

1 STATE OF NEW MEXICO
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BUILDING
5 SANTA FE, NEW MEXICO

6 9 August 1989

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of Bahlburg Exploration for CASE
an unorthodox oil well location, Lea 9706
County, New Mexico.

10
11 BEFORE: Michael E. Stogner, Examiner
12
13

14 TRANSCRIPT OF HEARING

15 A P P E A R A N C E S
16

17 For the Division: Robert G. Stovall
18 Attorney at Law
19 Legal Counsel to the Division
State Land Office Building
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20 For Bahlburg Exploration: Karen Aubrey
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24
25

I N D E X

WILLIAM C. BAHLBURG

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1 MR. STOGNER: Call next Case
2 Number 9706.

3 MR. STOVALL: Application of
4 Bahlburg Exploration for an unorthodox oil well location,
5 Lea County, New Mexico.

6 MR. STOGNER: Call for ap-
7 pearances?

8 MS. AUBREY: Karen Aubrey
9 with the Santa Fe firm of Kellahin, Kellahin & Aubrey,
10 appearing for the applicant.

11 I have one witness to be
12 sworn.

13 MR. STOGNER: Are there any
14 other appearances in this matter?

15 Will the witness please stand
16 and be sworn?

17
18 (Witness sworn.)

19
20 MR. STOGNER: Ms. Aubrey?

21
22 WILLIAM C. BAHLBURG,
23 being called as a witness and being duly sworn upon his
24 oath, testified as follows, to-wit:

25

DIRECT EXAMINATION

BY MS. AUBREY:

Q Would you state your name for the record?

A My name is William C. Bahlburg.

Q Mr. Bahlburg, where are you employed?

A I'm employed by Bahlburg Exploration in Dallas, Texas.

Q And what is your occupation?

A I'm a geologist, geophysicist and owner in the company.

Q Have you previously appeared before the New Mexico Oil Conservation Division and given testimony as a geologist and geophysicist?

A Yes, I have.

Q Are you familiar with the application of Bahlburg Exploration in Case Number 9706?

A Yes, I am.

MS. AUBREY: Mr. Examiner, I tender Mr. Bahlburg as an expert geologist and geophysicist.

MR. STOGNER: Mr. Bahlburg is so qualified.

Q Mr. Bahlburg, would you refer to what is marked as Exhibit Number One and explain for the Examiner

1 what Bahlburg Exploration seeks to accomplish by its appli-
2 cation?

3 A Exhibit Number One is a location plat
4 that is drawn on the scale of one inch equals 1000 feet and
5 it covers the area of King Field in Lea County, New Mexico,
6 Township 13 South, Range 37 East.

7 In this -- or on this plat are shown the
8 lease operators in Sections 25, 26, 35 and 36. Also hown
9 is a proposed location that is approximately 50 feet from
10 the western boundary of Section 25 and 900 feet from the
11 southern boundary of the same section, and in addition to
12 that, a statewide rule location, which is 330 feet from the
13 west line and 900 feet from the south line.

14 Also shown, as outlined in yellow, is a
15 BTA-owned oil and gas lease which has been farmed out to
16 Bahlburg Exploration for purposes of drilling the proposed
17 well.

18 Q In what formation do you propose to com-
19 plete this well, Mr. Bahlburg?

20 A In the Devonian formation.

21 Q This case was previously filed as a re-
22 quest for administrative approval, is that correct?

23 A That's correct.

24 Q What is the spacing in the Devonian in
25 the King Field?

1 A It's on statewide forties with a, I
2 believe, minimum of 330 feet from the line of a quarter
3 quarter section.

4 Q Let me have you look now at Exhibit
5 Number Two, which is a geologic synopsis that you prepared,
6 is that correct?

7 A That's correct.

8 Q Would you briefly review that for the
9 Examiner to show the geological justification for your re-
10 quest for an unorthodox well location?

11 A This synopsis is just a brief overview
12 of the early development of King Field with emphasis on the
13 Siluro-Devonian reservoir. It describes the geologic and
14 geophysical character of the reservoir, the nature of the
15 field trap, and also the reasons why we believe it's ne-
16 cessary to drill the proposed unorthodox location.

17 Very simply put, if we aren't allowed to
18 drill the location at a distance of approximately 50 feet,
19 or less, from the western boundary of Section 25, we be-
20 lieve that we will be drilling a well that falls in a down-
21 thrown position 900 to 1000 feet downthrown to the existing
22 production and it will result in a dry hole.

