

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

20 July 1988

EXAMINER HEARING

IN THE MATTER OF:

Application of Leonard Resource Corp- CASE
oration for an unorthodox gas well 9432
location, Eddy County, New Mexico.

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

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I N D E X

DALE WILLIAM BEIKIRCH

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Applicant Exhibit Five, Cross Section 17

1 MR. STOGNER: We'll call next
2 Case Number 9432.

3 MR. STOVALL: Application of
4 Leonard Resource Corporation for an unorthodox gas well
5 location, Eddy County, New Mexico.

6 MR. BRUCE: Mr. Examiner, my
7 name is Jim Bruce, with the Hinkle Law Firm and I'm repre-
8 senting the applicant in this matter.

9 MR. STOGNER: Are there any
10 other appearances in this case?

11 At this time will the witness
12 please continue standing to be sworn.

13
14 (Witness sworn.)

15
16 MR. STOGNER: You may be
17 seated. Please continue, Mr. Bruce.

18
19 DALE WILLIAM BEIKIRCH,
20 being called as a witness and being duly sworn upon his
21 oath, testified as follows, to-wit:

22
23 DIRECT EXAMINATION

24 BY MR. BRUCE:

25 Q Will you please state your name and city

1 of residence, please?

2 A My name is Dale William Beikirch, and my
3 city of residence is Midland, Texas.

4 Q What is your occupation and who are you
5 employed by, Mr. Beikirch?

6 A I am an independent consulting geologist
7 and a joint venture partner in this prospect.

8 Q And have you previously testified before
9 the OCD as a geologist and had your credentials accepted?

10 A Yes, I have.

11 Q And are you familiar with geological
12 matters related to Case 9432?

13 A Yes, I am.

14 MR. BRUCE: Mr. Examiner, are
15 the credentials of the witness acceptable?

16 A They are.

17 Q Briefly, Mr. Beikirch, what does Leonard
18 Resource Corporation seek in this application?

19 A Leonard Resource Corporation seeks ap-
20 proval of an unorthodox gas well location 510 feet from
21 the north line and 660 feet from the east line of Section
22 24, Township 26 South, Range 24 East in Eddy County, New
23 Mexico.

24 This well will test the Pennsylvanian
25 formation and we are asking that the north half of Section

1 24 be dedicated to the well.

2 Q Thank you. Would you please now refer
3 to Exhibit Number One and discuss its contents?

4 A Exhibit Number One is a lease ownership
5 plat of the prospect area. The acreage outlined by red is
6 a Federally approved unit.

7 The acreage shown in yellow is acreage
8 that is held by a Leonard Resource and joint venture part-
9 nership.

10 The acreage cross-hatched in blue is an
11 option to farm out acreage.

12 The two principal leaseholders are
13 Louisiana Land and Exploration and Amerada Hess.

14 The orange dot spots the unorthodox lo-
15 cation in Section 24.

16 Q Regarding the offset to the north and to
17 the northeast, I believe on that plat it's indicated as In-
18 exco. What is the ownership of that?

19 A The ownership of the south half of Sec-
20 tion 13 and the southwest quarter of Section 18, is owned
21 65 percent by Louisiana Land and Exploration and 35 percent
22 by Amerada Hess.

23 Q Would you now please move on to Exhibit
24 Number Two and discuss it?

25 A Exhibit Number Two is a map of the

1 structure on top of the limestone marker below the top of
2 the Morrow D Clastics.

3 The unorthodox location is spotted by
4 the orange dot with the arrow pointing to it in Section 24
5 and the blue dot shows an orthodox location for a north
6 half proration unit.

7 The -- this map shows the prospect to be
8 located on a southeast plunging anticlinal feature that has
9 been interrupted by a series of downthrown faults to the
10 southeast.

11 The accumulation of gas in the Washing-
12 ton Ranch Field, located approximately 2-1/2 miles to the
13 northwest, and the Exxon Milepost Field, located approxi-
14 mately 3-1/2 miles to the southeast, is a result of a com-
15 bination trapping mechanism. The better gas production in
16 this area is a result where we have a favorable environmen-
17 tal facies, which are channel sandstones and stream (un-
18 clear) bar, sandstones and conglomerates, where these occu-
19 py the favorable structural position in this horst/graben
20 complex is where we have our better gas production.

