate that the -- and the
20 well control indicates that the proven southwest dip shown
21 on Exhibit Number Four is valid.

22 Q How long have you been working for
23 Supron, Mr. Bahlburg?

24 A Oh, approximately a year and a half.

25 Q And during that year and a half period

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A. Southeast New Mexico, the Permian Basin
st Texas, and the Texas-Oklahoma panhandle area.

Q When were you first assigned the project
ing the geology for this particular application

A. I first started working in this area
back in November of 1980.

Prior to shooting any seismic, or any-

MR. KELLAHIN: Thank you, Mr. Bahlburg.

MR. RAMEY: Any other questions?

CROSS EXAMINATION

BY MR. RAMEY:

Q Mr. Bahlburg, I'm -- I'd like to know about why you -- why you had to move your location 67 to 95.

A. We had to move it to satisfy the requirements of the Bureau of Land Management and the USGS, and currently in a drainage area, a topographic low, and had us to move out of that topographic low and our best option.

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Q Well, I still -- I still don't understand. Do you have any surface topo map, or anything?

A I think --

Q That will show this?

A If you'll pardon me, I think Myron, another witness for Supron, who has been involved, directly involved with the placement of the well, could better testify to that.

MR. CARR: We'll call him as our next witness.

MR. RAMEY: All right. If there are no further questions, the witness may be excused.

Let's recess for lunch and be back at 1:15.

(Thereupon the noon recess was taken.)

MR. RAMEY: The hearing will come to order.

You may proceed, Mr. Carr.

MR. CARR: At this time I'll call Myron Boots.

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MYRON BOOTS

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

DIRECT EXAMINATION

BY MR. CARR:

Q Mr. Boots, prior to -- well, I'll qualify Mr. Boots, first.

Will you state your name and place of residence?

A My name is Myron Boots, and I live in Richardson, Texas. I work for Supron Energy as an exploitation engineer.

Q Have you previously testified before this Commission or one of its Examiners and had your credentials as an engineer accepted and made a matter of record?

A Yes, I have.

Q Are you familiar with the applications of Uriah and Supron that are the subject matter of this case?

A I am.

Q Are you familiar with the lands which constitute the subject matter of the case?

A I am.

1
2 MR. CARR: Are the witness' qualifi-
3 cations acceptable?

4 MR. RAMEY: They are.

5 Q. Mr. Boots, before the recess Mr. Ramey
6 had certain questions concerning the reasons for moving the
7 location as Supron has since the Examiner Hearing.

8 Could you explain to Mr. Ramey what
9 transpired with the BLM that resulted in this move?

10 A. We got a notice from the BLM that they
11 felt they could not approve that 1650 from the west, 467 from
12 the north location because of a drainage problem. The well
13 was right on the edge of a draw that was probably about 300
14 feet wide and about 6 to 8 feet deep.

15 So I met personally with the representa-
16 tive out there, representative from both the BLM and the
17 USGS, and we talked about the problems, what we had there.
18 We discussed the reservoir in general terms. The member
19 from the USGS was aware that it was a water drive reservoir
20 and we did need to get up-structure as high as we could to
21 maximize reserves.

22 And so we agreed on that location, the
23 new location of 1950 from the west, 95 feet from the north,
24 which is on the north side of the draw and out of the drainage
25 area, and no problems as far as pits draining into the drain-

1
2 age, or anything like that, it was agreed upon by everyone
3 there that that would be an acceptable location from the
4 surface situation and from our structural interpretation.

5 Q Now, I believe at the prior hearing
6 there was testimony offered that Supron had intention of
7 testing the Morrow formation.

8 A I believe that's right, at that hearing
9 in October that we thought we may drill to the -- to the
10 Morrow.

11 Q I believe it was Mr. Bahlburg's testi-
12 mony that Supron has abandoned plans to drill to the Morrow.

13 A That's correct. We plan to take this
14 well, proposed well, only to the Cisco. We've evaluated the
15 Morrow in Section 13 and think that the reservoir quality
16 does not warrant the additional drilling from the Cisco down
17 into the Morrow.

18 Q And at what time was that decision made?

19 A Well, it was made, we'd talked about it
20 just prior to the meeting with the USGS and the BLM, and
21 then that confirmed having to move that location, that we
22 would abandon the plan to go to the Morrow.

23 Q Who are you crowding to the north?

24 A We're crowding Supron's lease to the
25 north there in the Cisco.

1
2 Q And is that the only direction in which
3 this new location is unorthodox?

4 A It would be slightly unorthodox from
5 the west line. It's 1950 instead of 1980. 17 -- 1795, right,
6 instead of the 19.

7 Q Mr. Boots, would you please refer to
8 what has been marked for identification as Supron Exhibit
9 Number Five, identify this and explain what it shows?

10 A Exhibit Number Five is a production curve
11 for the Shelby Federal No. 2. The dots indicate the monthly
12 production; the triangles indicate the cumulative production,
13 and in November of '81 we produced 100-million cubic feet of
14 gas and cum at that point was 4.3 Bcf.

15 Q As I look at this, there does not seem
16 to be a decline, is that correct?

17 A That's right. This is a water drive
18 reservoir and we're -- the water drive is maintaining the
19 pressure and production is holding stable. In fact, it even
20 appears to be increasing.

21 So the pressure is being maintained by
22 what appears to be a very effective water drive mechanism.

23 Q Now, Mr. Boots, I would like to direct
24 your attention back to Supron Exhibit Number Four, which is
25 the structure map, and ask you first how the new location

1 affects this prospect.

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3 A. Well, on Exhibit Number Four, Mr. Bahl-
4 burg has denoted the drainage area that -- for the Shelby
5 Federal No. 2 with the cross hatched leaning to the left.
6 It will drain from the original oil/gas contact -- or water/
7 gas contact, up to the, basically, a -4000 contour, and then
8 anything that's above that well, above the Shelby Federal
9 No. 2, without any additional drilling, if we just drill
10 right -- drill no more wells, well, all that gas that's above
11 that well would be left in place, would not be recovered by
12 the Shelby Federal No. 2 because of the water drive mechanism
13 pushing the gas up toward the top of the structure away from
14 the Shelby structure, away from the Shelby Federal No. 2.

15 Q Now in moving the location at the re-
16 quest of the BLM have you been able to maintain structural
17 position?

18 A. We have. We've moved in the northeasterly
19 direction and been able to maintain that structural position.

20 Q Now let me direct your attention to
21 Supron Exhibit Number Six, and I'd ask you first to identify
22 this and then using this and Exhibit Four, explain what it
23 shows.

24 A. Okay, Exhibit Number Six is a tabulation
25 showing the calculated gas in place initially. Initially

1 there was 22.6 Bcf in the -- above the water/gas contact.
2 Also I've calculated what the gas in place above the Shelby
3 Federal No. 2 is, and that's 6.3 Bcf.
4

5 The next entry on Exhibit Six is the
6 gas in place above the Shelby Federal No. 3, and that shows
7 it to be a quarter of a Bcf. That would be gas that would
8 be left behind with the location of the Shelby Federal No. 3.
9 And I've also indicated if we were forced to drill a standard
10 location for a north half proration unit, which would be
11 1980 from the west and 660 from the north. We'd leave 682-
12 million cubic feet above the well.

13 Q Now that's assuming a laydown unit, is
14 that correct?

15 A Correct.

16 Q Do you have any figures that would in-
17 dicate how much of the gas would be left in the ground if
18 this -- if a west half were developed with a stand-up pro-
19 ration unit?

20 A Based on this geologic interpretation,
21 the normal location, or a legal location, which would be 1980
22 from the north and 660 from the west, or 660 from the center
23 line, or the lease line, you'd leave approximately 30 percent
24 of the original gas in place behind. These reserves would
25 be unrecoverable because of a low structural position of the

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1 Cisco Well.

2 Q Is it your testimony that an additional
3 well is necessary to drain this structure?
4

5 A Yes, it is.

6 Q And is the proposed location an optimum
7 location to produce these reserves?

8 A Yes, it is.

9 Q Based on your interpretation of this
10 data, have you estimated the percentage of the reserves that
11 currently underlie the southwest quarter of Section 13?

12 A Well, what I -- I've estimated how much
13 gas was originally in place in the southwest quarter, and some
14 of that very -- could have -- drainage could have occurred
15 there based on the production from the Shelby Federal No. 2,
16 but originally there was only 2.2 percent of the gas in
17 place in the southwest quarter. It's a wedge effect, that
18 as you get out there toward the edge of the gas/water contact,
19 you get less and less thickness and so the total gas in the
20 southwest quarter represents only 2 percent, basically, of
21 the original gas in place.

22 Q Mr. Boots, if you are not permitted to
23 drill at an unorthodox location, is there any way to produce
24 the gas that would be up-structure from that location?

25 A No, not based on the drive mechanism.

1 That would all -- all the gas above any location would be
2 left behind because of the water drive mechanism.
3

4 Q And would this result in waste?

5 A It certainly would.

6 Q Were Exhibits Five and Six prepared by
7 you?

8 A Yes, they were.

9 MR. CARR: At this time, Mr. Ramey, we
10 would offer Supron Exhibits Five and Six.

11 MR. RAMEY: Supron Exhibits Five and
12 Six will be admitted.

13 MR. CARR: I have nothing further on
14 direct.

15 MR. RAMEY: Any questions of Mr. Boots?

16 MR. KELLAHIN: Yes, sir.

17 MR. RAMEY: Mr. Kellahin.

18
19 CROSS EXAMINATION

20 BY MR. KELLAHIN:

21 Q Mr. Boots, you've talked about the Mor-
22 row prospects for Section 13 as being such a high risk area
23 that Supron has elected not to drill a well to the Morrow.

24 A That's correct.

25 Q Is that risk such that it exceeds the

1
2 200 percent risk applied by the Commission in compulsory
3 pooling cases?

4 A. Well, in our estimation there are limited
5 reservoir characteristics in that Morrow Sand.

6 Q So if a Morrow well was in fact drilled
7 in Section 13, in your opinion the risk does exceed this 200
8 percent risk factor the Commission uses?

9 A. No, I don't think it exceeds 200 per-
10 cent.

11 Q But it's of such a risk that Supron has
12 elected not to drill it.

13 A. That's our interpretation of the reser-
14 voir.

15 Q Okay. Tell me something about your
16 location. When you went to the USGS to approve this location,
17 did you talk about any alternative location other than the
18 one that's depicted on Exhibit Number Four?

19 A. Yes, we did.

20 Q Was there any other alternate location
21 within the 3900-foot contour line depicted on Exhibit Number
22 Four?

23 A. The only other alternative would be to
24 move it to the east and that, you know, as far as location
25 to the west, we thought we would be crowding the lease line

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2 to the west, so the only other location alternative would
3 be to move it to the east, which would again put you down-
4 structure and leave additional gas in place.

5 Q All right. Your scale is an inch to
6 2000 feet. It would appear that the southern end of the 2900-
7 foot contour line is about 11 or 1200 feet from the north
8 side of Section 13. Is that a fair approximation of the dis-
9 tance?

10 A That draw runs in a north -- in the
11 northwest/southeast direction there, so we had to move sig-
12 nificantly to the south to avoid that draw.

13 Q All right. If you moved the 11 or 1200
14 feet to the south, would you still be in the draw?

15 A We felt that there was no way that we --
16 that we could stay out of the draw and stay --

17 Q Within that 13 -- no, the 3900-foot
18 contour line?

19 Do you have a copy of any topographical
20 map that might aid us in showing where that draw crosses
21 Section 13?

22 A I do not.

23 Q Except for the discussion about this
24 location, Mr. Boots, your testimony is essentially the same
25 as that testimony you gave before the Examiner of the Division

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2 back in October, is it not?

3 A. That's correct.

4 Q Now, when you talk about gas in place,
5 what you've simply done is taken Supron Exhibit Number Four,
6 used the area identified for you by the geologist, and made
7 a calculation as to the gas in place.

8 A. That's correct.

9 Q All right, sir. And likewise, Mr. Boots,
10 if I gave you a copy of Uriah's structure map on the Cisco,
11 Exhibit Number Six, and asked you to make a similar calculation,
12 you could come up with the gas in place based upon that
13 structure map?

14 A. That's correct.

15 Q All right, sir. Are the -- is the information available to you, Mr. Boots, so that you could
16 determine from decline in pressure, based upon production,
17 the actual amount of gas in place in this reservoir?

18 A. No. That can't be done by that calculation because that's a pressure decline and so it would indicate
19 that the reserves are infinite, but that is not --
20 that's an approach that you can't use under a water drive
21 mechanism.

22 Q So the next best thing you can do is
23 take whatever information the geologist gives you and make
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25

1
2 the calculation to determine given quantity of gas as pro-
3 jected from his -- the geologist's information.

4 A. That's correct.

5 MR. KELLAHIN: That concludes our exam-
6 ination of Mr. Boots. Thank you.

7
8 CROSS EXAMINATION

9 BY MR. RAMEY:

10 Q Mr. Boots, it seems like we have two
11 problems here. One is, you know, maximum recovery of gas,
12 which it appears that a well located at this 95 feet from
13 the north line is fine, but what, you know, you do have prove
14 that each proration unit is productive.

15 A. Uh-huh.

16 Q And how much -- how much deviation
17 would you need to -- for the bottom of that well to move off
18 the lease, if it deviated to the north?

19 A. If it deviated to the north, you'd only
20 need 95. that's a very small degree of deviation, drilling
21 deviation, and it may be necessary to directionally control
22 that bottom hole location. This drilling, the comment has
23 been made that the drilling in the upper section is very
24 difficult, often loss of circulation, to get that -- those
25 lost circulation zones taken care of behind pipe. We recog-

1
2 nize that directional control will possibly be necessary to
3 control and make sure that that well stays within the -- that
4 lease.

5 Q Would, say you started deviating one
6 degree at 1000 feet, would that be enough to move that --

7 A Yes.

8 Q -- off the tract?

9 A It probably would.

10 Of course, it would depend. We'd run
11 surveys to see which direction that one degree -- one degree
12 to the north would probably move that bottom hole location
13 off of the --

14 Q So Supron would be willing if this loca-
15 tion were approved, to insure that the well is located on
16 this particular 320-acre tract.

17 A Surely.

18 Q Do you have any pressure information
19 on the No. 2 Well?

20 A I don't have any of that with me, sir.

21 Q Are the pressures remaining constant?

22 A Approximately. We're using wellhead
23 shut-in pressures when we collect them, and then they're
24 within actually of the gauges to say that it appears to be
25 remaining constant.

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2 Q So essentially your wellhead pressure,
3 shut-in wellhead pressure is essentially the same now as it
4 was upon completion, so you think you have a good, active
5 water drive reservoir.

6 MR. RAMEY: Any other questions of the
7 witness?

8 I would request that, you know, you
9 furnish us some kind of a map and also letters from the USGS
10 and BLM saying that it was necessary to move this well --

11 A Okay.

12 MR. RAMEY: -- to this location. I
13 still get awfully antsy about wells this close to the line.

14 Some of the USGS and BLM's reasons for
15 moving wells do not strike a good note with me, particularly.

16 A Well, in this location there was ob-
17 vious drainage problems where we had the well staked, and
18 I'll get a --

19 MR. RAMEY: Every place is a drainage
20 area. You know, we -- we drilled wells for years in drain-
21 age areas, but now there's undue problems.

22 We may be getting to the place where we
23 can't -- where we can't drill wells unless something happens,
24 but that's not the matter of this hearing.

25 You may be excused.

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2 Call your next witness, Mr. Carr.

3 MR. CARR: At this time we'd like to
4 call Terry Abernathy and take a minute and put some exhibits
5 on the wall. I think it would be easier to work with them,
6 perhaps.

7 MR. RAMEY: All right.

8
9 TERRY ABERNATHY

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

12
13 DIRECT EXAMINATION

14 BY MR. CARR:

15 Q Will you state your name and place of
16 residence?

17 A My name is Terry Abernathy and I live
18 at Plano, Texas.

19 Q Mr. Abernathy, by whom are you employed
20 and in what capacity?

21 A I'm employed by Supron Energy Corpora-
22 tion in Dallas. I'm a Senior Geophysicist for the west
23 Texas -Midcontinent Division.

24 Q Have you previously testified before
25 this Commission?

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A. No, sir.

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Q Would you briefly summarize your educational background and your work experience?

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A. In 1974 I graduated with honors from Southeast Missouri State University, Bachelor of Science degree, with a major in geology and a minor in mathematics.

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After graduation I was employed by a major oil company, received a year's training in geophysics in Tulsa, Oklahoma. Then I was transferred to Midland, Texas, where I spent the better part of the next six years working for a major oil company and independent oil company as a geophysicist.

14

15

And then in May of 1981 I moved to Dallas and went to work for Supron.

16

17

Q Do your duties with Supron include making recommendations to your company?

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A. Yes, sir, they do.

Q

And what do these recommendations include?

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A. I'm responsibility for seismic data acquisition in the field, quality control with processing that seismic data, and I'm responsible, also, for interpretation of that data, the mapping of it, the recommendation to management of the results and for further action.

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2 Q Are your recommendations used in making
3 decisions concerning the drilling of wells?