23 Q You have this acreage by virtue of a
24 farmout from BTA, is that correct?

25 A That's correct.

1 Q And under the terms of your farmout from
2 BTA what do you have to do in order to earn the acreage?

3 A We have to drill a 12,500 foot test on
4 or before, or commence drilling a 12,500 foot test on or
5 before September 1st and drill the well to a depth to ade-
6 quately test the Siluro-Devonian, which we estimate to be
7 at approximately 12,000 feet.

8 Q Now you've prepared a structure map for
9 the Examiner, which we've marked as Exhibit Number Three,
10 is that right?

11 A That's correct.

12 Q And on that structure map you have
13 identified both the proposed location, the unorthodox
14 location requested, and what would be a standard location,
15 is that right?

16 A That's correct.

17 Q And you've also identified in green the
18 Devonian wells which are completed in the area.

19 A That's correct.

20 Q Would you review this exhibit for the
21 Examiner, particularly with an eye to -- to explaining how
22 this structure map justifies your choice of location 50
23 feet off the section line?

24 A Okay. As you can see from the map, the
25 field structure is characterized as a very intensely

1 faulted horst block system trending in a north/south
2 direction, and on this map I've tried to outline in green
3 the -- what we believe to be the field oil/water contact or
4 the actual limits of potential production or existing pro-
5 duction in the field.

6 Also, as Ms. Aubrey stated, the wells
7 that have been colored in green are past or existing Sil-
8 uro-Devonian producers.

9 What we've done is we have acquired and
10 show proprietary seismic data over this field in an effort
11 to delineate a northward extension of the existing horst
12 block system and in doing that we have delineated what we
13 believe is a high block running in a north/south orienta-
14 tion that is very nearly centered on the section line
15 dividing Sections 25 and 26.

16 As you can see on the map, there are a
17 number of wells that have been utilized in the control of
18 this structure map, one, which I point to, is in the
19 southwest southwest of Section 25, approximately 660 from
20 the southern boundary and the western boundary. It's an
21 abandoned dry hole that was drilled back in 1951. Actual-
22 ly, it was the first well drilled out here and it resulted
23 in a dry hole because it was downthrown.

24 There is a very large fault between that
25 well and our proposed location that is approximately 900 to

1 1000 feet of throw, or has approximately 900 to 1000 feet
2 of throw, and what we proposed to show here is that a
3 standard location, which is shown by the blue dot, would be
4 essentially right on that fault and we believe that there
5 would be too much risk involved in drilling a well at a
6 standard location in that we'd have a good chance of
7 drilling a downthrown test; therefor, we'd propose to move
8 immediately to the west, as close as we can get to the
9 section line and drill the well at what we believe to be a
10 more prudent location to test the Devonian.

11 Q Do you have any other comments you'd
12 like to make about Exhibit Number Six?

13 A No.

14 Q Look at Exhibit Number Four now, which
15 is a west-to-east cross section, and review that for the
16 Examiner.

17 A This is an east/west cross section that
18 is drawn from the well control and unfortunately I did not
19 mark it on the map, but this cross section runs along a
20 line, along the southern boundaries, or near the southern
21 boundaries of Section 26 and 25, and it includes a string
22 of wells in an east/west direction starting with the well
23 in the southwest of the southeast of 26, the well imme-
24 diately adjacent to it to the east, then following and
25 goes through the two wells in the southeast of the south-

1 east of Section 26, and then continues on through the
2 proposed location in the southwest southwest of 25, and
3 then on to the downthrown well in the southwest/southwest
4 of 25.

5 And this section encompasses what we
6 believe to be the entire potentially productive geologic
7 interval over King Field, starting at the bottom at the
8 Siluro-Devonian, which is denoted as "S-D" down at the
9 bottom. You'll notice the scale, the vertical scale, on
10 this is one inch equals 300 feet. The horizontal scale is
11 one inch equals 333 feet, so there's very little exagger-
12 ation on it.

13 As you can see from the cross section,
14 the field, the main horst block system in an east/west
15 direction is actually in this particular view composed of
16 two separate blocks, a high block in which we propose to
17 drill our location, which also has a well drilled by
18 Cotton, the Cotton No. 2 Lowe, in the southeast/southeast
19 of 26, and then a slightly lower block that was intersected
20 by Cabot back in the fifties, and a well also drilled in
21 the southeast/southeast of 26, and then further to the west
22 there's the Cabot No. 1-C Lowe, which was also drilled in
23 the fifties but at that time was drilled in a downthrown
24 position.