21 Q Thank you. Would you now please move on
22 to Exhibit Number Two and discuss -- I mean Exhibit Three
23 and discuss it?

24 A Can I -- Mr. Examiner, can I continue on
25 Exhibit Two a little bit?

1 MR. STOGNER: Oh, yes, please.

2 A I'm sorry. The unorthodox location is
3 requested for the reason of the west bounding fault which
4 runs northeast/southwest across Section 24. It is critical
5 to the prospect that -- that -- two things; we be on the
6 downthrown side of that fault and also that we be high to
7 the Florida Exploration well drilled in Section 18.

8 Q Do you have anything further on that
9 exhibit?

10 A No.

11 Q All right, let's move on to Exhibit
12 Three, please.

13 A Exhibit Three is a sand isopach map of
14 the Morrow B-3 Sand, which has been superimposed over the
15 structure map which was shown on Exhibit Two.

16 The key information to be seen from this
17 exhibit is that these individual structural features have
18 separate or are separate gas reservoirs with defined gas-
19 water contacts.

20 If you'll notice in to the northwest,
21 the Washington Ranch Field, this B-3 Sand is productive in
22 that particular fault block and there is a water contact at
23 approximately a subsea of 3272, as shown by the well that
24 tested water in Section 11.

25 The unorthodox location in Section 24 is

1 approximately 1200 foot down dip from that particular well
2 and we tested gas at marginal rates from the Florida well
3 shown in Section 18. I believe this information supports
4 the presence of that west bounding fault and that indeed
5 these reservoirs are separate.

6 Again it becomes important then to be
7 able to get structurally high to the Florida well but yet
8 remain on the downthrown side of that fault.

9 The fault is interpreted, it's location,
10 by well control and also by a seismic line which runs
11 across the prospect and is shown extending from Section 30
12 on up to the Washington Ranch Field. This line is identi-
13 fied as GR-135.

14 Q Mr. Beikirch, were -- have Louisiana
15 Land and Exploration and Amerada Hess been notified of this
16 hearing, and I refer you to Exhibit Four?

17 A Yes, they have.

18 Q And have they indicated that they waive
19 objection to this location?

20 A Yes, they have.

21 Q Does Leonard Resource Corporation re-
22 quest an expedited approval of this matter?

23 A Yes, we do. We have a lease that ex-
24 pires August 1st, 1988 and this necessitates us beginning
25 our well prior to that date.

1 Q Were Exhibits One through Four prepared
2 by you or compiled from the applicant's records?

3 A Yes, they were.

4 Q In your opinion is the granting of this
5 application in the interests of conservation, the preven-
6 tion of waste, and the protection of correlative rights?

7 A Yes, sir.

8 MR. BRUCE: Mr. Examiner, at
9 this time I move the admission of Exhibits One through
10 Four.

11 MR. STOGNER: Exhibits One
12 through Four will be admitted into evidence at this time.

13 MR. BRUCE: That concludes my
14 examination.

15

16 CROSS EXAMINATION

17 BY MR. STOGNER:

18 Q Mr. Beikirch, let's refer now to Exhibit
19 Number One. You said the area encompassed by the red line
20 is a Federal unit. What is the name of that Federal unit?

21 A It is the Broken Arrow Unit.

22 Q And that is made up of all -- of only
23 Federal lands?

24 A Yes, sir.

25 Q Do you know when that was approved?

1 A Final approval has not been given yet.

2 Q Okay, so this is still pending. How
3 about subsequent or -- what is the status with this appli-
4 cation with the BLM at this time?

5 A It is pending final approval of the unit
6 agreement.

7 MR. BRUCE: If you want more
8 information on that we have another person present.

9 MR. STOGNER; Oh, okay.

10 MR. BRUCE: I didn't plan to
11 call him but if you want some more information I'd be glad
12 to.

13 MR. STOGNER: Let's go ahead
14 and call that person at this time.

15

16 (Mr. Dan Leonard sworn.)