4 A Yes, sir, they are.

5 Q Is it also used in conjunction with
6 making decisions as to the acquisition of property?

7 A Yes, sir, they are.

8 Q Are you familiar with the general area
9 governed by these two applications?

10 A Yes, sir.

11 Q And are you familiar with what is being
12 sought in this case by Uriah and by Supron?

13 A Yes, sir.

14 MR. CARR: Are the witness' qualifica-
15 tions acceptable?

16 MR. RAMEY: Yes, they are.

17 Q Now, you are going to be testifying as
18 to certain seismic data, is that correct?

19 A That's correct.

20 Q Has all proprietary data that Supron
21 has that you will be relying on in testifying been made
22 available to Uriah?

23 A All proprietary data has been made
24 available, yes. All proprietary data has been made avail-
25 able to Uriah.

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Q Were you involved in the acquisition of this data?

A Yes, sir.

Q How were you involved?

A I was in the field at the time that the data was being acquired. I went out to set up the field ground crews who did extensive experimentation to devise a set of parameters that would be congenial to acquiring the data, and then I was there during initial shooting of the production data.

And I also quality controlled the processing of that data.

Q What were you directed by Supron to do when you got this assignment?

A I was directed to go to the field, establish the best set of seismic parameters to obtain the best possible data in this area.

Q And when was this done?

A It was done in June of 1981.

Q Now there are a number of exhibits on the board, and I would ask you to refer Exhibit Number Seven, which is the first exhibit on the wall, and first I'd ask you to identify this and explain what it shows.

A Exhibit Number Seven is a Strawn-Atoka

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A. Yes, sir.

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A. Exhibit Number Seven is a Strawn-Atoka

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depth map. It's contoured on a 100-foot contour interval. The datum is sea level. The scale is one inch equals 2000 feet.

The legend, the red circles denote information given to me by the geologist of the Atoka tops and recommended Atoka tops.

This map is contoured on the subsea and integrates both the seismic data, which are also subsea data points, and the geologic data the contour map forms.

The map shows that the south half of Section 12 and the north half of Section 13 are located on a Strawn-Atoka structural high.

It also shows that we've gained structural advantage in the north half of 13 and the south half of Section 12 to the Southern Union No. 1 Shelby, the Southern Union No. 1 Shelby, the Cisco producing well.

It also shows that the south half of Section 13 is structurally low, down dip to the structural high.

It also shows that the south half of Section 13 is structurally low to the dry hole in Section 13.

Q. Now, Mr. Abernathy, this is a structure map prepared using seismic and general geological data.

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2 A. That's correct, sir. BEST AVAILABLE COPY

3 Q. This is the conclusion that you reached,
4 is that correct?

5 A. Yes, that's correct.

6 Q. And you now have some exhibits which
7 are going to -- are designed to show how you reached your
8 conclusion on working with the seismic data.

9 A. Yes, sir.

10 Q. Will you now refer to Exhibit Number
11 Eight and identify this for us, please?

12 A. Exhibit Number Eight is a Strawn-Atoka
13 seismic time map. The map is contoured in 10 milliseconds
14 at .01 seconds. The scale is one to 2000, the same as the
15 previous map, and it's hung from a floating datum.

16 Q. Now, let's back up a minute. What is
17 a time map?

18 A. A seismic time map, seismic times are
19 the reflection times taken for the time it takes a seismic
20 sound wave generated at the surface from some source, in this
21 case vibrasized , to propagate through the subsurface down
22 to a particular geologic event and reflect back up to the
23 surface again and receive it on the surface.

24 Q. So this just the map which shows how
25 long it takes that sound wave to go from the vibrator, or

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whatever it is, to the formation and back to the surface.

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A. That's correct.

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Q. Now, you indicated that you had used a floating datum. Would you explain that, please?

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A. A floating datum is a datum that's computed by the computer during the normal course of the seismic processing. It's generally below the surface and the reason for it is that it supplies a nice, uniform surface to hang the datum from. It helps to eliminate problems like creeps (sic) and caverns in the surface area. It eliminates problems caused by those.

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Q. It eliminates topographical --

A. That's correct.

Q.

-- matters which would distort your data?

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A. That's correct.

Q.

Now, would you explain to the Commission what this exhibit shows?

A.

Okay. This exhibit shows -- by the way, in the legend the yellow circles are again the Atoka tests. The square, orange square there is the sonic log that was used in the seismic interpretation.

A time structure map on the Strawn-Atoka event shows the time structure. The time structure located

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2 in the south half of Section 12, the north half of Section
3 13, shows us to be time structurally high to the Southern
4 Union No. 4 Shelby, which is the Cisco producer.

5 It shows the south half of Section 13
6 to be time structurally low to a formation high up here.

7 It also shows the south half of Section
8 13 to be time structurally low to the dry hole, the Southern
9 Union NO. 1 Shelby.

10 Q Now, Mr. Abernathy, I would like you to
11 now move on to Exhibit Number Nine, and I'd ask you to ident-
12 ify this for us.

13 A Exhibit Number Nine is a 24-fold CDP
14 seismic line. It's a vertical seismic profile of reflection
15 times in the subsurface along the traverse of the line. The
16 line itself, this line here that runs through the Southern
17 Union No. 1 Shelby, across the north half of Section 13, and
18 on to the northwest.

19 Q All right, Mr. Abernathy, is Exhibit
20 Nine what you get, or what you got, when you ran your north-
21 west/southeast seismic line?

22 A That is correct.

23 Q All right. Now will you explain what
24 the exhibit shows?

25 A The exhibit itself, the seismic times

1
2 are denoted on the side here, along the side here. Shot
3 points are noted across the top. This corresponds with the
4 shot points that are on the map.

5 The floating datum is recorded up here,
6 both specifically down here and also graphically up here.

7 The yellow event is the Strawn-Atoka
8 marker that was used in making this map.

9 Q Now, how do you know that that is the
10 Strawn-Atoka marker? That's where the two lithologic units
11 come together, is that correct?

12 A That's correct. The white and the
13 black areas denote the contact between different lithologic
14 units in the subsurface. We know this is the Strawn-Atoka
15 marker by the fact that this is a synthetic seismogram, which
16 was generated from a sonic log in the Southern Union No. 1
17 Shelby, and that sonic log, or synthetic model, is plugged
18 into the seismic section and aids in the identification of
19 that event.

20 It also aids in identification of other
21 events. For example, Cisco Canyon is right here. That is the
22 intermittent green marker across the traverse of the seismic
23 section.

24 Q Okay, let's go to Exhibit Number Ten
25 and I'd ask you to explain what that is and then we'll come

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1 back to Exhibit Number Nine.

2
3 A. Exhibit Number Ten is the sonic log
4 taken from the Shelby -- Southern Union No. 1 Shelby. That
5 is displayed on the right here with the various geologic tops
6 so noted.

7 This log is put in a computer and multi-
8 plied times the seismic wavelet. And these various synthetic
9 models are generated on a stripe at the left of the section.
10 This wavelet right here is the same wavelet that was used on
11 both of these seismic sections, and this model right here
12 is the same as this one right here.

13 Q. Now, the model, when you say "right here"
14 the model on the left on Exhibit Number Ten is the same model
15 that is superimposed over Exhibit Number Nine?

16 A. That's correct.

17 Q. Is that correct?

18 A. These models are displayed in the
19 floating datum horizon so that all you have to do is to over-
20 lay them on the seismic line and adjust them, and identify
21 them in.

22 Q. Now, Mr. Abernathy, let me be sure I
23 understand it.

24 You go to Exhibit Number Ten and you
25 take the sonic log, which is the second squiggle from the

1 right, and you run this through a computer --

2 A. Yes, sir.

3 Q. -- and it converts the log into the same
4 sort of information or reading that you get when you do
5 your seismic profile.

6 A. That's correct.

7 Q. You can tell from the log where the
8 Strawn and Atoka meet.

9 A. That's correct. All you have to do is
10 draw a straight line through the log, through the events,
11 and where it intersects with your model is further identifi-
12 cation of the units.

13 Q. Then you take that model and you put it
14 over your profile.

15 A. That's correct.

16 Q. And you can tell on your model where the
17 Atoka-Strawn interface is and so you therefor know where to
18 start in mapping.

19 A. That's correct.

20 Q. Now, the yellow line on Exhibit Number
21 Nine --

22 A. The yellow --

23 Q. Yeah, what is that again?

24 A. The yellow line is the Strawn-Atoka
25

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1 interface across the seismic profile.

2 Q Why did you map the Strawn-Atoka inter-
3 face instead of the Cisco?

4 A We mapped that because as noted on the
5 model it is a very poor event taken from the synthetic model.
6 Indeed, that's what we see in nature.

7 Q The Cisco is a poor event?

8 A That's correct, when we ran the seismic
9 line, as you can see, trying to correlate through there, in-
10 deed it is a very bad event, and that's the reason that we
11 went to the nearest structural marker, which is the Strawn-
12 Atoka.

13 Q Now, what is the purpose of Exhibits
14 Nine and Ten? They don't cross the southwest portion of
15 Section 13, southwest quarter.

16 A That's correct.

17 Q And what do -- why do you start with
18 these? What was the purpose of preparing Exhibits Nine and
19 Ten?

20 A Okay. Exhibit Number Nine, the seismic
21 line here, we start from the known, which is this sonic log.
22 We do our known first, this line, then we come back in and
23 tie in the next seismic line back into our known. You're
24 always working from a known.
25

1
2 Q So the purpose of the first two exhibits
3 was merely to establish where this interface is.

4 A That's correct.

5 Q Now, I believe you heard Mr. Boundy's
6 testimony this morning and the seismic profiles that he of-
7 fered that were prepared by Mr. Holstrum.

8 A Yes, sir.

9 Q Have you reviewed those?

10 A Yes, sir.

11 Q I believe you'll recall that he testified
12 that the yellow line represented the Cisco.

13 A Yes, sir.

14 Q Would you comment on that, please?

15 A Based on our information from the sonic
16 log, which is scientifically determined information, that
17 cannot be the Cisco marker.

18 Q What would you -- what marker do you
19 believe that is?

20 A That is -- based on our information
21 that is the Strawn-Atoka interface.

22 Q Now, what effect on all subsequent
23 seismic interpretations would this have?

24 A Quite simply, if you start out with the
25 wrong known, all the conclusions made from that known should

1
2 be erroneous.

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3 Q I'd now like you to refer to what has
4 been marked as Exhibit Number Eleven and identify this, please.

5 A Exhibit Number Eleven is seismic line
6 number one, a vertical seismic profile, showing the subsurface
7 structure along the transverse of that line that is this
8 northeast/southwest running line, which runs through the
9 Southern Union No. 4 Shelby, the proposed location, through
10 the southwest corner of Section 13 and slightly going to the
11 south.

12 Q And what does this show?

13 A The main tops in the section. This is
14 the Southern Union No. 4 Shelby here.

15 Q Which is the red line in the center?

16 A That's correct. You know, that's where
17 it's clocked into the seismic section.

18 This is the Southern Union No. 2 Shelby,
19 which is a Cisco producer.

20 This is the proposed location.

21 The area in question as to the southern
22 part of Section 13 is in here.

23 Q In --

24 A Excuse me. It's on the south end of
25 the section.

Q. Now I'd like you to move on to Exhibit Number Twelve and ask you first to identify this.

Q. Now I'd like you to slowly go through this exhibit and explain what it shows.

Since we know what the time is in any given well from the seismic section, and we know what the depth is, that's supplied by the geologist, we can determine what the velocity is in any one of those wells at that particular time.

And then that value -- those values can be contoured, as I've shown here. The velocity gradient is

1
2 any faster towards the platform, which is normal for this
3 area. The velocity gradient is slowing towards the base, as
4 you know.

5 Now, since we have done that, we can re-
6 do that algebraic formula and say that the depth of any given
7 point is simply a function of the velocity at that point times
8 the time.

9 Since we already know again had a known
10 time at each one of those shot points, we can pick a velocity
11 value from this gradient and multiply the two together and
12 come up with a depth point at each shot point from the seismic
13 data.

14 It's simply a matter of getting the sub-
15 sea depth, the seismic data was always plus, plus values
16 above the subsea -- above sea level, you simply subtract that
17 out and arrive at a subsea depth, which is equivalent to the
18 subsea depths that are reported by the geologists on the
19 logs.

20 Q So what you've done is you've determined
21 the velocity and then by using the velocity you've been able
22 to determine actual depths at each of the shot points, is
23 that correct?

24 A That's correct. Yes, sir.

25 Q Now you have used certain data in pre-

1
2 paring this which was supplied by the geologist.

3 A. That's correct.

4 Q Did you also see the geological inter-
5 pretation of this area submitted this morning by Uriah?

6 A. Yes, sir.

7 Q Had you been presented with that geolo-
8 gical data, would it have changed this interpretation in any
9 meaningful way?

10 A. No, sir, because the velocity values
11 and my map would have stayed the same.

12 Q Now, if I understand it gith, what this
13 is, this is a vehicle to enable you to get from your time
14 map to a structure map.

15 A. That is correct.

16 Q You take your time, you work with velo-
17 city, and then you get actual depth from which you construct
18 the structure map.

19 A. That is correct.

20 Q All right. Now, I'd like you to go
21 back to your structure map, which is Exhibit Seven, and --

22 A. Before --

23 Q -- Go ahead.

24 A. Before I start, this method of arriving
25 at this map is the norm for the Permian Basin. It's a method

1 that's used by geophysicists all over the Permian Basin.
2 It's a method I've used for the past eight years; it's been
3 around for a lot longer than that.
4

5 It's the means whereby we can take seis-
6 mic data, incorporate it with the well data, and arrive at
7 the most accurate map possible.

8 The Strawn-Atoka depth map is the most
9 accurate map possible because it does do that. It incorporates
10 both the seismic data with the well data.

11 Again, let me reiterate, the structure
12 map shows a Strawn-Atoka structural high located in the south
13 half of Section 12 and the north half of Section 13. It
14 shows that at the proposed location we can gain structural
15 advantage to the Southern Union No. 4 Shelby. It also shows
16 that the south half of Section 13 is structurally down dip
17 of the proposed location, and, indeed, it shows that that
18 south half of Section 13 is structurally down dip from the
19 dry hole in Section 13, the No. 1 Shelby.

20 Q Is the proposed location necessary to
21 take advantage of the structural configuration?

22 A Yes, sir, it is.

23 Q Were Exhibits Seven through Twelve pre-
24 pared by you?

25 A Yes, sir.

1
2 MR. CARR: At this time, Mr. Ramey, we
3 would offer into evidence Supron Exhibits Seven through Twelve.

4 MR. RAMEY: Supron Exhibits Seven through
5 Twelve will be admitted.

6 MR. CARR: I have no further questions
7 on direct.

8 MR. RAMEY: Any questions, Mr. Kellahin?

9 MR. KELLAHIN: I do believe.

10
11 CROSS EXAMINATION

12 BY MR. KELLAHIN:

13 Q Mr. Abernathy, were you the geophysicist
14 that made the interpretations from which Mr. Bahlburg pre-
15 pared his Isopach and structure maps of the Cisco for the
16 hearing in October?

17 A Yes, sir.

18 Q And you have again used, I assume, the
19 same information to assist Mr. Bahlburg in the preparation
20 of his exhibits for use in this hearing today?

21 A Yes, sir.

22 Q Now at the hearing in October Mr. Bahl-
23 burg discussed with us an effect upon his Cisco structure
24 map because of the presence of faulting that occurred towards
25 the southwest side of the Cisco structure. I note that you

1
2 have not talked about faulting in the Cisco. Is that because
3 there is none evident?

4 A. There appears to be no faulting evident
5 in the Cisco horizon.

6 Q Do you see any faulting in this yellow
7 line you've drawn showing the Atoka-Strawn? Is there any
8 faulting there?

9 A. Yes, sir.

10 Q Do you as a geophysicist have an opinion
11 with regards to what degree of error is involved in the work
12 done in this particular project?

13 A. Relative to this area, or in the area?

14 Q No, sir, to this --

15 A. To this area, I believe this is the most
16 reliable picture that can be made given the data that we have,
17 in this particular area.

18 Q Given that reliability, what degree in
19 terms of feet of structure would -- would be within the nor-
20 mal range?

21 A. Normal range of error is generally ac-
22 cepted at plus or minus five mils, which in this particular
23 instance, if I could see my velocity area map, would be on
24 the order of plus or minus 35 feet. That's --

25 Q Plus or minus 5 mils translates into plus

1

2

or minus 35 feet --

3

A. Yes, sir.

4

Q -- of structure?

5

A. Yes, sir, at these given velocities.

6

Q Am I correct in understanding that as

7

you proceed out to the ends of these shot points on the

8

seismic lines that the information becomes less reliable than

9

the information derived towards the center of the shot line?

10

A. It only becomes less reliable where

11

you lose full stack, CDP stack.

12

Q Did you see any of that occurring to-

13

wards the ends of either one of these two seismic lines?

14

A. Not enough to affect data and interpre-

15

tation.

16

Q Would you explain to me what Exhibit

17

Number Twelve is? This is your velocity plot?

18

A. Velocity gradient map.

19

Q Velocity gradient map?

20

A. Yes, sir.

21

Q What is the meaning of the contour line

22

that's identified by 7000 feet/s, what's that?

23

A. That indicates 7000 feet per second

24

that any velocity within that contour should be at least that

25

or perhaps slightly greater.

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And that contour is derived by contouring the given velocity points there that we've determined.

Q Will that velocity contour line correspond to the structure, or correlate to the structure?

A It may. In this instance, it may. That is not always the case.

Q But in this instance there's a direct correlation between that line and the structure outline?

A I wouldn't necessarily call it a direct correlation, but there is a correlation.