25 And then more importantly, and actually

1 more germane to what we're proposing, is the fault on the
2 eastern side of the horst block, which shows the down-
3 thrown Forrest Oil Company No. 1 Lowe Well.

4 Our proposed location is identified by a
5 red dot or red color at the top and basically we're pro-
6 posing and attempting to drill into this high horst block.

7 Q Do you have any other comments to make
8 about Exhibit Number Four?

9 A No.

10 Q Mr. Bahlburg, the proposed location is
11 unorthodox only as to BTA on the -- on the west, is that
12 correct?

13 A That's correct.

14 Q I understand that Cabot is an offset
15 operator to the south?

16 A That's correct.

17 Q But your proposed location is standard
18 as to them, is that right?

19 A That's correct.

20 Q Let me have you look now at Exhibit
21 Number Five, which is a copy of your farmout agreement with
22 BTA and have you refer the Examiner to that portion of the
23 agreement which shows BTA's consent for an unorthodox
24 location.

25 A Okay. That particular reference is on

1 page of the farmout on a paragraph labeled number 10,
2 one-third of the way from the top of the page where it
3 states, "farmor agrees that it will not opposed any
4 location exception along the western boundary of the lands
5 subject hereto, those lands being the 240-acre tract in the
6 west half of Section 25, Township 13 South, Range 37 East."

7 Q And have you had specific discussions
8 with BTA about your choice of proposed location?

9 A Yes, I have.

10 Q Do you know what BTA's experience in the
11 King Field Devonian has been?

12 A Yes. BTA had drilled a well in 1987
13 approximately 1600 feet from the south line and 330 feet
14 from the east line on Section 26, which was a standard
15 statewide location. They unexpectedly fell off the horst
16 block that trends -- the high horst block, that trends in a
17 north/south direction, and drilled approximately 200 to 300
18 feet low to their expectation. Partly because of that and
19 partly because of reservoir, or the absence of reservoir in
20 the Siluro-Devonian, BTA came up the hole and ended up
21 completing in the Upper Wolfcamp zone at approximately 9400
22 feet and the well is currently producing roughly nine to
23 ten barrels a day from the Upper Wolfcamp.

24 Because of their experience in the area,
25 they have decided to farm out to Bahlburg Exploration.

1 Q Their well, then, was not productive
2 from the Devonian, is that correct?

3 A That's correct.

4 Q Let me have you look now at Exhibit
5 Number Six, which is a list of the offset operators, off-
6 setting your proposed location, is that correct?

7 A That's correct.

8 Q Mr. Bahlburg, were Exhibits One through
9 Six prepared by you?

10 A They were.

11 MS. AUBREY: Mr. Examiner, I
12 offer Exhibits One through Six and I tender the witness.

13 MR. STOGNER: Exhibits One
14 through Six will be admitted into evidence at this time.

15 Do you have any of those
16 notices that you sent?

17 MS. AUBREY: Mr. Stogner, we
18 didn't put this case on the docket. The Division put this
19 case on the docket after having denied our application for
20 administrative approval.

21 MR. STOGNER: Well, we didn't
22 deny it because under the general rules and regulations it
23 can't even be considered. So, but anyway, what are you
24 getting at?

25 MR. STOVALL: Do you have

1 notices of the administrative application?

2 MS. AUBREY: Yes, we do. I
3 have those.

4 What I was getting at, Mr.
5 Stogner, was that we did not send out -- file an applica-
6 tion and send out the notice of an application.

7 MR. STOVALL: But you would
8 have had to give notice at the time of the administrative
9 --

10 MS. AUBREY: That's right, I'm
11 getting that out for you, Mr. Stovall.

12 MR. STOVALL: Okay.

13 MS. AUBREY: Mr. Examiner, may
14 I ask the witness a couple more questions before you
15 proceed with your examination?

16 MR. STOGNER: Yes, please.

17 Q Mr. Bahlburg, can you tell the examiner
18 what the mineral ownership is on either side of the section
19 line dividing Section 25 and 26?

20 A The mineral ownership in both 240-acre
21 tracts of land in the west half of 25 and the east half of
22 26, is -- is identical and is owned by the Lowe family, so
23 it doesn't change on either side of the boundary.