Q Can I determine the best part of this Cisco structure by looking at that velocity gradient line?

A No, sir, and the reason for that is that in the formula that determines the depth, velocity has much less influence upon the final depth value than the time does, and that time is taken directly from the seismic section.

Q Can I use Exhibit Number Twelve to determine the extent to which the structure will extend for Cisco into either the northeast quarter of 13 or to the southwest quarter of 13?

A No, sir, for the same reason.

Q Then how do you use the velocity gradient lines here on Twelve and translate them into the structure map for the Cisco?

1

2

A. Okay, back to the formula. The depth

3

at any given shot point is a product of the time at that shot

4

point times the velocity at that shot point.

5

The only thing the velocity gradient is

6

used for is to determine the velocity at any given shot point,

7

which is put in the formula to derive the -- the depth.

8

It is in no way used to determine struc-

9

ture.

10

Q.

Have any of Supron's wells in this area

11

been drilled based upon seismic data?

12

A.

Not to my knowledge, sir.

13

Q.

Okay. Are you aware that the Gulf dry

14

hole in Section 26 was drilled based upon seismic data?

15

A.

Say again, sir.

16

Q.

Section 26, the Gulf well?

17

A.

No, sir, I was not.

18

MR. KELLAHIN: Msy I have a moment,

19

please?

20

MR. RAMEY: Okay.

21

Q.

Mr. Abernathy, I need you to educate

22

me a little bit more here.

23

A.

Okay, if I can.

24

Q.

This velocity gradient map is your in-

25

terpretation as a geophysicist as to what that -- what those

1
2 show and you mapped it out?

3 A. Yeah, I draw it out, just like contouring
4 any other data. It's an attempt to average out the veloci-
5 ties over a given area and using the control that's available.

6 Q Just as a geologist would prepare an
7 Isopach or a structure map, that Exhibit Number Twelve re-
8 presents your interpretation. You have to use your own
9 judgement and best intuitions of the raw data to draw that
10 map.

11 A. That's the only relationship it has to
12 the way a geologist does his work, and that is interpretative
13 to it.

14 Q I've having trouble following your in-
15 terpretation on Exhibit Number Twelve to demonstrate what
16 Mr. Bahlburg has shown us on his Exhibit Number Four, to
17 prove the sharp dip in the structure to the southwest.

18 A. It has no relationship at all.

19 Q Now I understand why I can't follow it.

20 A. Yeah, this tool right here has nothing
21 to do with the structure other than it's part of the variable
22 in the formula; part of the formula that you use to derive
23 these values here. It is not dependent upon structure. The
24 fact of these velocities increasing here, this would tend to
25 suppress structure rather than --

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Q

Well, I thought Mr. Bahlburg told us he used your information that you gave him --

A.

No, sir, he used this map right here. He used the Strawn-Atoka depth map.

Q

All right, did you prepare Exhibit Number Seven using Number Twelve?

A.

Yes, sir.

Q

All right, let's go to Number Seven, then. Tell me how you make Number Seven.

A.

Okay. Number Seven, again, the times are measured at each one of these shot points from the seismic section.

The velocities are picked at each one

of the seismic -- each one of the shot points from the velocity gradient.

These are multiplied together to get a

depth point at each one of those shot points from the floating datum.

Now, we want to convert to sea level,

so we use the Atoka tops in this instance, the structural tops the geologist has provided. We simply take out the floating datum depth and that leaves us with all the values at subsea depth; therefor we can integrate the geophysics with the geology and contour the same values in the same form.

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1
2 Q Okay. I have nothing further, Mr.
3 Abernathy, thank you.

4 A Yes, sir.

MR. RAMEY: Anyone have any more?

6 MR. ARNOLD: I'd like to ask one ques-
7 tion about the velocity you're speaking of there.

8

9

CROSS EXAMINATION

10 BY MR. ARNOLD:

11 Q The velocity through what?

12 A Through the earth.

13 Q From the top down to the --

14 A Down to any particular geologic event,
15 and back.

16 Q You mean at any particular geographic
17 spot on the map you get a certain velocity from the surface
18 down to the bottom?

19 A That is correct, it's variable; it's
20 not constant.

21 Q And you can get that kind of resolution
22 so you can contour it?

23 A Yes, sir. Obviously the more data points
24 you have, the better your -- your contouring ability.

25 In this instance here the area in ques-

tion is surrounded by wells from which velocity points are calculated.

So control here is quite significant on the velocity gradient.

MR. RAMEY: Any other questions of Mr. Abernathy? He may be excused.

A. Thank you, sir.

Mr. Carr, at this time you may call your next witness.

MR. CARR: At this time I would call Mr. Marvin A. Gibson.

MARVIN A. GIBSON.
being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your name and place of residence?

A. My name is Marvin Gibson, and I live in Midland, Texas.

Q. Mr. Gibson, by whom are you employed and in what capacity?

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A. I'm a geophysical consultant and I've been retained by Supron to make an interpretation of the McKittrick Hills prospect in Eddy County, New Mexico.

Q Have you previously testified before this Commission?

A. No, sir, I have not.

Q Would you summarize your educational background and your work experience?

A. I have a degree in geology; however, I have spent the last thirty-one years in the geophysical business.

Practically all of my professional career has been in geophysics. I've worked ten years with a seismic contractor. I've worked three and a half years with Lone Star Producing Company. I worked sixteen years with Texas Pacific Oil Company. I've worked the last year and a half as a consultant.

And the last twelve years of my experience has been in the Permian Basin area of Texas and New Mexico.

Q Are you familiar with the subject area?

A. Yes, I am.

Q Are you familiar with what is being sought in this case both by Uriah and by Supron?

A. Yes, I am.

1
2 MR. CARR: We tender Mr. Gibson as an
3 expert witness and geophysicist.

4 MR. RAMEY: He is so qualified.

5 Q Mr. Gibson, when were you employed by
6 Supron?

7 A In early December, 1981.

8 Q And what were you asked to do?

9 A I received instructions from Supron to
10 make an Atoka map in the McKittrick Hills prospect, Eddy
11 County, New Mexico.

12 Q Now what data were you given?

13 A I was given the base maps, which show
14 the location of the seismic lines. I was furnished the geo-
15 logic tops for the existing wells in the area, and I was
16 furnished the synthetic seismogram.

17 Q When you say synthetic seismogram, are
18 you talking about the profiles we have of the two seismic
19 lines?

20 A No, I'm talking about the synthetic
21 seismogram.

22 Q That is Exhibit Number Ten, the small
23 sheet?

24 A The small sheet.

25 Q Were you given any data from any of the

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geologists that would show their interpretation or their contours as they overlie Sections 12 and 13?

A. I was not.

Q. Did you, following the conclusion of your study, make any recommendation to Supron?

A. No, I didn't make any recommendation because I didn't know at that time what the purpose was in making this interpretation.

Q. Did you have any idea what acreage was owned in the area by Supron when you made your study?

A. I had no idea what the acreage position was.

Q. Now, was the data provided to you of satisfactory quality to enable you to reach what you considered to be a reliable conclusion?

A. It was. I was furnished those two seismic record sections.

Q. Is it a common practice in your business to receive seismic raw data that has been accumulated by other individuals?

A. Yes, it is.

Q. Would you now refer to what has been marked for identification as Exhibit Number Thirteen, identify this and explain what it shows?

1

2

A. Exhibit Thirteen --

3

Q. Just a second, please.

4

Okay, go ahead, Mr. Gibson.

5

A. Exhibit Thirteen is a map showing structural control for the Atoka formation in the McKittrick Hills prospect area, Eddy County, New Mexico.

6

7

8

As I stated before, I had use of those two record sections, which you see on the wall, and this map is derived from those two record sections.

9

10

11

This is my interpretation. I show a structural feature that's centering here in the southwest section -- southwest quarter of Section 12 and the northwest quarter of Section 13.

12

13

14

15

I also show that the crest of this structural feature, as I have mapped it, is high to the producing well in Section 12; is high to the Southern Union Shelby Federal Well in Section 13.

16

17

18

19

As a matter of fact, my interpretation shows that the area between shot points 155 and 160 is the crest of this particular structure feature.

20

21

22

This map is contoured using 50-foot contour intervals and it's on a scale of one inch equal to 2000 feet.

23

24

25

Q. What conclusions can you reach from

1
2 your study concerning the south half of Section 13?

3 A. The south half of Section 13 is off
4 structure, and in my judgment would be nonproductive at the
5 Strawn-Atoka level.

6 Q. Now, would you briefly describe the pro-
7 cess you went through to reach -- to construct this map?

8 A. Yes. The procedure that I used is very
9 similar to the one that Terry Abernathy has used.

10 I was furnished that particular synthetic
11 seismogram. I can overlay that synthetic seismogram on that
12 record section and I can identify the Strawn-Atoka interface.

13 That gave me the starting point, and
14 from that point on it's just a matter of correlating that
15 event across both of these record sections, and in so doing
16 you also calculate the travel time, the vertical travel time,
17 from the datum plane to the interface and back, and this
18 gives us the travel time.

19 I've also used the same procedure
20 working a gradient map, which Mr. Abernathy used, and I have
21 used that velocity gradient to convert these travel times to
22 a subsea depth. And it's these subsea depths that are
23 posted on this particular map. Then again, our contour is
24 in a 50-foot interval.

25 Q. Are these procedures standard procedures

1
2 used in the Permian Basin?

3 A. They are.

4 Q. Why did you not map the Cisco?

5 A. I didn't map the Cisco because on these
6 record sections the Cisco event was not persistent or consis-
7 tent enough to make a map.

8 Q. How does your interpretation compare with
9 that of Mr. Abernathy?

10 A. As I see, the interpretations are very,
11 very similar, and it compares very favorably.

12 Q. When did you first learn of Supron's
13 ownership interest in the area?

14 A. Yesterday, February 1st, was the first
15 full briefing that I've had under the particular area, and
16 the first time I knew what the full objectives were in ob-
17 taining, or for the work that I've done in this area.

18 Q. Was Exhibit Thirteen prepared by you?

19 A. It was.

20 MR. CARR: At this time we would offer
21 Exhibit Thirteen into evidence.

22 MR. RAMEY: Exhibit Thirteen will be
23 admitted.

24 MR. CARR: I have nothing further of
25 Mr. Abernathy -- or Mr. Gibson.

1 MR. RAMEY: Any questions of Mr. Gibson

2 at this time?

3 MR. KELLAHIN: Yes, sir.

4 CROSS EXAMINATION

5 BY MR. KELLAHIN:

6 Q. Mr. Gibson, does the use of seismic data
7 as has been developed in this area also result in the drilling
8 of an economic well?

9 A. It does not always.

10 Q. Do you have any opinion as to the per-
11 centage of success in drilling economic wells as opposed to
12 dry holes when you use seismic data?

13 A. I could tell you what my average is.

14 Q. Yes, sir, I'd like to hear what your
15 average is.

16 A. My average is 25 percent of having pro-
17 duction in wildcat wells. This doesn't always mean that these
18 wells are economical. The economical rate is something else.

19 Q. Very few wildcats, they're not always economical.

20 A. If I understood correctly, Mr. Gibson,
21 Supron supplied you with the two record sections.

22 Q. Yes.

23 A. Of the two seismic lines, and that you
24
25

1 prepared this Atoka structure map using that information.

2 A. I did.

3 Q. I understood from Mr. Abernathy that he
4 prepared a velocity gradient map --

5 A. Uh-huh.

6 Q. -- as a step in between the two pieces
7 of information. Did you also prepare a velocity gradient
8 map?
9

10 A. Yes.

11 Q. Do you have that with you, sir?

12 A. I do not.

13 Q. Mr. Gibson, let me orient you for a
14 moment on your plat.

15 If you'll take a point in the northeast
16 corner of Section 23 and draw a straight line to the north-
17 east quarter of Section 36, and have that continue north-
18 westward and intersect with this possible fault, using that
19 line to orient you, do you see in your study any evidence of
20 faulting in the Atoka along that line?

21 A. Could I ask you to repeat that, sir?

22 Q. Yes, sir.

23 I'm curious as to what your studies
24 would have shown you for an area from the northeast quarter
25 of 23 through the northeast quarter of 36, drawing a line

1
2 through those two points, extending it on up to this possible
3 fault you've depicted.

4 Now, using that as a reference point,
5 based upon your study do you see any indication of faulting
6 in the Atoka formation?

7
8 (There followed a discussion
9 off the record.)

10
11 A. You're asking me to give just a judgment
12 factor here, and without data in hand there is no way that
13 I can tell you whether a fault would be present there.

14 Q All right, sir, using the data that
15 Supron, and I assume it was Mr. Abernathy, provided for you -

16 A. Uh-huh.

17 Q -- you have made this interpretation of
18 the structure for the Atoka, and using that information, you
19 don't see any indication of a fault as I have drawn this red
20 line on this exhibit?

21 A. Sir, I can't tell you that there would
22 be faulting there. The only thing that I can tell you, that
23 on the southwest end of that particular line the data is
24 deteriorating. Whether it's due to lack of control, or
25 whether it's due to faulting, or whether it's due to some

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other subsurface, I can't tell you. I don't know.

Q Okay. That line approximately intersects shot point 185, just in the east of the northeast quarter of Section 23. Do you see that shot point?

A Uh-huh.

Q To have you help me understand what you've just said, at what point in the shot line does the data deteriorate to an extent that it's unreliable?

A The last point that I have on this map is a shot point 180, so I'd have to assume that that's the last point that I can reliably make.

MR. KELLAHIN: Thank you, Mr. Gibson, I have nothing further.

CROSS EXAMINATION

BY MR. RAMEY:

Q Mr. Gibson, I think you said that the crest of the structure was between shot point 155 and 160?

A Yes, sir.

Q But yet you show a -5250 contour line as your structural high.

A Yes. I'll -- I'll stand corrected on that, sir. The -- what I should have said was that this depicts the top or the -- near my top closing contour for this

1 area.

2
3 Q It does not necessarily -- the structural high would probably be up in the southwest quarter of
4 Section 12, according to your map.

5
6 A According to my map the highest point
7 would be in Section 12.

8 Q Okay, and that -- and those points 155
9 and 160 are on your northerly line of shot points and not
10 on the westerly line of shot points.

11 A They are on the northerly, yes.

12 Q Thank you.

13 MR. RAMEY: Any other questions of Mr.
14 Gibson? He may be excused.

15 MR. CARR: At this time we would recall
16 Mr. Bahlburg.

17
18 BILL BAHLBURG (RECALLED)

19 being recalled as a witness and being previously sworn,
20 testified as follows, to-wit:

21
22 REDIRECT EXAMINATION

23 BY MR. CARR:

24 Q Mr. Bahlburg, first I would like to
25 direct your attention to Exhibit Number Four, and I would ask

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you to explain how you used the geophysical data in preparing your structure map.

A. Okay. Once again, of course, the paramount control is the subsurface data, and as stated earlier, there is significant amount of subsurface data in the area.

And what I did is first I formed a structural foundation on which to build my reef, which I have established through an Isopach analysis. And by the way, the Isopach analysis in contrast to what has been stated, was not related to the seismic analysis at all. It has absolutely no association.

I did use the structural foundation provided to me by the seismic; built the Cisco reef itself, the Isopach thick, on top of that structural foundation, oriented it in space, and then when I went up and knocked the top of the Cisco through that integration, I could get an accurate determination of what the Cisco looked like.

And I did that, as you can see, primarily in the vicinity of where we had the seismic control and the subsurface control, and of course, in the vicinity of the production and our acreage.

I've also noted that the Isopach map itself justifies much of the dip shown to the southwest on the top Cisco structure map.

1
2 So, in other words, not only did the
3 seismic influence the top Cisco structure, but the Isopach
4 analysis influenced it, as well, and so I just took two other
5 evidences, rather than just straight subsurface tops and
6 tried to contour the data intelligently.

7 And this was the result and, once again,
8 I will say it is biased by the Isopach analysis and it is
9 biased by the seismic, but it also incorporates the well
10 control.

11 I would like to make another statement
12 regarding these exhibits, and especially the Exhibit Number
13 Two that was presented by Uriah, that Supron presented in
14 the October hearing.

15 There's been constant reference made to
16 this exhibit as showing faulting on the Cisco. That is not
17 a Cisco map. That is an Atoka map, and I believe both the
18 geophysical interpretations shown today demonstrate the pos-
19 sibility of faulting in the vicinity that I put it.

20 Once again I admit I used at that parti-
21 cular time the geophysical evidence to put faults in. I
22 didn't know whether they were there or not. I have already
23 stated that if they are there, they are virtually insigni-
24 ficant. They've been overplayed in this case as to account
25

1
2 for dip in the Cisco when they have absolutely no bearing.
3 I think that that can be pointed out on this cross section
4 here.

5 As you see, the relationship of this
6 seemingly insignificant fault to the structural and/or strat-
7 igraphic dip evidenced in the Cisco. So the reasoning that
8 the fault had somehow affected my interpretation on the re-
9 servoir horizon are completely irrelevant and have absolutely
10 no bearing.

11 I've also put the faults on the top Cisco,
12 the top Atoka Isopach map, and you can see I've dashed them
13 in. Once again, it was part of the information used; how-
14 ever, I do not feel that it affected any of the interval,
15 thickness in the interval from the Atoka up to the Cisco
16 Canyon.

17 I'm not sure whether or not it cut the
18 face of that interval. In prior testimony on this map, I
19 thought that it might. And what I mean by that, is that it
20 may have broken the very base of that interval. Even if it
21 had, it still would have no significance on the structure
22 and/or the Isopach interpretation above that zone.

23 Q Now, Mr. Bahlburg, having reviewed the
24 well control and also the seismic data, in your opinion was
25 there any reason for you then to evaluate the data that could

be obtained from the Gulf Well in Section 26?

A. Certainly not.

Q. How often -- excuse me.

A. It was too far removed from the -- the area in question.

Q. How often do you use geophysical data in making your interpretations?

A. Geophysical data is used approximately 95 percent of the time in drilling of wells within Supron Energy Corporation, and my past experience with another company it was used even more.

You have to realize that geophysical data used in conjunction with well control is an aide in interpretation. By itself out in wildcat country with no well control to help calibrate the data, certainly it's a much more -- much more risky venture.

But in this particular case there has been enumerable calibration through well control, that's been stated before, that there are a great number of wells in the area and we have incorporated all those wells into the geophysical interpretation.

And as far as the structural interpretation on which I based my maps, geophysical interpretation of the structure on the Atoka, all the Atoka tops, which are

1
2 subsurface well tops, have been incorporated into this, and
3 so the geophysical information, I think, in this instance
4 has -- has helped in delineating the actual shape of the
5 structure and the position of it.

6 I might also add something that wasn't
7 brought out, but I'm going to bring it out, I hope it doesn't
8 confuse the issue, is that this particular map here, this
9 velocity gradient, there was a lot of noise being played as
10 to the relationship between these two, and I think I can best
11 explain that. That velocity anomaly is created because there
12 is increasing velocity on top of the McKittrick Hills struc-
13 ture. That's because there was a generative relationship
14 between the reef build-up or location and deep seated struc-
15 ture, and so in other words, as you move into the reef, as
16 this cross section demonstrates, if you took an interval here
17 and say this limestone in there is high velocity and this is
18 low, the proportionality between the high versus low velo-
19 city increases towards the reef, thereby increasing the velo-
20 city within the interval, and therefor, this particular con-
21 figuration is really suggestive of that and that by itself
22 would be exploration tools.

23 If you -- if you saw the anomaly, you
24 could infer, possibly, a build-up, if you follow what I'm
25 saying.

1
2 So -- and it has already been stated that this
3 does not enhance our structural position relative to the
4 south half of Section 13, but rather suppresses it.

5 Q Now, Mr. Bahlburg, do you want to take
6 your seat, please?

7 In your opinion what effect would granting
8 the application of Uriah to force pool the west half of Sec-
9 tion 13 have on the correlative rights of Supron?

10 A I believe that would impair our corre-
11 lative rights and it would force us to lose production that
12 I feel is ours, and also include nonproduction -- nonproductive
13 acreage in the southwest quarter into a producing unit.

14 Q Now I believe you heard Uriah's testi-
15 mony this morning in which they requested the assessment of
16 a 200 percent risk penalty. Do you believe that that's an
17 appropriate penalty?

18 A I do not.

19 Q And why?

20 A I think that, sure, everything has risk.
21 When we're offsetting a well which -- with a lot of knowns,
22 we've got substantial subsurface and seismic control, and I
23 think anyone would agree that this is one of the less risky
24 wells to drill.

25 Q And you're talking in terms of the Cisco.

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A. In terms of the Cisco reservoir.

Now, the Morrow - Atoka, we feel that it is riskier and therefor don't intend to drill to it.

But as far as the Cisco is concerned, there is some degree of risk here, but I feel that it's reasonably minor.

Q. Would granting the application of Uriah and the drilling of a well in a standard location in the west half of Section 13 prevent waste?

A. No.

Q. Why not?

A. Well, it would leave -- it would not, first of all, be maximizing structural position on top of the Cisco reservoir, and therefor would result in waste of unproduced reserves in a crestal position.

Q. In your opinion would granting Supron's proposed location impair the correlative rights of any interest owner in the pool?

A. No, it would not.

Q. Why not?

A. Because Supron owns both the lease in the south half -- or at least the rights in the Cisco, leasing rights in the Cisco on the south half of 12 and the north half of 13, and therefor, excuse me, we'd be encroaching

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1
2 upon ourselves.

3 Q In your opinion will approval of Supron's
4 proposal prevent waste?

5 A Pardon me?

6 Q Will approval of Supron's proposal pre-
7 vent waste?

8 A Yes.

9 Q And why is that?

10 A For the identical reasons I just gave
11 you.

12 It would -- it would allow us to maximize
13 structural position and therefor effectively drain the re-
14 servoir, leaving minimal waste.

15 MR. CARR: I have nothing further of
16 Mr. Bahlburg.

17 MR. KELLAHIN: I have nothing.

18 MR. RAMEY: So you're saying, Mr. Bahl-
19 burg, if you get on top of the structure, you're going to
20 recover, particularly in a water drive, the most --

21 A Yes, sir.

22 MR. RAMEY: -- product from the pool?

23 A Yes, sir.

24 MR. RAMEY: Any other questions of Mr.
25 Bahlburg? He may be excused.

1 MR. CARR: That concludes our case.

2 MR. RAMEY: Mr. Adams, do you want to --

3 MR. ADAMS: Yes, sir.

4
5
6 (Thereupon a short recess
7 was taken.)

8
9 MR. RAMEY: The hearing will come to
10 order.

11 MR. ADAMS: I represent Southern Union
12 Exploration Company, that owns a 19.5 percent working in-
13 terest in the north half of Section 13, Township 22 South,
14 Range 24 East, and a 14.625 percent working interest from the
15 surface to 8075 feet in the south half of Section 12, Town-
16 ship 22 South, Range 24 East.

17 We plan to call only one witness, Max
18 Judy.

19
20 MAX JUDY

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

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DIRECT EXAMINATION

BY MR. ADAMS:

Q. Mr. Judy, would you state for the record your name and place of residence?

A. My name is Max Judy and I live in Argyle, Texas.

Q. By whom are you employed and in what capacity?

A. I'm employed by Southern Union Exploration Company in the capacity of a geophysicist.

Q. Have you testified before -- in front of the New Mexico Oil Conservation Commission?

A. No, sir.

Q. Would you briefly outline your education and work experience?

A. I graduated from Ohio State University in 1949 with a Bachelor of Science degree in geology.

We went to work for the old Atlantic Refining Company of a field seismograph crew for two years.

In 1951 I went to work for Sun Oil Company. I was with them for twenty-seven years. I retired from them in 1977.

I then was an independent geophysical consultant for four years. I worked for Sun Oil Company. I

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worked for Placid Oil Company, Sun, Placid, and two years with Occidental Petroleum Company in Bakersfield, California.

Q What -- I wanted you to --

A Then middle of July I went to work for Southern Union Exploration Company, with whom I'm presently employed.

Q As a geophysicist what type of recommendations are you used to making to management?

A The recommendations that I'm asked to do is to review submittals and evaluate the seismic information that they're based on, if they're based on seismic, used to determine if land should be acquired, based upon the available seismic information, and whether a well should be drilled on acreage based upon seismic information.

Q In your experience does management customarily pay attention to what you and other geophysicists recommend?

A With the time that I've been with Southern Union, I don't -- to my knowledge they have not accepted any recommendations I made if it was based on seismic, and in the past, yes, it was very important to them even in drilling development wells as well as in a particular wildcat wells.

Q This morning Mr. Boundy testified that

1
2 in a particular study he made, he found that about 90 percent
3 of the wells drilled were based -- the locations were based
4 in part on seismic evaluations. Is that, do you think, typi-
5 cal of the --

6 A. I think that's so.

7 Q. -- practice?

8 A. I think that there are at least that many
9 wells drilled. Practically all the wildcats are drilled on
10 seismic, and an awful lot of the infill wells, or development
11 wells are located based upon seismic information.

12 Q. With reference to this particular case
13 before the Commission, did you analyze geophysical data and
14 prepare a map based on your analysis?

15 A. I did. I asked Terry Abernathy if he
16 would make available to me the two lines of seismic data that
17 they had in the McKittrick Hills area there in southeastern
18 New Mexico.

19 MR. ADAMS: Are Mr. Judy's qualifications
20 acceptable?

21 MR. RAMEY: Yes, they are.

22 Q. Mr. Judy, when did you first become in-
23 volved in this particular case?

24 A. About the middle of December.

25 Q. What were you asked to do at that time?

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2 A. I was asked to see if I could acquire
3 the seismic data Supron had show in this area since Southern
4 Union controlled acreage here, to make an interpretation to
5 determine Southern Union's actions to be followed.

6 Q Were you able to obtain seismic data?

7 A. Terry made the two lines of seismic data
8 available to me along with the synthetic seismogram.

9 Q When you refer to the two lines of
10 seismic data, would you tell the Commission what you are de-
11 scribing?

12 A. I'm describing line one and two, the
13 large scale seismic sections that are now hanging on the
14 wall.

15 Q All right. I believe they're introduced
16 as Exhibits -- without my glasses I can't tell which ones
17 they are -- Exhibits Nine and Eleven.

18 A. Those are the ones, yes, sir.

19 Q How would you characterize the data shown
20 on those exhibits made available to you?

21 A. I considered the data sufficiently good
22 to make a structural -- time/structural map of the Atoka
23 horizon that would show the structural attitude of the Atoka
24 in this area.

25 Q Were the procedures you used to analyze

1
2 this seismic and geophysical data similar to those used by
3 Mr. Abernathy and Mr. Gibson, as they described earlier today?

4 A. I -- the map I made is a time/structure
5 map. I did not convert it to depths. And mine shows the
6 times right off of those seismic sections and contoured up.

7 I believe that Mr. Abernathy had one
8 similar, but I did not -- I did not make a time -- I did not
9 make a structure map.

10 Q. Up to the point, though, of making the
11 map that you did make, were the procedures used similar to
12 those employed by the other two geophysicists?

13 A. Yes, sir, those procedures employed by
14 the other two are accepted throughout the industry. Every
15 geophysicist uses those very similar techniques, particularly
16 in the Permian Basin of west Texas and southeastern New
17 Mexico.

18 Q. Did you do your work in analyzing this
19 geophysical data independently from Supron or from Mr. Gibson?

20 A. I acquired the data from Terry and I
21 did the interpretation in Southern Union's office in Dallas.

22 Q. How are the results of your work shown?

23 A. I show that the south half --

24 Q. Excuse me, what form -- in what form
25 were the results of your work shown?

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A. I'm not sure I --

3

Q. Well, were they shown on a map?

4

A. Oh, yes. I -- I took the times off the

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seismic section, plotted those times by the shot points, and

6

then I contoured up the time values, and this is called a

7

time/structure map.

8

Q. Is the map that you prepared the map I

9

just distributed labeled SX, for Southern Union, Exhibit One?

10

A. It is.

11

Q. Could you explain briefly to the Com-

12

mission what that map shows?

13

A. This map shows a structural attitude

14

of the Atoka horizon. It -- it shows that the high point,

15

strictly on time from the sections, is located between shot

16

points 155 and 150 and lapping over just a little bit into

17

Section -- 150 and 155 are in the southern half of Section

18

12 and the lapover, or the contour, is coming into Section

19

13, north half of Section 13, shows this to be the highest

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structure.

21

Q. Well, what is the red circle on your

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map?

23

A. The red circle indicates where the pro-

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posed location is to be drilled presently -- presently men-

25

tioned by Supron.

1
2 Q Mr. Judy, what conclusions have you drawn
3 from your seismic and geophysical analysis and the preparation
4 of your map, which is labeled Exhibit One, Southern Union
5 Exhibit One?

6 A My map shows that the north half of 13
7 and the south half of Section 12 are the structural high
8 parts of this area.

9 Q What does your work indicate with re-
10 spect to the southwest quarter of Section 13?

11 A The southwest quarter of Section 13
12 would be low to the dry hole drilled by Southern Union Pro-
13 duction Company.

14 MR. ADAMS: I offer Southern Union Ex-
15 hibit One.

16 MR. RAMEY: Southern Union Exploration
17 Exhibit One will be admitted.

18 Q Mr. Judy, how do your conclusions com-
19 pare with those of the other two geophysicists who you have
20 heard testify, Mr. Abernathy and Mr. Gibson?

21 A I would come to the same recommendations
22 and conclusions.

23 MR. ADAMS: That's all I have.

24 MR. RAMEY: Any questions of Mr. Judy?

25 Mr. Kellahin.

1
2 MR. KELLAHIN: I didn't have any until
3 he answered the last question and I have one now.
4

5 CROSS EXAMINATION

6 BY MR. KELLAHIN:

7 Q Do you have Mr. Gibson's exhibit?
8 This is Mr. Judy?

9 A. Yes, sir.

10 Q Let me ask you a question, sir. You
11 indicated in a response to a question by Mr. McAdams that
12 your conclusions agreed with Mr. Gibson and Mr. Abernathy.

13 Let me show you, sir, Mr. Gibson's
14 structural contour of the Atoka and have you compare it for
15 a minute with your structural contour of the --

16 A. I don't have a structural contour map.

17 Q Well, it says a time/structure on the
18 Atoka.

19 A. That's different. A time map and a
20 structure map are two different maps.

21 Q All right, sir. You have identified a
22 location for what appears to be an indication of a fault
23 going through Section 14 and sweeping in through 24.

24 A. That's right. I interpret a fault be-
25 tween 180 and 185.

Q All right, sir. Using that same information Mr. Gibson has not reached the same conclusion you have with regards to a faulting in the Atoka.

A He has his interpretation and I make mine. They're independent.

MR. KELLAHIN: I have nothing further, thank you.

MR. ADAMS: I have one more question.

REDIRECT EXAMINATION

BY MR. ADAMS:

Q Counsel advises me, Mr. Judy, that you testified -- that he heard you testify, at least, that in the time you've been with Southern Union Exploration Company none of your recommendations based on geophysical data have been accepted by management. Is that what you meant to say?

A No. I say as far as I know, my recommendations to management have not been accepted. Or all my recommendations have been accepted. I'm sorry. None of them have been refused.

Q Thank you.

MR. ADAMS: That's all I have.

MR. RAMEY: Any other questions of Mr. Judy? He may be excused.

Are there any closing statements at this time?

MR. KELLAHIN: I have a rebuttal witness, Mr. Ramey.

MR. RAMEY: Oh, you have a rebuttal witness, all right, Mr. Kellahin.

MARK WILSON

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Wilson, for the record will you state your name and occupation?

A. Mark Wilson. I'm an independent geologist.

Q. Have you previously testified as a geologist and had your qualifications accepted and made a matter of record before the Oil Conservation Division?

A. I have.

Q. Would you describe for the record when and where you obtained your degree in geology?

A. A Bachelor's degree from the University of Pennsylvania and a Master's degree from Ohio State Univer-

1
2 sity.

3 Q In what years, sir?

4 A '47 and '49.

5 Q Would you summarize generally what has
6 been your employment experience as a geologist subsequent to
7 graduation?

8 A Thirteen years with Shell Oil Company
9 and independent geologist since then.

10 Q Do you own your own oil and gas business,
11 Mr. Wilson?

12 A Yes.

13 Q Do you have an interest in some of the
14 acreage in the south half of Section 13?

15 A We own the lease on the west half of
16 the southwest quarter.

17 Q As part of conducting your oil and gas
18 operations, Mr. Wilson, have you had occasion to drill Cisco
19 and Morrow Wells in Eddy County, New Mexico?

20 A Principally Morrow wells.

21 Q Have you made a study of the Cisco and
22 Morrow production surrounding the area in question?

23 A I have, yes.

24 Q And pursuant to that study have you
25 compiled certain exhibits and prepared certain testimony?

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A. As on the wall.

Q. All right, sir.

MR. KELLAHIN: We tender Mr. Wilson as an expert petroleum geologist.

MR. RAMEY: He is so qualified.

Q. Mr. Wilson, would you please go to what we've marked as Wilson Exhibit Number One and identify that exhibit for us, sir?

A. Okay. Exhibit One is the stratigraphic cross section and it is hung on a marker within the Strawn, what I call the Far Strawn limestone marker. This is a typical Strawn lime and right at the base of that lime is where everybody picks the Atoka, as far as I know. And this marker I picked here because I'm going to use it later to make a structure map, and I have wanted to pick a marker where I have identifiable markers above and below, because I want to find a marker that I can have confidence in, and right above this Lower Strawn limestone marker is a shale marker, also, in the Strawn lime, which you can carry throughout this township and several othertownships in the area.

The top of the Atoka is a fairly well defined pick and I think that most of us would agree where this is.

In the upper part of the Atoka there is

1
2 a limestone unit which I, myself, call the Upper Atoka
3 Limestone, and the base of that limestone unit is also a
4 good pick throughout this area.

5 Down in the Morrow -- or excuse me,
6 there's one other marker within the Atoka. It's a shale
7 marker and you can see this sort of V-shaped affair here,
8 which is -- represents the shale marker, and that can also
9 be traced throughout the area of this prospect.

10 Within the Morrow there is a limestone
11 marker right below what Dean Boundy has been calling the
12 Ross Sands, and this limestone marker is an extremely import-
13 ant marker throughout the south part of Eddy County for re-
14 gional structure mapping on the Morrow. Probably most of
15 the people who've worked it are familiar with it. It carries
16 over in the Burton Flat Field, in the Carlsbad Field, in
17 the Indian Basin Field, all through here clear over to Rocky
18 Arroyo. It's really remarkable for the Morrow, because you
19 don't often find markers that have that sort of areal extent.