24 MS. AUBREY: That's all I
25 have, Mr. Examiner.

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2

CROSS EXAMINATION

3

BY MR. STOGNER:

4

Q Let me see if I understand this. On the map, if I look at Exhibit Number One, your farmout is the -- marked in yellow, is that correct?

7

A That's correct.

8

Q And you offset BTA, this is BTA's acreage.

9

10

A That's correct, actually both are BTA leases.

11

12

Q Okay, now, the mineral interest in which you alluded to being the same, are they the same under both of the rectangular --

13

14

15

A That's correct.

16

Q -- hatch marks in 26 and 25?

17

A That's correct.

18

Q And you based your geological information on Exhibit Number Three with seismic work, is that correct?

19

20

21

A That's correct. The well control and then further refined it with seismic and you'll notice there is a Line 1 designated that runs very near the southern boundary of Sections 25 and 26 and actually ties and goes through all of the well control that has been

22

23

24

25

1 utilized on the cross section that you have, and that line
2 has been used to pick, as best I can, the exact location of
3 the very large down to the east fault.

4 Q And the line K-1 that goes north and
5 south along the section line?

6 A Okay, that was a proprietary line that I
7 shot.

8 Q Okay. But you used that information
9 also?

10 A Oh, very definitely. I used that in-
11 formation, the east/west line that we just talked about,
12 plus another east/west line, actually several east/west
13 lines, one to the north, one further to the north that runs
14 along the boundary of -- the northern boundary of Sections
15 25 and 26, and in addition to that, an overall field study
16 of the type of structure and tectonic character that exists
17 in this area.

18 Q Have you reviewed well data, i.e.,
19 directional drilling surveys out there in this particular
20 area, and what is the tendency of the direction of a well
21 to be of a well to go once it gets started?

22 A In this area my best estimation of that,
23 I have reviewed the inclination and deviation charts that
24 were filed in the State Commission offices and in some
25 cases, for instance the -- the dry hole in the very south-

1 east corner of Section 26 at a depth of approximately
2 11,000 feet, that well had deviated to 7 degrees.

3 Q In which direction?

4 A I don't know because they did not run an
5 actual directional survey other than (unclear) surveys just
6 saying that it was -- had deviated to an inclination of 8
7 degrees.

8 Q Okay, that well is at a standard loca-
9 tion, isn't that correct?

10 A I believe that that's true. It looks
11 like it's 330 from the south line.

12 Q With a well this close to that lease
13 line it wouldn't take much for it to go over, would it?

14 A Over the lease line?

15 Q That's right.

16 A I would agree with that.

17 Q You would --

18 A I would agree with that that.

19 Q Okay, would you be prepared to take a
20 directional survey on this particular well and make sure
21 that it stays well within your proration unit?

22 A I would be prepared to run a directional
23 survey to insure that the well -- and take appropriate
24 measures to insure that the well would not cross that sec-
25 tion boundary and stay within the limits of the proration

1 unit.

2 I would also in that case ask BTA to
3 amend their farmout, that in the event through circum-
4 stances beyond my control the well did cross that boundary,
5 that they would farm out the adjacent acreage.

6 Q This farmout agreement is dated March
7 15th, 1989. Is that when MTA signed this?

8 A BTA?

9 Q BTA, rather.

10 A Yes, sir.

11 Q 21st of March, to be exact.

12 MR. STOGNER: Okay, are there
13 any other questions of this witness?

14 If not, he may be excused.

15 Anything further in this case?

16 MS. AUBREY: Yes, Mr. Stogner,
17 in response to your question about notice, I have my copy
18 of the June 23rd, 1989 letter, which was copied and sent by
19 certified mail to Cabot. The green card does not appear to
20 be stapled to it and I'll get that over to you today.

21 MR. STOGNER: Okay, we'll make
22 that a part of the record in this case.

23 MR. STOVALL: Ms. Aubrey, did
24 you give notice to -- to BTA?

25 MS. AUBREY: Yes, we did, by

1 copy of the same letter by certified mail on June 23rd,
2 1989.

3 MR. STOGNER: If there is
4 nothing further, Case 9706 will be taken under advisement.

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6 (Hearing concluded.)
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C E R T I F I C A T E

I, SALLY W. BOYD, C. S. R. DO HEREBY
CERTIFY that the foregoing Transcript of Hearing before the
Oil Conservation Division (Commission) was reported by me;
that the said transcript is a full, true and correct record
of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 9706,
heard by me on 9 August 1989.

Michael E. Rogers, Examiner
Oil Conservation Division