20 This is the Morrow section here, the top
21 of the Chester Shale here, and this is the main Mississippi
22 limestone section.

23 This cross section runs north/south for
24 the most part. It starts up here with Well No. 1, which is
25 over there on the lefthand, and comes down the east side of

1
2 the structure, through this well in Section 12, the well in
3 13, to this Logan Well down here, and then I jump over to
4 the west side of the structure and come down from this Southern
5 Union Well, to the Northern Natural Gas, to the Gulf, two or
6 three over in here.

7 Also on this section I show the top of
8 this carbonate mass in here, which is the subject of so much
9 discussion here. It is principally a dolomite mass. The
10 base of it is sort of an irregular thing, variable in posi-
11 tion in the stratigraphic section.

12 The top of the Strawn series is also a
13 marker that is a little difficult to pick. I put some ques-
14 tion marks over here, for instance, and I've tried to avoid
15 that in doing the work which I'm going to show you here
16 shortly.

17 You can see up here some of the effects
18 that were mentioned awhile ago where if your carbonate mass
19 in the Canyon thins going southward, this Wolfcamp shale
20 facies in here sort of thickens to compensate at the same
21 time, and you're looking at dolomites in here, which have
22 velocities of -- what did we decide -- 22,000 feet a
23 second, versus a shale facies here which have velocities on
24 the order of, 12,000 feet a second.

25 You would think this would be a reflecting

1 horizon here because it's such a very sharp interface between
2 the dolomites and the shales, but apparently it's a very
3 ragged reflection in the seismic.
4

5 Now, I wanted to put this structure in
6 McKittrick here into regional context. You've seen maps
7 that show a very local area in here. So the reason I present
8 this map is to give you a little bit better idea about how
9 this lies with respect to the other major structural elements
10 in the area.

11 Q Before you identify Exhibit Number Two,
12 Mr. Wilson, would you take this yellow marker and identify
13 for us Section 13 so we can see where that is.

14 A On this map here?

15 Q Yes, sir.

16 A Okay. It will be -- probably won't be
17 able to see this yellow any better than that -- right there.

18 Now this map was made on the top of this
19 M-3 (inaudible). That's strictly a personal matter. I don't
20 know what other people call it, but it's present throughout
21 the area that I show here and a much wider area to the east.

22 And down here is a major regional struc-
23 tural feature, which is the Huapache monocline, and under-
24 neath it is a tremendous fault, which is downthrown on this
25 side over here, and coming off that are various other faults

1
2 that are essentially normal to it. The one we're most con-
3 cerned about is this fault here. On the up side of the fault
4 there is the Rock Tank Field in here and then, what do they
5 call this, Serpentine Bend, I think, down in here.

6 And up in here, of course, is the Cat
7 Claw Field. This fault is a very significant regional fault,
8 and I think Dean has shown some portions of it in through
9 here, but it's real enormous there, it goes all the way from
10 the Huapache and terminates finally up here in the Cat Claw
11 Draw area.

12 There's another trend over east here,
13 the Carlsbad Trend, which is also a fault trend, a fault
14 that is parallel to this, and also ends against the Huapache
15 Monocline's extension down in here.

16 This fault here is the fault that con-
17 trols the trap in the Indian Basin Field. Somebody said
18 awhile ago that they doubt that these faults cut the Canyon.
19 Well, that one cuts the Canyon because it is certainly the
20 prime agent for trapping the gas in the Indian Basin Field.

21 There is another fault parallel to it
22 in here, a lesser fault, but it creates a little block in
23 this area here, and there's some Morrow production in it,
24 this sand we're talking about down in here up in this area
25 here, and up in this area you can see quite a complex little

1
2 fault pattern, quite different from anything else that I've
3 seen in the Morrow.

4 When you look on the down side of this
5 fault in here, I see two principal structures. Of the two,
6 this is by far the best defined.

7 Q Which one are you referring to, Mr. Wilson?

8 A And this is the structure which is the
9 subject of so much discussion today, the McKittrick section.

10 Further south there is evidence that
11 there is another structure in here. Now, the trend of these
12 structures is, according to my regional mapping here, more
13 or less like that in both cases.

14 Q You'll have to indicate for the record
15 what you mean by like that.

16 A Okay. They are basically north/south
17 trending structures, and there is a suggestion that there
18 may have been some strike-slip movement, where this side,
19 if you moved this side this direction you would create
20 structure like this on the down side of the fault, coming in
21 at an acute angle with respect to the fault zone.

22 The reason that I present this informa-
23 tion here, principally is to, as I say, try to relate this
24 to the overall structural layout here, and when we get into
25 areas, some of the points that have been left dangling here,

1
2 like this one here on the Gulf Well, and point here that
3 shows up just immediately south of the control that we've
4 been using, plus this well over here that Antweil drilled,
5 where --

6 MR. RAMEY: Mr. Wilson, could you try
7 to identify those wells a little better for the record?

8 A. Yeah, okay. This is the Gulf Truitt
9 Ranch. This one I don't recall the name of it, it's in
10 Section 2 of 23 South, 24 East, and this is the well which
11 Antweil drilled here. And the log I think that Southern
12 Union had on that well is one that you can get through the
13 log service and it only goes down into the Canyon, and I've
14 got a log which I have over here if you want to see it from
15 Antweil in Hobbs to the bottom, in fact, the whole suite
16 of logs.

17 And the interesting thing is, when you
18 get that log, it turns out that this well here --

19 Q Is this the Antweil Well in Section 19,
20 is it?

21 A. Yes, correct.

22 Q That's south and east?

23 A. Yes, the Antweil Well in Section 19 of
24 19, 25, the top of this marker is -6698.

25 Over here in the James E. Logan Well

1
2 in Section 24, the top there is 6440. So you're talking
3 about 258 feet of dip to the east from this well here down
4 to this well here.

5 The top here is 06332 compared to 6452
6 up here. We indicate here on the west side of the structure
7 a real strong west dip. We have only subsurface that we can
8 work in. Now they're showing a fault on the west side of
9 the structure and I always felt that was a good possibility.
10 If there's a fault here, I didn't know whether it would
11 break through the sedimentary section or whether it would
12 be in the basement with just, you know, monoclinial dip up
13 in the sedimentary section.

14 So I will concede the possibility of a
15 fault on the left side of the structure.

16 It looks as if this point here, which
17 is the Gulf Truitt Ranch in Section 26, 22, 24, if you con-
18 tour that point in it is related to this structure up here,
19 not to the structure down here. But there is a definite
20 relationship between this point and this structure here.

21 You might recall back away we looked
22 at a map on the Cisco Canyon where we had a 4400 contour
23 cutting through in here and a 4450 value here, and I am
24 saying that that, if you contoured this point in here, you're
25 going to wind up pulling this thing down this way, rather

1
2 than off this way.

3 You may recall in the first Atoka
4 structure map that was presented in the first hearing, that
5 it was shown that this point here is the same elevation
6 basically as this point here. It was shown that there was
7 a closure here, and another up in here, and I say that is not
8 so, because there is so much dip from the well in 25 over
9 east to the well in 19, and that if you plot this point
10 properly on these deeper horizons, it does show that there
11 is substantial dip from here to there, and therefor, it pro-
12 duces an alignment like this.

13 Now, in the next stage of things I took,
14 having put this in the regional context, I took this area
15 here, and this map here is on a scale of one inch to 4000,
16 and put that on an inch to 2000 base, which is the same base
17 that Uriah used.

18 And to start with, that would be this
19 map here.

20 Q You'll have to identify it by number,
21 Mr. Wilson.

22 A Okay, this is Exhibit Three. And this
23 fault which you see here, this segment of this fault, is
24 this segment, let's see, up through 17, up from about here
25 down to here, and of course the structure is as it is there.

1
2 I have put in one additional structure contour on the top
3 of the structure here, thinking about where I would drill
4 a Morrow well if I had to drill one.

5 So, this is basically the same structure
6 picture that that is there, and we have discussed the sands
7 in the Morrow rather extensively. I would point out that
8 there is a sand here, the Ross Sand in this well, uppermost
9 Morrow.

10 Q What well is that, Mr. Wilson?

11 A That is the Supron Energy Shelby Federal
12 No. 1 in Section 13. It's 25 feet thick. It is a perfect
13 correlation in log appearance, in interval from the M-3
14 (inaudible) up to this sand with respect to this well here,
15 which has 24 feet. And this well was tested and I might
16 review the test on that; this well meaning the well in Sec-
17 tion 14, Southern Union McKittrick Federal. And the tool was
18 open 45 minutes and they had gas to surface in 15 minutes
19 at 290,000 cubic feet of gas a day.

20 And it recovered 2448 feet of salt
21 water and 90 feet of gas and water cut mud.

22 MR. RAMEY: What interval is that, Mr.
23 Wilson?

24 A Well, the test interval is the -- is
25 stratigraphically the Ross Sand, and the depth tested is

1
2 10,248 to 286. And the shut-in pressures, 3984, the initial,
3 and 3971 for the final in 180 minutes.

4 And, like Mr. Boundy has done, I've
5 taken this to mean that this thing could be close to the
6 gas/water contact. There are other gas shows in the area,
7 like this here, a well that made even more gas, and you cannot
8 be absolutely certain that this is where the Gas/water contact
9 is but putting us in the structural context, I have assumed
10 that there would be a gas/water contact between these two
11 contours here and these are 100-foot contours in the area,
12 (inaudible) for the area I think is -- could be productive
13 in the Morrow.

14 This well down here also had shows, the
15 Gulf Well in Section 26, where they tested 62,000 gas and
16 recovered 2325 feet of gas cut salt water. Shut-in pressure
17 was 4029 for the initial and final shut-in pressure, so that
18 reservoir (inaudible.)

19 Q Let me ask you this, Mr. Wilson. You
20 talked about your study of this area including the Morrow
21 and the Cisco Canyon. Was that study made in collaboration
22 with Mr. Boundy or independent and not in consultation with
23 him?

24 A It was totally independent. We bought
25 the lease in here before Uriah showed up. It's a Federal

1
2 lease (inaudible).

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3 We were interested both in the Canyon
4 and the Morrow, and I was satisfied myself that this struc-
5 ture was, you know, going to occupy principally the best
6 part of 13.

7 So we bought the west half of the
8 southwest quarter, this 80 acres.

9 Then later the KGS sale came up and we
10 had a long discussion about wanting to get up there and look
11 around. The highest prices in the area had been about a 100
12 or 125, and so we, in our conservative way, decided to bid
13 about \$400 an acre (inaudible). And I went to the sale and
14 first here comes Southern Union with 600, or Supron, what-
15 ever it is, and Uriah Exploration that I was unfamiliar with,
16 with over \$1300 an acre, and they got it.

17 Later, of course, we got in contact and
18 found out that we were headed in the same direction. We
19 were thinking west half spacing unit from the very outset.
20 I'd never seen anything possible in the east half because
21 of the lower (inaudible) over there. And so we -- they made
22 the proposal for a well and we agreed to participate with
23 the acreage that we have.

24 Q For Section 13, Mr. Wilson, in terms of
25 Morrow, what in your opinion would be the best configuration

1
2 for a 320-acre spacing and proration unit?

3 A I think it would be the west half,
4 principally because this well over here even though it has
5 a beautiful sand section in it, certainly adequate porosity,
6 looks extremely wet on the logs, and we've got to get higher
7 than that well, certainly, and then we have the well over
8 here in Section 14, where we had some shows of the -- of the
9 water, got to get high to that one, and in my mind that
10 means somewhere over here in the west half, and according to
11 my mapping, would be relatively close to the west line of
12 Section 13.

13 Q Would you continue with your discussion
14 and tell us, then, based upon your studies, how you got up
15 into the Canyon?

16 A Okay. Using this as a structural guide,
17 I then made a map in the Strawn section, and that's where
18 I wanted to pick a marker here which was constant, where I
19 had markers above and below it that would help me pin that
20 thing down and be sure that I had a constant datum. There--
21 for I picked the top of this Lower Strawn lime unit here.
22 It's kind of shaley out in these wells here but you can see
23 a resistant kick here in the top part and here it goes all
24 the way through the section, and that's what I used, with
25 this shale marker above it and the Atoka pick here and the

base of this Upper Atoka limestone down here; that's why I hung (inaudible.)

Then my plan was, having made a structural map on the Lower Strawn marker here, then I would make an Isopach map from that marker up to the top of the Canyon carbonates here, and by superimposing the Isopach map on the structure map and, you know, given how constant things are down in here, I think you're looking at pure structure at the Lower Strawn level, as you would look at it all through the section in here, whereas the do have the strat effect here and what I was trying to get at is that strat effect at the top of the Canyon.

So actually by the means of deriving the configuration of that Canyon carbonate in there, by combining this Isopach with the structure mapping down here in the Lower Strawn lime it's relatively simple procedure -- Southern Union probably used it in drawing their Canyon structure map -- you take the subsea datum here and simply deduct the thickness where one of these Isopach lines would cross the structure contour line, this over here, and that gives you an elevation at the top of the Canyon.

This was the structure map, as I've discussed.

Q Exhibit Number Four.

1
2 A. Exhibit Number Four, and of course, it
3 is very similar to this map here. And it is not a whole lot
4 different from the map that we saw a short time ago, the
5 Isopach isn't, anyway. This is the Isopach here. The one
6 difference is that I felt that it was completely legitimate
7 to come down here and pull in this Gulf well in Section 27.
8 I further pulled in --

9 Q 26.

10 A. Excuse me, 26, and I further pulled in
11 a point down here in 36, which I don't believe you have on
12 your map, and then a point down here just south of the
13 base in Section 2 of 22, 25.

14 And my reason for doing that was just
15 simply to derive a little better control over this Isopach
16 interval that I was going to use.

17 Now, looking at this map here, which is
18 the Isopach from the top of the Lower Strawn Lime marker up
19 to the top of the Canyon dolomite.

20 Q That's your Exhibit Number Five?

21 A. Exhibit Number Five?

22 Q Yes, sir.

23 A. Five, right. I might point out certain
24 things in here, the one that has already been mentioned is
25 a gradual thinning as we come southwest. That interval is

1
2 1000 feet here and these are 100-foot contours, 11, 12, 13,
3 14. The interesting thing is that when we get to the 1400
4 feet things begin to level out up in this area here of Sec-
5 tion 13, wherein we think is the structure, and I think this
6 is extremely important.

7 Right here this Isopach interval is 1381
8 feet thick in the well in Section 14, and in the well in 24
9 it is 1420 feet thick, so that is what controls this 1400
10 contour here.

11 Now, looking at these points up here,
12 this interval here is 1396 feet and in the Supron well in
13 the east part of 13 it is 1466 feet. See, there is just not
14 very much thinner. The trend of these contours is this way.

15 Q Which way is that?

16 A North Northwest. I have put in here a
17 1450 contour to help me derive the structure in this area
18 here. There was so much space between the 1400 contour and
19 the 1500 contour I felt it desirable to put this extra con-
20 tour in there so that I could get more intersections with my
21 structure contours to get additional points in this critical
22 area where we need the map.

23 Over here is the thickest section from
24 the Lower Strawn marker up to the top of this Canyon dolomite.

25 The thickest well point we have is this

1
2 Antweil Indian Hills Well in Section 19 of 22, 25. Okay.
3 That's by far the thickest point on here. There it's 1580
4 feet thick. Our thickest interval over here was 1496 up
5 here.

6 As you come southeast, looking at the
7 points over further in the southeast part of 22, 25, I'll
8 try to think about this thing being recorded, but there is
9 a very rapid thinning of this thinner -- of this interval
10 going southeast, and that is going basinward, and what is
11 happening is that we are going toward a basinal area over
12 here with a very thin basinal section, which represents this
13 massive dolomite facies we have over here.

14 Now this thinning is going to show up
15 on the final structure map down here for getting a steep dip
16 coming down this way.

17 Up in this area here there's this very
18 thick area here and bear in mind that the thickening and
19 thinning here is principally a question of this carbonate
20 mass in the Canyon thickening and thinning, because the strati-
21 graphy is relatively constant we we show on that stratigraphic
22 cross section from roughly the base of that carbonate mass
23 down through the M-3 oolite marker in the Morrow.

24 So these effects we're seeing here effects
25 of the Canyon dolomite.

1
2 I went ahead and mapped on a regional
3 map the thickness of this interval clear on up through this
4 township up here. I wanted to see what it was going and to
5 get -- to get a configuration on these contours here, and
6 that is how I arrived at these. The control is relatively
7 sparse up in this area but I felt like I needed to know
8 whether this was going to go taking off out through here, or
9 whether it was going to start thinning as we drilled that
10 direction.

11 And so the isopach map, I think, is
12 fairly reliable and the structure map here, as I say, I have
13 related back to the Morrow structure, as shown here, and ul-
14 timately as shown on this regional map here, and I just
15 really can't believe -- I can't believe that the thing trends
16 northwest/southeast. I believe it trends north/south.

17 Now the final map that I have here is
18 the map which is derived by combining the Lower Strawn
19 structure map here with the Isopach map here, and when you
20 do that, of course, if you can envision this, you lay this
21 map on top of that map there and where you have a structure
22 contour here, you simply deduct the amount of thickness here
23 and that gives you a top of the Canyon. And where all these
24 little "X's" are on this map are tops of Canyon, which are
25 derived by using that method.

1
2 Of course, I have also plotted at each
3 well point that penetrated the Canyon the subsea elevation
4 of the top of the Canyon there, too.

5 And when you do this it gives a little
6 better integrated picture of the whole thing and I show some
7 very steep dip over here on the left side. Of course that is
8 reflected in steep dip on this Lower Strawn structure map
9 and also on the Atoka structure map.

10 That is probably for the most part a
11 true structural dip.

12 Now they have come out with the fault
13 indication here. I cannot deny the possibility, and we have
14 always known that. The trend of the fault is something else.
15 Up in here it is like so. That fault could also extend on
16 down further south. It could be projected further south be-
17 cause there seems to be steep dip between the Gulf Well in
18 Section 26 and this Northern Natural Gas McKittrick Well over
19 there in Section 23.

20 So, if you have a fault up here, there's
21 reason to put a fault on down through here. Or if you don't
22 like faults, you can just make a steep dip, and one's about
23 as effective as the other as far as mapping is concerned.

24 In this area here I show a steep dip
25 coming off here. The principal reason for that is this

1
2 rapid thinning of this carbonate interval as we go southeast.

3 And then over in here there's something
4 I really didn't anticipate myself before I made the map, and
5 that is that there is this sort of a flattening in this area
6 here. It also shows down here around this well and this
7 Antweil Well in Section 19. There's a nosing in this area
8 here, and I think that this area here will be relatively
9 comparable to this area down here in Section 19.

10 It does not make a great deal of differ-
11 ence as far as the configuration is concerned over here in
12 the area of the gas accumulation in the Canyon. This point
13 here in the east part of Section 13, we've had some discus-
14 sion about that. We say it's at -4076 and on top of the
15 Canyon carbonate, and that's from the Getty log, the log that
16 was first run. I believe it's a sonic log, it's a very sharp
17 kick.

18 Later, when Supson re-entered the well
19 and deepened it, you do come up with a different elevation
20 on top of that Canyon. I think it's -4049, and it does make
21 some difference about which is correct, and I have no strong
22 argument one way or another, except that Getty was the first
23 operator on the well. They drilled the well down to TD.
24 They used a reputable logging company, and I think they knew
25 what their surface elevation was and their KB, and I think

1
2 those same elevations were used by Supron later; therefor,
3 I assume that Getty's elevation is correct, the correct datum
4 here is -4076. But maybe they have some other argument.

5 In any event, if the contact here between
6 the gas and the water is 4000 -- -4000 -- this point is -4076,
7 and it would tend to indicate that very little of the east
8 part of Section 13 is going to be productive out of the
9 Canyon.

10 I think that there is a possibility from
11 this configuration which was derived here, and this tendency
12 towards nosing down this way, is primarily a result of the
13 structural nosing that we see here on the Strawn and on the
14 Morrow. By incorporating these points to the south in Sec-
15 tion 36 of 22, 24, and Section 2 of 23, 24.

16 I, as I say, I had no access to seismic
17 data when we went in there to do what we did. I feel, myself,
18 that the subsurface control here is quite adequate to map
19 the structure, and at least you are dealing with known points
20 (inaudible) and there are lots of things that can happen to
21 you on velocities.

22 For instance, as we go south and we see
23 this carbonate mass here thin, and this thing, the Wolfcamp
24 shale section above it with a compensating effect thickens,
25 we're talking about a velocity contrast of say 12,000 feet

1
2 per second versus 22,000 in the dolomite, and unless you have
3 pretty strong control over those velocities, I'd really have
4 some doubt about how your -- what kind of a map you're going
5 to come up with on top of the carbonate.

6 In the first place, the seismic does not
7 show any continuous event at the top of the carbonate. And
8 then this effect is going to be carried down to the Atoka
9 level if you are making a map on the Atoka, and you may have
10 velocity control on three or four wells around the corner
11 of the structure, but have you yet predicted the velocity
12 effects from this change with that sort of velocity contrast,
13 and I would make the case that the subsurface geology in this
14 instance, given this amount of control, is as reliable or
15 more so than the seismic, and we have proceeded ourselves
16 with our money on this basis.

17 Q Based upon your studies, Mr. Wilson, do
18 you have an opinion with regards to how best to orient a
19 Cisco proration unit in Section 13 to as closely as possible
20 approximate what you believe to be the gas reserves for the
21 Cisco?

22 A Yes. We think, or I think, that the
23 west half of Section 13 is the best spacing unit to drain the
24 reserves in the Cisco Canyon. Canyon, it's been very con-
25 fusing. The industry calls it Cisco Canyon, and we have paleo

1 evidence when I was with Shell over in the Northern Natural
2 Gas -- or excuse me, the foothills over here, that there is
3 no Cisco in here. The Wolfcamp on top of the Canyon, and
4 with regards to that, this surface here is not an inter-
5 fingering surface. There's not any question of facies changes
6 and dolomite and through this shale facies in the Wolfcamp
7 there's absolutely no evidence of interfingering. That's
8 just a big, old, fat carbonate mass sitting there. Now,
9 probably of Canyon age with Wolfcamp on top of it, and if you
10 want to know where the heart of the Cisco is, you'll probably
11 have to go way over in western Eddy County, where you can see
12 this change from shelf to basin, over way west of the Indian
13 Basin Field.
14

15 This area out here was sitting high and
16 dry; there wasn't anything much going on out here. It was
17 not only starved, it was devoid of Cisco. And of course, with
18 a carbonate mass like this in any sort of occurrence, say in
19 the Cisco period, it's going to be swept with sediments of
20 Cisco age (inaudible).

21 Q Were Exhibits One through Six prepared
22 by you, Mr. Wilson?

23 A They were.

24 MR. KELLAHIN: We move the introduction
25 of Mr. Wilson's Exhibits One through Six.

1
2 MR. RAMEY: Mr. Wilson's Exhibits One
3 through Six will be admitted.

4 Are there any questions of Mr. Wilson?
5 Mr. Carr?

6 MR. CARR: I'd like to try a few ques-
7 tions.

8
9 CROSS EXAMINATION

10 BY MR. CARR:

11 Q Mr. Wilson, as I understand what you're
12 doing, you're taking a structural cross section and from that
13 you developed a base structure map of the general Morrow
14 area, is that correct, it's Exhibit One and Exhibit Two?

15 A That's approximately correct. What I
16 really did is pick a structural datum that I feel confident of,
17 and then make a structure map --

18 Q In the Morrow.

19 A Well, first in the Morrow but also in
20 the Lower Strawn. When I get down to deriving the structure
21 on the top of the Canyon dolomites, then of course, I work
22 from -- by combining this Lower Strawn structure map with
23 this Isopach map here, which is from the top of the Lower
24 Strawn marker up to the top of the Canyon carbonate, and of
25 course this map here, the structural configuration is a ques-

1
2 tion of contouring the points plus introducing the concept
3 of the regional configuration here. That's why I used this
4 map here to derive first this map, then this map.

5 Q And the Exhibits Four through Six are
6 based on data which appears in the regional map, is that
7 correct? They have a basis in that they were constructed
8 starting from that --

9 A Well --

10 Q -- map?

11 A -- yes, basically that's correct.

12 Q Okay.

13 A Yes.

14 Q Now if we look at your Exhibit Number
15 Three, which is the map of the Morrow.

16 A Okay.

17 Q In preparing this you used actual well
18 data on the various wells that had gone to the Morrow, is
19 that correct?

20 A That's all I had.

21 Q That's what I hoped you say. In doing
22 that you didn't use any seismic?

23 A No, I did not.

24 Q And you have indicated on the Exhibit
25 Number Two that in the area of Section 13, the subject of

hearing, two basic structures, is that right? The one that is in 13 and the one to the west of it?

A I have a structure there, coming down through 13 but continuing on south where this Gulf Well is.

Q And if you move west about one section, is that also another structure?

A Well, there's a -- I put in a syncline here because I really didn't have any evidence of faults, you see. Then I go back up on this Indian Basin structure toward this big old fault over here on the west side of the Indian Basin Field.

Q All right, then if you move directly -- or you move southwest of that, you encounter what appears to be another structure, is that right?

A Are you referring to this structure?

Q Yes.

A Yeah.

Q Okay, so you have two basic structures in this area.

A That's the general idea.

Q Now, if you had seismic data which showed a dip traversing the south half of Section 13, could that have been construed to create three structures running sort of in a line here instead of the two that you have?

1
2 A Well, it depends on how much I wanted to
3 believe the seismic. It's a --

4 Q If you --

5 A -- question of velocities, really, --

6 Q If you --

7 A -- versus the subsurface control that
8 you have and the believe that you have and making the, of
9 course, the subsurface structural interpretation on these
10 lower markers and then looking at this Isopach data, is this
11 Isopach data telling you the truth about the rate of thinning
12 going southwest.

13 And I really, given the nature of the
14 control here, I believe that that is the situation.

15 Q Is it possible that if a geologist took
16 this and had that seismic data and believed it, is it possible
17 construction of this data that there would be three struc-
18 tures there?

19 A Would you tell me where you expect to
20 find them?

21 Q Well, the seismic data we presented
22 shows the dip running sort of northwest/southeast across the
23 south half of Section 13, being one structure with a high
24 on the -- in the north half of 13 and the south half of 12,
25 and that the next structure is somewhere down in, say, Section

1
2 26.

3 A. You're asking me if I -- if I had this
4 seismic data would I believe that?

5 Q Yes.

6 A. The first well that was drilled in here
7 on seismic was this Northern Natural Gas McKittrick Hills
8 Federal No. 1. Now, presumably, that was a long time ago
9 and this was the first well drilled in the area, and their
10 velocity control probably wasn't all that hot, but they were
11 encouraged enough to drill a well to the Devonian, and I
12 think we all know where they landed now, kind of over on the
13 west side of things, on the down side of Supron's fault, on
14 the west side of what I called a steep dip. So they were
15 not very much -- very well placed on the structure, and I
16 am sure they confidently believed that they were drilling in
17 a good spot.

18 Now, recently Gulf tried their hand down
19 here, and I know from talking to them firsthand that they
20 drilled that well on seismic, and we know, as a matter of
21 fact, that they encountered this Ross Sand, they have 24 feet
22 of it and probably 10 feet is pretty clean, got good porosity,
23 and they had a good drill stem test, good shut-in pressure,
24 good water recovery, and a gas show of about 60,000.

25 Now, if they were drilling on the seismic,

1
2 presumably on a closure, and I've been told this, where is
3 the gas field in the Morrow? Were they on the structure, as
4 they thought they were on the structure?

5 Therefor, was it a reliable for them as
6 they would have desired, and I would ask the same question
7 up in here. Given this amount of subsurface control, whether
8 the -- you can make something of the picks mechanically. You
9 can have four wells, all four corners with velocities, and
10 you can have seismic, and you can make this thing fit mechan-
11 ically.

12 I was about to ask at one point here,
13 but unfortunately, due to our procedures I was not able to
14 ask, but this seismic map that was up over here, you know,
15 at one point I wanted to ask after looking at that map and
16 thinking back to the Atoka structure map which was presented
17 in this first hearing, how those compared. I mean here we
18 are looking at pure seismic, beautifully, mathematically
19 adjusted, and here we're looking at pure subsurface, and we've
20 introduced the seismic element into it, and we have not quite
21 had all the control, which can change things some, too, we
22 didn't have the well in 19, but I was trying to reconcile in
23 my mind what I was seeing on the seismic map over here with
24 what we had virtually agreed on the subsurface.

25 I remember particularly one of your maps --

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MR. CARR: Mr. Ramey, I'm going to object to the answer. I'm trying to get him to answer a specific question and --

A. I'm sorry about that. I'm guilty.

A SPECTATOR: I'd be willing to answer the question.

MR. CARR: No, we're not going to do that. I want to ask a few questions on cross and I'm going to have a hard enough time to get straight answers.

A. Okay, I apologize.

Q. My question is, if just -- I want you to assume that the seismic is accurate. I know that -- it's clear that you doubt it.

But I want you to assume that there is a dip across the south half and the only question I have is if that dip is there could there be two structures in there instead of one?

A. Well, yes, I think there could be.

Q. Okay, I'm not asking you to tell us whether you believe in the seismic or not.

A. Okay.

Q. And so, if they -- if the subsequent exhibits are based to some extent on your Exhibit Number Two, the interpretation in Exhibit Number Two must be accurate or

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1
2 it will carry through the others, is that correct?

3 A. There would be some question of degree
4 involved here.

5 Q. But basically, if your Exhibit Two is --

6 A. I --

7 Q. -- incorrect, that would carry through,
8 could it not?

9 A. It could. This is not -- I would wager
10 that if you took your seismic data that you could -- excuse
11 me -- that you could do different things with it.

12 Q. Okay, but the answer to the question was
13 it could.

14 A. It could, right.

15 Q. All right. Now, I'd like to look just
16 for a minute at your Exhibit Number Three, which is your map
17 of the Morrow, your structure map on the Morrow.

18 A. The large scale map here?

19 Q. Yes, sir. I believe it was your testi-
20 mony that the best Morrow location would be on the west side
21 of Section 13, the best location in 13.

22 A. Yeah, that's correct. If you look at
23 this map, I'd say the 1980 from the north, 660 from the west
24 would be closer. It's not that there are higher places
25 coming south but that the structure through here is somewhat

1
2 to the southwest.

3 Q Are there acceptable locations to drill
4 a good Morrow well based on this data in the southwest quarter
5 of Section 13?

6 A In the southwest quarter?

7 Q Uh-huh.

8 A There could be, yes.

9 Q Now, I understand your Exhibit Number
10 Six -- let's look at your Exhibit Number Six.

11 A Yes.

12 Q What you've done is in essence is you've
13 taken the structure map of the Morrow and you've estimated
14 the thicknesses of certain formations and you have built this
15 thing up, is that correct? You get these -- the depths that
16 you have projected where these arrows are?

17 A Well, that's almost correct. What I
18 really did was used the thickness, the interval from the top
19 of the Lower Strawn limestone marker to the top of the Canyon.
20 I wanted to get up there because -- as close as I could with
21 a reliable marker.

22 Q Now, you have quite a bit of control to
23 the north of the structure in the Morrow, is that correct?

24 Let me ask you, how do you compare the
25 control you have to the north of the structure in the Morrow

1

2

to the control you have down to the south?

3

A. You're referring from the distance, say,

4

from the Supron Well in 12 up to the --

5

Q No, I'm actually going to the wells that

6

are in close proximity to what you -- you have more data

7

surrounding the structure on the northern part of the map

8

than you do to the south, is that correct?

9

A. I don't necessarily believe that.

10

Now, the spacing is rather comparable

11

when you come from, say, either the well here in 22 -- or is

12

that 23 -- and the well in 24, down to, say, the Gulf well

13

in 26. That's not much further than going from the well in

14

Section 12 up to the Coquina well in Section 6.

15

MR. CARR: We have no further questions

16

of Mr. Wilson.

17

MR. RAMEY: Any other questions of Mr.

18

Wilson? He may be excused.

19

MR. KELLAHIN: We have nothing further,

20

Mr. Ramey.

21

MR. RAMEY: Do you have anything further,

22

Mr. Carr?

23

MR. CARR: I have a closing statement.

24

MR. RAMEY: How about you, Mr. Adams?

25

All right, Mr. Carr, you may proceed with your closing state-

ment.

MR. CARR: May it please the Commission, what we have here are two operators each proposing to drill a well in Section 13. Both come in with different interpretations of the structure in the Cisco underlying that -- that section.

One, the interpretation of Uriah and the interpretation of Mr. Wilson, are based on well control.

The interpretation of Supron, on the other hand, is based on well control plus seismic data; seismic data which they've paid a substantial amount of money to obtain, and which is used throughout the industry in evaluating prospects of this nature.

The one thing that they have in common, no matter who wants to drill the well, they want to drill it on Supron's tract in the northwest of Section 13, and the reason is very simple: That's where the reserves are located.

No one wants to drill down in the southwest quarter because the reserves are not there.

In passing on the applications before you, I think you've got to be guided by the questions of waste prevention and the protection of correlative rights.

All Supron is asking is for permission to drill a well to the Cisco on their tract, the north half.

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1
2 They will drill it at an unorthodox location at a structural
3 point whereby they can produce the reserves in the Cisco
4 without causing waste by being down structure and leaving be-
5 hind hydrocarbons in the ground.

6 No correlative rights will be impaired.
7 They're moving only toward themselves.

8 They've been working on this plan for
9 more than six months. They've been working on this particular
10 well since prior to the time Uriah ever acquired an interest
11 in the property. They were the first one in attempting to
12 develop the acreage.

13 And all we ask is that we be permitted
14 to develop our lease.

15 On the other hand, Uriah comes before
16 you asking that our application be denied and proposing that
17 the west half be pooled. Pooling the west half of this sec-
18 tion would mean that the well in the Cisco would be at an
19 orthodox location. It would be off structure and to prevent
20 waste an unnecessary well would have to be drilled approxi-
21 mately at the location proposed by Supron. That well would
22 not be drilled.

23 By approving the application of Uriah
24 you are simply creating a situation where there will be the
25 waste of hydrocarbons.

Then the question of correlative rights comes into play. We submit that we have provided you with reliable data that shows that the vast majority of the reserves that will be produced from a well drilled in the northwest quarter of this section will be produced from the south half of Section 12 and the northwest quarter of Section 13. You will create a situation by pooling the west half whereby virtually barren acreage has to be shared in the production from the well in the northwest quarter, and we have a situation where we are denied the opportunity to produce our fair share of the reserves, and that's a correlative rights issue. By approving their application you will deny us our fair share of the reserves under our tract.

We ask that you deny the application of Uriah and that you grant the application of Supron and let us develop our tract with our well at a location that will prevent waste.

MR. RAMEY: Thank you, Mr. Carr. Mr. Kellahin?

MR. KELLAHIN: Mr. Adams is --

MR. RAMEY: Mr. Adams, do you have a statement?

MR. ADAMS: No, sir. Mr. Carr has very eloquently and plainly stated the position of Southern Union

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Exploration and I would be proud to add to it, but I won't.

MR. RAMEY: Thank you, Mr. Adams.

Mr. Kellahin.

MR. KELLAHIN: I think it's a pretty simple case, gentlemen. One of the few things that we've agreed on today is the fact that the east side of Section 13 is not any good when it comes to Morrow or Cisco wells. Nobody wants to drill over in the east half.

What you need to decide is what configuration for the proration unit is more closely going to overlie the potential production from the Cisco and the Morrow.

It's a classic example of why we have a compulsory pooling statute in this New Mexico if the oil and gas industry is to avoid the drilling of unnecessary wells, it gives us the unique opportunity to orient the proration unit in such a fashion that we do not dedicate non-productive acreage to that well.

As you can see from the testimony of Mr. Boundy and Mr. Cope, if you orient the proration unit north half/south half, instead of one more well to drill to drain and develop the Morrow reserves, you're going to have to drill three wells to recover the same reserves. A classic reason for compulsory pooling.

We believe that the arguments raised

1
2 here are no different than those arguments raised before the
3 Examiner, and in conclusion I think that you ought to confirm
4 the Examiner order with the two changes that we have proposed:
5 One, to give us an additional period of time in which to
6 commence the well, and two, to increase the risk factor.

7 Particularly you'll find the testimony
8 of Mr. Boots indicating that he believes the Morrow is so
9 risky in Section 13 that Supron is not even going to drill
10 a well to that depth, and yet they would have us drill a
11 well at an unorthodox location in the north half of 13 to
12 test only the Cisco.

13 Mr. Carr complains and pleads that it's
14 their lease, their acreage, and they ought to drill it.
15 They've had that location staked since 1974 and have yet to
16 drill that well.

17 It's our turn and we'd like to have it.

18 MR. RAMEY: Thank you, Mr. Kellahin.

19 Anything further in these two cases?

20 If not, the Commission will take -- I
21 don't think we can take one of them under advisement, we're
22 going to have to readvertise.

23 We'll take Case 7393 under advisement
24 and we will readvertise Case 7394 for some later date.

25 And the hearing is adjourned.

CERTIFICATE OF AFFIDAVIT

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

SALLY W. BOYD, C.S.R.

Rt. 1 Box 193-B

Santa Fe, New Mexico 87501

Phone (505) 455-7409

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Dockets Nos. 3-82 and 4-82 are tentatively set for January 20 and February 3, 1982. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 6, 1982

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

1982 JAN 11 AMT 0000

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

CASE 7410: (Continued from December 16, 1981, Examiner Hearing)

Application of B.O.A. Oil & Gas Company for two unorthodox oil well locations, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 2035 feet from the South line and 2455 feet from the East line and one to be drilled 2455 feet from the North line and 1944 feet from the East line, both in Section 31, Township 31 North, Range 15 West, Verde-Gallup Oil Pool, the NW/4 SE/4 and SW/4 NE/4, respectively, of said Section 31 to be dedicated to said wells.

CASE 7448: (Continued and Readvertised)

Application of Energy Reserves Group Inc. for creation of a new gas pool and an unorthodox location, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new gas pool for Cisco production comprising the S/2 of Section 12 and the N/2 of Section 13, Township 6 South, Range 33 East; applicant further seeks approval of the unorthodox location of its Miller Com Well No. 1-Y located 660 feet from the South and West lines of said Section 12.

CASE 7451: Application of Yates Petroleum Corporation for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through the Abo formation underlying the SE/4 of Section 11, Township 6 South, Range 25 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7452: Application of Superior Oil Company for an unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Wolfcamp-Penn well to be drilled 1980 feet from the South line and 2480 feet from the East line of Section 14, Township 23 South, Range 32 East, the S/2 of said Section 14, to be dedicated to the well.

CASE 7453: Application of T. D. Skelton for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Devonian and and Mississippian formations underlying the NE/4 NW/4 of Section 7, Township 12 South, Range 38 East, to be dedicated to the re-entry of an old well at a standard location thereon. Also to be considered will be the cost of re-entering and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in re-entry of said well.

CASE 7454: Application of Uriah Exploration, Inc., for approval of an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 1090 feet from the North line and 560 feet from the East line of Section 30, Township 22 South, Range 25 East, Wolfcamp-Pennsylvanian formations, the N/2 of said Section to be dedicated to the well.

CASE 7455: Application of H. L. Brown, Jr. for compulsory pooling at an unorthodox location, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests from the top of the Wolfcamp formation to the base of the Granite Wash formation underlying the S/2 of Section 11, Township 6 South, Range 33 East, to be dedicated to a well to be drilled at an unorthodox location 1300 feet from the South line and 660 feet from the East line of said Section 11. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

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- CASE 7456:** Application of Colonial Production Company for gas well commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the commingling of Ballard-Pictured Cliffs production from its Jicarilla Apache Wells Nos. 9 and 10, located in Units A and C of Section 15, Township 23 North, Range 4 West, prior to metering.
- CASE 7457:** Application of E. T. Ross for nine non-standard gas proration units, Harding County, New Mexico. Applicant, in the above-styled cause, seeks approval for nine 40-acre non-standard gas proration units in the Bravo Dome Carbon Dioxide Area. In Township 19 North, Range 30 East: Section 12, the NW/4 NW/4 and NE/4 NW/4; Section 14, the NW/4 NE/4, SW/4 NE/4, and SE/4 NE/4. In Township 20 North, Range 30 East: Section 11, the NE/4 SW/4, SW/4 SE/4, SE/4 SW/4, and NW/4 SE/4.
- CASE 7458:** Application of Marks & Garner Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of salt water into the Bough C formation in the perforated interval from 9596 feet to 9616 feet in its Betenbough Well No. 2, located in Unit M of Section 12, Township 9 South, Range 35 East.
- CASE 7459:** Application of Red Mountain Associates for the Amendment of Order No. R-6538, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-6538, which authorized applicant to conduct waterflood operations in the Chaco Wash-Mesa Verde Oil Pool. Applicant seeks approval for the injection of water through various other wells than those originally approved, seeks deletion of the requirement for packers in injection wells, and seeks an increase in the previously authorized 68-pound limitation on injection pressure.
- CASE 7460:** Application of Northwest Pipeline Corporation for 13 non-standard gas proration units, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for 13 non-standard Pictured Cliffs gas proration units ranging in size from 142.39 acres to 176.77 acres and each comprised of various contiguous lots or tracts in Sections 4, 5, 6, 7, and 18 of Township 31 North, Range 7 West. Said proration units result from corrections in the survey lines on the North and West sides of Township 31 North, Range 7 West and overlap seven non-standard Mesaverde proration units previously approved by Order No. R-1066.
- CASE 7461:** Application of Wainoco Oil & Gas Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a well to be drilled at an unorthodox location 660 feet from the South and West lines of Section 12, Township 16 South, Range 37 East, Northeast Lovington Penn Pool, said location being 177.7 feet west of the center of Lot 4 whereas the pool rules specify that well be drilled within 150 feet of the center of the lot. Lots 3 and 4 of said Section 18 would be dedicated to the well.
- CASE 7421:** (Readvertised)

Application of Doyle Hartman for compulsory pooling, unorthodox well location and non-standard spacing unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Eumont Gas Pool underlying a 120-acre non-standard spacing unit consisting of the S/2 SW/4 and the NW/4 SW/4 of Section 3, Township 20 South, Range 37 East, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South line and 330 feet from the West line of Section 3. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

Docket No. 2-82

DOCKET: COMMISSION HEARING - MONDAY- JANUARY 11, 1982
9 A.M. - OIL CONSERVATION COMMISSION - ROOM 205
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 7393: (DE NOVO)

Application of Uriah Exploration Incorporated for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Cisco, Canyon and Morrow formations underlying the W/2 of Section 15, Township 22 South, Range 24 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

Upon application of Supron Energy Corporation, this case will be heard De Novo pursuant to the provisions of Rule 1220.

COMMISSION HEARING - MONDAY - JANUARY 11, 1982

CASE 7394: (DE NOVO)

Application of Supron Energy Corporation for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Pennsylvanian well to be drilled 462 feet from the North line and 1650 feet from the West line of Section 13, Township 22 South, Range 24 East, the N/2 of said Section 13 to be dedicated to the well.

Upon application of Supron Energy Corporation, this case will be heard De Novo pursuant to the provisions of Rule 1220.

SUPRON ENERGY CORPORATION

BLDG. V, FIFTH FLOOR
10300 NORTH CENTRAL EXPRESSWAY
DALLAS, TEXAS 75231

TELEPHONE (214) 691-9141
TWX (910) 561-9117
SUPRON, DA.

February 25, 1982

Mr. William F. Carr
Jefferson Place
Suite 1-110 North Guadalupe
Post Office Box 2208
Santa Fe, New Mexico 87501

Re: Shelby Federal #3, Eddy County, New Mexico

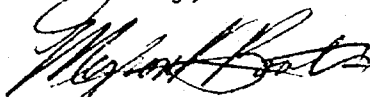
Dear Mr. Carr:

Attached is a copy of a letter from the Bureau of Land Management concerning the required location move because of drainage problems. I am also including a copy of the archaeological survey performed by Dr. J. Loring Haskell of the New Mexico Archaeological Service for a well location at 95' FNL and 1795' FWL of Section 13 T22S R24E. The location was moved to the 95' FNL and 1795' FWL location to solve the drainage problem.

Dr. Haskell's survey recorded an archaeological site near that location and recommended the surface location be moved to 95' FNL and 2045' FWL. The BLM is aware of the archaeological site and is in agreement with Dr. Loring's recommended location as stated in the attached letter.

Supron is proposing the surface location for the Shelby #3 be 95' FNL and 2045' FWL of Section 13 and is in the process of surveying and staking that location. The targetted bottom hole location is 95' FNL and 1795' FWL and will be directionally controlled during the drilling to insure the bottom hole location is in Section 13.

Sincerely,



Myron P. Boots
Senior Exploitation Engineer

Attachments

MPB:gcw



United States Department of the Interior

IN REPLY REFER TO

3109

BUREAU OF LAND MANAGEMENT
Carlsbad Resource Area Headquarters
P.O. Box 1778
Carlsbad, New Mexico 88220

February 17, 1982

Myron P. Boots
Supron Energy Corp.
Bldg 5, 5th Floor
10300 North Central Expressway
Dallas, Texas 75230

Dear Mr. Boots:

This letter is in response to your proposed Shelby Federal Well No. 3 located 467 FNL and 1650 FWL, section 13, T. 22 S, R. 24 E. Because this proposed location lies in the bottom of a major drainage, construction of a well pad in this location is not environmentally acceptable due to the potential flood hazard and eminent downstream pollution. For this reason, the Bureau of Land Management recommends that the location be moved approximately 400 feet south or 300 feet north and 200-400 feet east. After looking at your geologic data, the 400 feet south location is unacceptable. Therefore, we recommend the 300 feet north and 400 feet east to avoid the draw and the archeological site. These measurements are approximate and may be modified to meet the objectives of protecting the environmental setting.

If we may be of further assistance, please feel free to contact us.

Sincerely yours,

G. Ben Koski
Area Manager
Carlsbad Resource Area

cc: Mike Williams
New Mexico Oil Conservation Commission
909 W. Dallas Av.
Artesia, N.M. 88210

Han
P

NMAS

New Mexico Archaeological Services, Inc.

P. O. Box 1341
Carlsbad, New Mexico 88220
(505) 887-7646

Reconnaissance
Excavation
Analysis
Explanation
Curation

5 February 1982

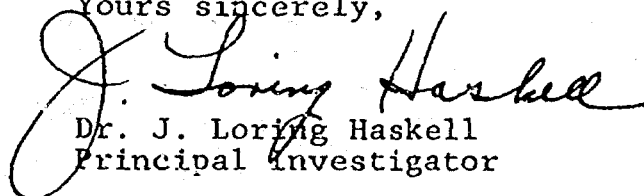
Mr. M.F. Bragley
SUPRON ENERGY CORPORATION
Building 5 Fifth Floor
10300 North Central Expressway
Dallas, Texas 75231

Dear Mr. Bragley:

Enclosed please find NMAS' Archaeological Clearance Report for SUPRON ENERGY CORPORATION's proposed Shelby Federal Well No. 3 and its associated access road in Eddy County, New Mexico. One archaeological site, a ring midden, was recorded during this reconnaissance. NMAS is suggesting clearance for this project provided the archaeological site is avoided; please consult our report for the suggested mitigation.

If you have any questions pertaining to this report, please call my office. Thank you for asking NMAS to do this reconnaissance.

Yours sincerely,


Dr. J. Loring Haskell
Principal Investigator

Enclosure

cc: Mr. Thomas Zale, BLM, Carlsbad
Ms. Ann Ramage, BLM, Roswell
Mr. George Stewart, USGS, Roswell
Mr. Curtis Schaafsma, Laboratory of Anthropology,
Santa Fe
Mr. Thomas W. Herlan, SHPO, Santa Fe

as

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P

NMAS

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Reconnaissance
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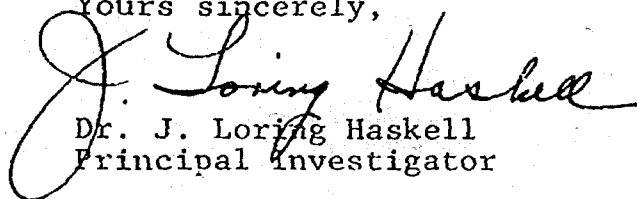
Mr. M.F. Bragley
SUPRON ENERGY CORPORATION
Building 5 Fifth Floor
10300 North Central Expressway
Dallas, Texas 75231

Dear Mr. Bragley:

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If you have any questions pertaining to this report, please call my office. Thank you for asking NMAS to do this reconnaissance.

Yours sincerely,


Dr. J. Loring Haskell
Principal Investigator

Enclosure

cc: Mr. Thomas Zale, BLM, Carlsbad
Ms. Ann Ramage, BLM, Roswell
Mr. George Stewart, USGS, Roswell
Mr. Curtis Schaafsma, Laboratory of Anthropology,
Santa Fe
Mr. Thomas W. Merlan, SHPO, Santa Fe

as

Archaeological Clearance Report

for

SUPRON ENERGY CORPORATION

Shelby Federal Well No. 3

Prepared

By

Dr. J. Loring Haskell
Principal Investigator

Submitted

By

Dr. J. Loring Haskell
Principal Investigator
New Mexico Archaeological Services, Inc.
Carlsbad, New Mexico

5 February 1982

Permit No. 81-NM-306

ABSTRACT

New Mexico Archaeological Services, Inc., representing SUPRON ENERGY CORPORATION, Midland, undertook an archaeological reconnaissance of Bureau of Land Management lands scheduled to be impacted by the construction of a drill location and its accompanying access road. The investigated areas are situated in Section 13, T22S, R24E, NMPM, Eddy County, New Mexico. One archaeological site, NMAS 5213, was recorded during this reconnaissance. Clearance is suggested provided the archaeological site is avoided.

Introduction

On 20 November 1981, New Mexico Archaeological Services, Inc., (NMAS), Carlsbad, undertook for SUPRON ENERGY CORPORATION, Midland, an archaeological reconnaissance of federal lands administered by the Bureau of Land Management in Eddy County, New Mexico. The reconnoitered areas will be impacted by the construction of a drill location and its associated access road. This project was advanced by Mr. M.F. Bragley, SUPRON ENERGY CORPORATION, and administered by Dr. J. Loring Haskell, Principal Investigator, NMAS, Inc. This reconnaissance was undertaken by Dr. Haskell.

Survey Technique

For this investigation, SUPRON ENERGY CORPORATION's proposed location was reconnoitered for evidence of man's past activities by walking it in a series of 25 ft wide, close interval (15° or less), zigzag transects. In addition an added zone embracing to 20 ft on each side of the staked 400 X 400 ft location, and hence lying outside the bounds of the proposed work area, was reconnoitered by a similar means. As for the access, it was walked in two 25 ft wide transects. Methodologically, this procedure served to promote optimal conditions for the visual examination of areas to be impacted by construction-related activities.

Shelby Federal Well No. 3

Location

The proposed location will measure 400 X 400 ft on federal lands and will be situated 95 ft from the north and 1795 ft from the west line of: Section 13, T22S, R24E, NMPM, Eddy County, NM

Thus it will be situated in the:

NE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 13, T22S, R24E, NMPM, Eddy County, NM

The associated access road will measure 20 X 100 ft and will be situated in the:

NE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 13, T22S, R24E, NMPM, Eddy County, NM

Map Reference: USGS WEST CARLSBAD QUADRANGLE, 15 Minute Series, 1943.

Terrain

SUPRON ENERGY CORPORATION's proposed location will be situated on the south-facing terrace of a northeast- to southwest trending ridge system. Locally, this landform is overlain by a scree of limestone cobbles and gravels and less frequent, Cornudas Peak-derived, iron nodules. Gray-colored, dolomitic-type, limestone is present on a sporadic basis. The terrace is bordered on the south by a deeply entrenched arroyo which debouches into Rain Spring Draw. Soil individuals are composed of silt loams and silty clay loams belonging to the Limestone Rockland and Lithic Calciustoll subgroups.

Floristics

Areal soil individuals host a diverse overstory of Juniperus monosperma, Dasyllirion leiophyllum, Rhus microphylla, Berberis trifoliolata, Fouquieria splendens, Acacia constricta, Acacia greggii, Yucca elata, Yucca baccata, and Nolina sp. Observed cacti and succulents include Opuntia englemanni, Opuntia imbricata, Echinocereus pectinatus, Coryphantha sp., Ferocactus sp., and Agave lecheguilla. Most commonly occurring forbs include Gutierrezia sarothrae, Croton sp., and several unidentified representatives of the Compositae; Bouteloua curtipedula, Bouteloua sp., and Tridens pulchellus are the most frequent grasses.

Cultural Resources

During the course of this reconnaissance, one archaeological site, NMAS 5213, was recorded.

NMAS 5213

Location: SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 12, T22S, R24E, NMPM, Eddy County, NM

UTM: Zone 13, N3,584,550; E551,300

Map Reference: USGS WEST CARLSBAD QUADRANGLE, 15 Minute Series, 1943.

Ownership: Bureau of Land Management

Dimension of Resources: 10 X 10 m

Typological Designation: Task Locus

Temporality: Unknown

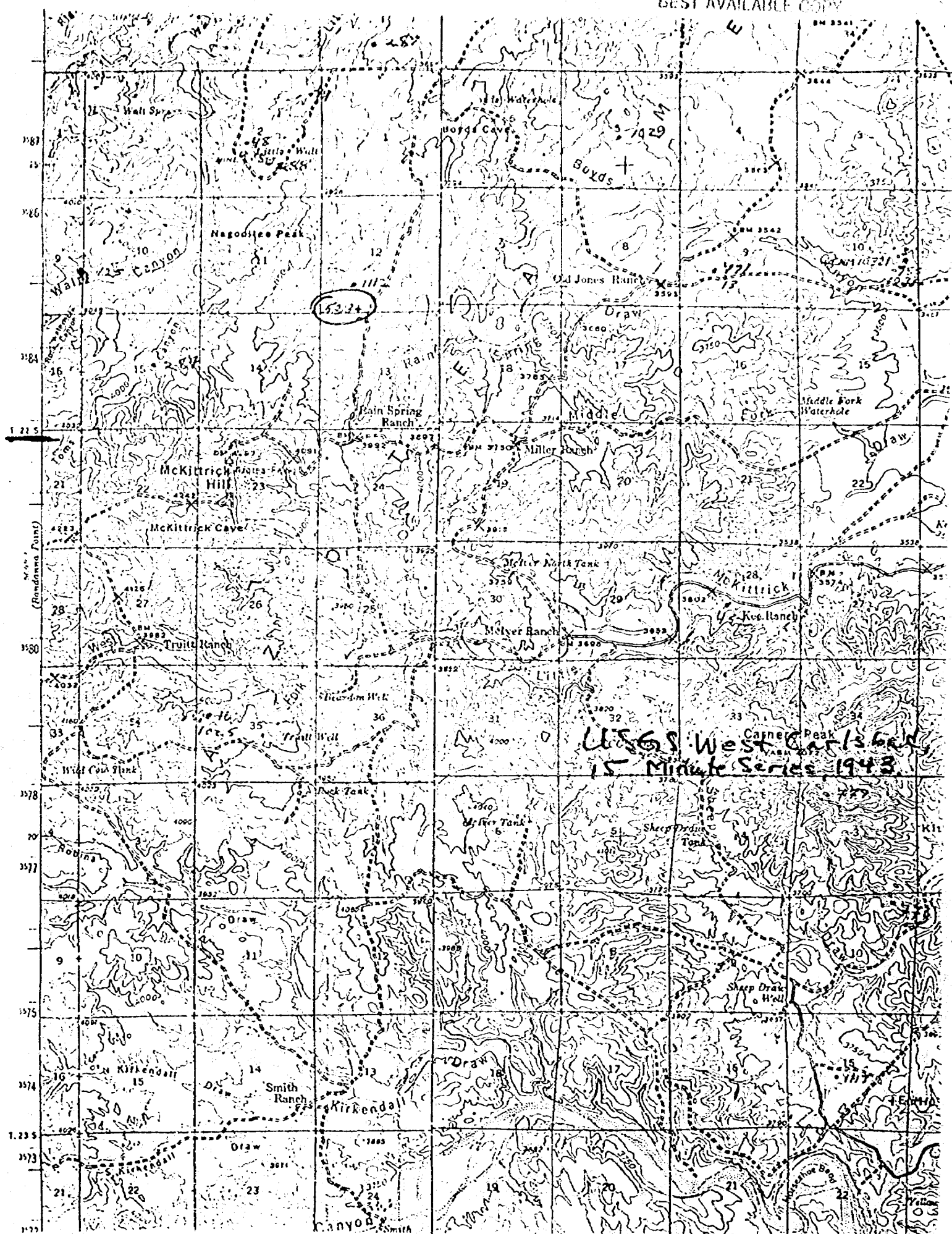
Nature of Cultural Resources: NMAS 5213, a task locus, is situated on a terrace of probable Pleistocene age. Overall, this landform is subject to the effects of ephemeral sheetwash. The site consists of a low visibility ring midden which is remarkable for the precision of its circularity as well as the spatiality distribution, and orderliness of associated detritus. It measures 5.4 m in diameter. Angular, limestone cobbles and gravels are confined for the most part to the perimeter of the "ring" itself and are generally absent within the fire pit which is ashy. Diagnostic artifacts are lacking. This feature is shielded from the wind by the eminence situated to the north-northwest. Sporadic pieces of burned- and fire-cracked limestone cobbles and gravels were noted east and southeast of the ring midden having been carried thereby sheetwash.

Further investigation of this site may establish temporality and hence actual authorship. Features of this type date back to the Late Archaic (A.D. 750-950), bracket the Jornada Mogollon (A.D. 950-1350), and continued to be made locally by the Mescalero Apache until the early 1900's.

Recommendations

NMAS suggests clearance for this project provided the archaeological site is avoided. This can be accomplished by shifting the proposed location 250 ft to the east, i.e., 2045 FWL, 95 FNL, Section 13, T22S, R24E, NMPM, Eddy County, New Mexico. (Fig.1) . Men and materiel are to avoid the

archaeologically sensitive area. Clearance, of course, is granted by the Bureau of Land Management.



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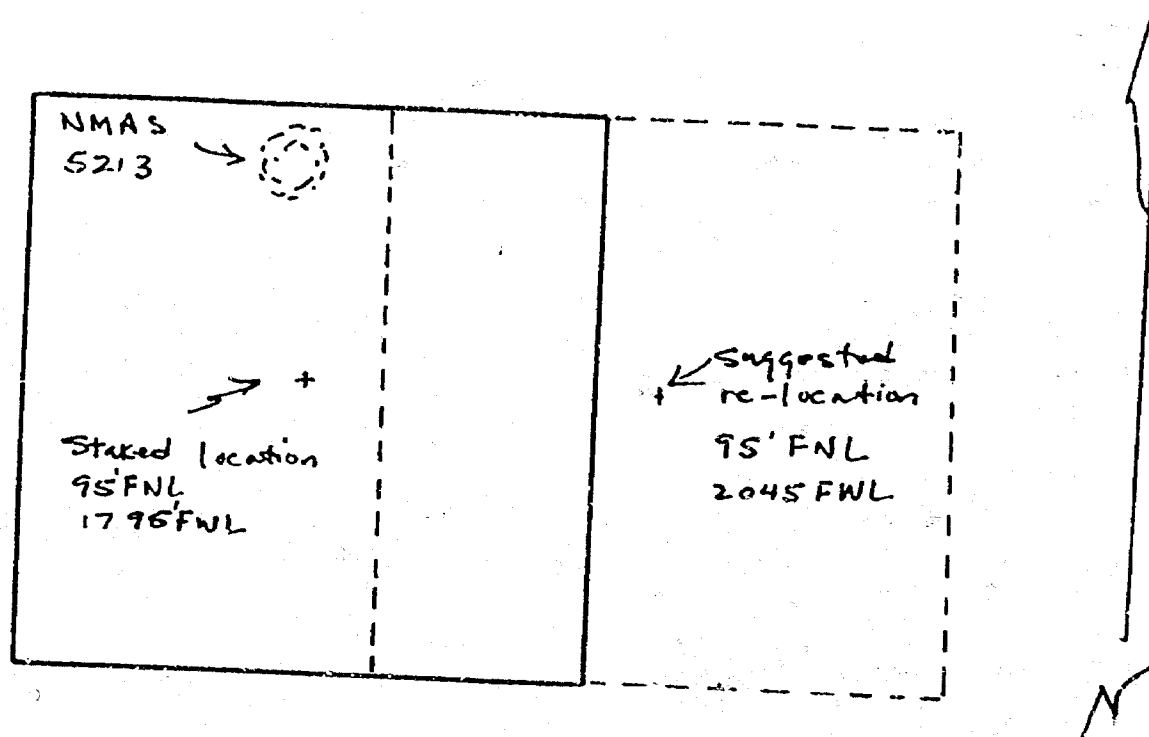
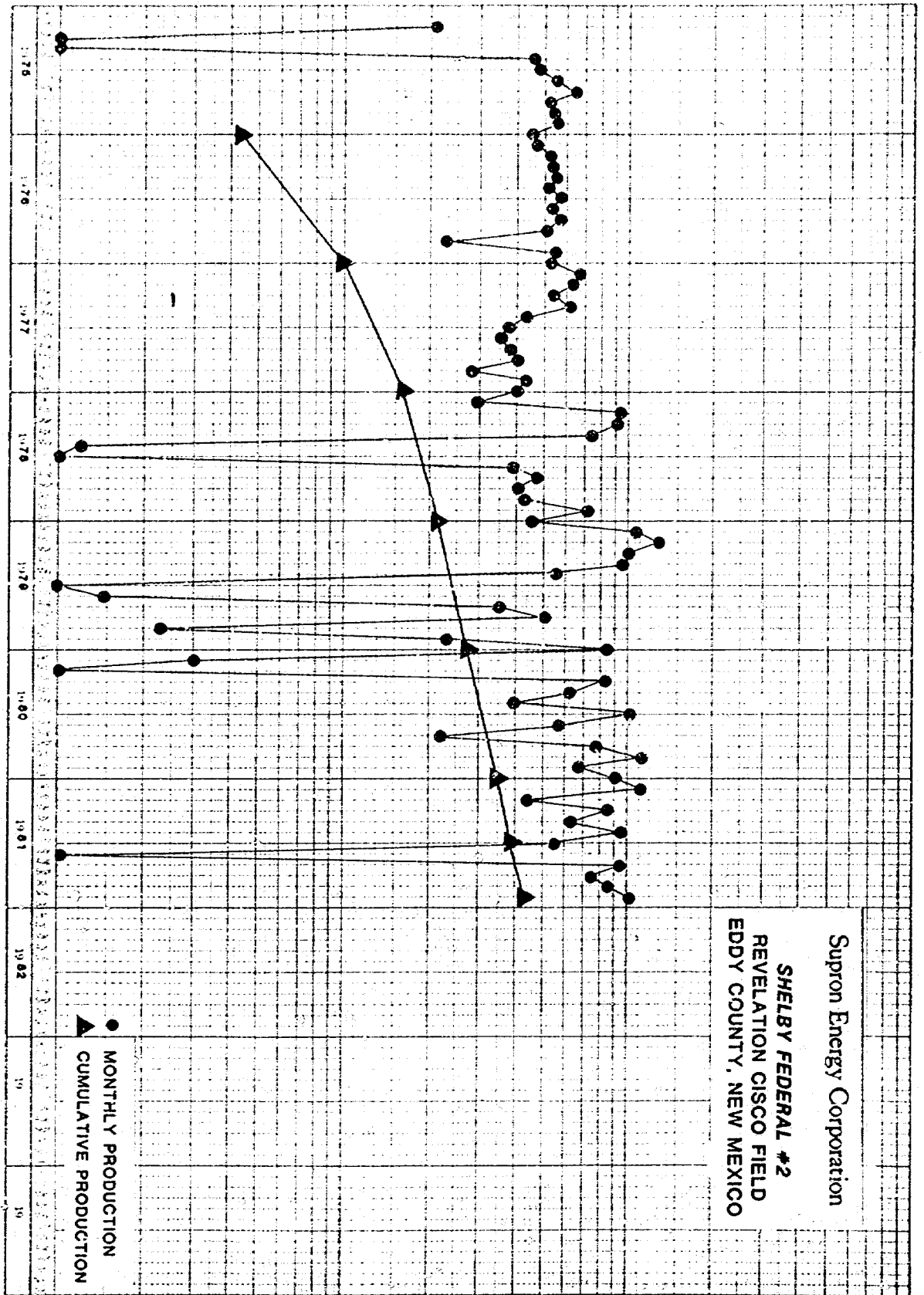


Fig. 1. Schematic representation showing SUPRON ENERGY's proposed Shelby Federal Well No. 3 vis à vis NMAS 5213. As envisioned, the location will be situated 2045 FWL and 95 FNL, Section 13, T22S, R24E, NMPM, Eddy County, New Mexico.

MONTHLY PRODUCTION
MMCF



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CUMULATIVE
PRODUCTION
MMCF

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Supron Energy Corporation

SHELBY FEDERAL #3
1795' FWL AND 95' FNL
SEC. 13, T 22 S, R-24-E

	MMCF
TOTAL INITIAL GAS-IN-PLACE	22,662
GAS IN PLACE ABOVE SHELBY FEDERAL #2	6,326
GAS IN PLACE ABOVE SHELBY FEDERAL #3	250
GAS IN PLACE ABOVE STANDARD LOCATION (1980' FWL AND 660' FNL)	682

BUREAU OF	
OIL COMMISSION	
7393	6
7394	
Submitted by	SUPRON
Hearing Date	2/2/82

BEFORE THE
OIL CONSERVATION COMMISSION
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

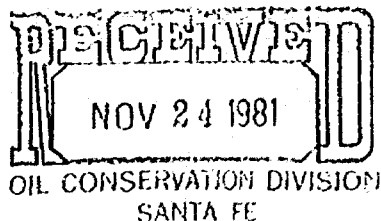
IN THE MATTER OF THE APPLICATION
OF SUPRON ENERGY CORPORATION FOR
AN UNORTHODOX GAS WELL LOCATION,
EDDY COUNTY, NEW MEXICO.

CASE 7394
ORDER NO. R-6836

APPLICATION FOR HEARING DE NOVO

Comes now, SUPRON ENERGY CORPORATION, by and through
its undersigned attorneys, being a party adversely affected by
Order R-6836 and pursuant to Section 70-2-13 N.M.S.A. (1978
Compilation) and Oil Conservation Commission Rule No. 1220,
hereby applies to the Commission for a hearing de novo in the
above-referenced cause.

Respectfully submitted,
CAMPBELL, BYRD & BLACK, P.A.



By William F. Carr
William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Supron Energy
Corporation

Certificate of Mailing

I hereby certify that a copy of the foregoing pleading
was mailed to opposing counsel this 24th day of November, 1981.

William F. Carr
William F. Carr

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

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CASE NO. 7394 DE NOVO
Order No. R-6836-A

APPLICATION OF SUPRON ENERGY
CORPORATION FOR AN UNORTHODOX
GAS WELL LOCATION, EDDY COUNTY,
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 2, 1982, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this April 1, 1982, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Supron Energy Corporation, seeks approval of an unorthodox gas well location 95 feet from the north line and 1790 feet from the west line of Section 13, Township 22 South, Range 34 East, NMPM, to test the Pennsylvanian formation, McKittrick Hills Field, Eddy County, New Mexico.

(5) That the matter came on for hearing at 9 a.m. on October 4, 1981, at Santa Fe, New Mexico, before Examiner Dennis S. RLS and, pursuant to this hearing, Order No. R-6836 was issued on November 18, 1981, which Denied Supron's application, & granted the application of Uriah.

(3) That the N/2 of said Section 13 ^{would} be dedicated to the well.

(4) That the NW/4 of said Section 13 is also the subject of a competing application wherein Uriah Exploration Incorporated seeks an order pooling all mineral interests in the Cisco, Canyon, and Morrow formations underlying the W/2 of said section and the drilling of a well at a standard location thereon.

Case No. 6965 De Novo
Order No. R-6497-A

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(6) That on November 24, 1981, application for Hearing De Novo was made by Supron Energy Corporation and the matter was set for hearing before the Commission.

(7) That the matter came on for hearing de novo on February 2, 1982.

(8) That the evidence adduced at said hearing indicates that Division Order No. R-6836 entered November 18, 1981, should be affirmed.

IT IS THEREFORE ORDERED:

(1) That Division Order No. R-6836, entered November 18, 1981, is hereby affirmed.

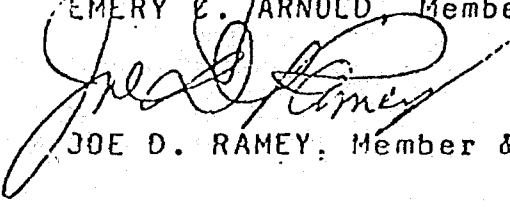
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

ALEX J. ARMIDO, Member


EMERY E. ARNOLD, Member


JOE D. RAMEY, Member & Secretary

S E A L

~~(8) That the testimony information presented in the original case~~

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