17

18 DAN LEONARD,

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

21

22 DIRECT EXAMINATION

23 BY MR. BRUCE:

24 Q Mr. Leonard, will you please state your
25 full name and city of residence?

1 A Dan Leonard from Midland, Texas.

2 Q And are you an officer of the applicant?

3 A Yes, I am.

4 Q Would you please describe the status of
5 the Broken Arrow Unit?

6 A The status of the unit is that it's been
7 -- we've got pre-approval of the -- of the entire -- the
8 boundaries of the unit. The unit agreement has been ap-
9 proved and final approval is assured by the BLM pending ex-
10 ecution by Louisiana Land and Amerada Hess and I'm advised
11 that Louisiana Land is -- has executed that unit agreement
12 and Amerada Hess' signature has not been obtained because
13 there's only one guy that can and he's been on some kind of
14 a blowout they had up in North Dakota for several weeks and
15 has been out of pocket, but I understand that their Legal
16 Department has recommended it and it's on his desk for sig-
17 nature, so it's virtually an assurance at this standpoint.

18 BLM is very aware of the timing that we
19 have with this offset leased. It's expiring August 1 and
20 they're going to work with us, I think, to get this thing
21 done.

22 Q But this particular well is on a lease
23 owned by Leonard Resource.

24 A Yes, we own it.

25 MR. BRUCE: I have nothing

1 further, Mr Examiner.

2
3 CROSS EXAMINATION

4 BY MR. STOGNER:

5 Q Mr. Leonard, who else are participants
6 in this unit besides Leonard Resource and Louisiana Land
7 and Exploration, and Amerada Hess?

8 A Amerada Hess. There are several of us
9 that are in partnership in that lease that you have that's
10 outlined in yellow.

11 That lease that we own is owned by
12 Leonard Resource, 1/3rd, and R. E. Glasscock (sic) and Mr.
13 Beikirch here, 2/3rds.

14 Q And the BLM Office in Roswell is the one
15 handling the unit, is that correct?

16 A Yes, sir.

17 Q And this is a Federal exploratory unit,
18 is that correct?

19 A Yes, it is.

20 Q Who is to be the operator of the well?

21 A It's set up -- it has been set up from
22 the beginning of the drilling for Leonard Resource to oper-
23 ate it. We're in the process of finalizing negotiations
24 with an outfit called Moroilco in Artesia, which will be
25 the actual operator of the well, and the BLM has advised

1 that we may very well prior to the spudding of this well
2 have a change of operator with Moroilco actually doing the
3 physical operations.

4 Q Because I'm referring to Exhibit Number
5 Four, the last page, there's a stipulation down in the
6 lower righthand corner and it talks about Inexco drilling.

7 A Well, the confusion, Inexco, this lease,
8 we represented to you that that cross-hatched lease is
9 owned by LL&E and Amerada Hess. That is true, but LL&E,
10 it's ownership is by virtue of its takeover of Inexco.
11 That lease title is actually in Inexco, which is a wholly
12 owned subsidiary of Louisiana Land & Exploration.

13 MR. BRUCE: Mr. Examiner, that
14 stipulation on the bottom of page two refers to Inexco
15 drilling, I believe, an offset well on Section 13, to be up
16 north.

17 MR. STOGNER: Oh. My apology.

18 A They're simply stating there that they
19 will -- they have approved this waiver on the condition
20 that in the event that we do not exercise our option to
21 farm out on the acreage to the north of us, and they at
22 some point in time come back in and propose a well, and
23 propose equally as unorthodox a location, that we will
24 grant a similar waiver, which I've had no problem with.

25 Q Okay. Thank you, Mr. Leonard, I appre-

1 ciate you taking the stand today.

2
3 CROSS EXAMINATION CONT'D OF MR. BEIKIRCH
4

5 Q (By Mr. Stogner) Mr. Beikirch, let's
6 now look at that Florida Exploration well and I want a lit-
7 tle bit more information on it.

8 When was it drilled?

9 A The well was drilled in 1982 and was
10 potentialed in June of 1982 as a Bone Spring First Sand
11 Field discovery.

12 Q So it's now producing from the Bone
13 Spring at this time.

14 A No, sir, it was plugged in July of 1983.

15 Q So it had a small gas show from the
16 Pennsylvanian Pool --

17 A Yes, sir.

18 Q -- or formation, I should say.

19 A It produced gas out of multiple sands in
20 the Morrow, but no commercial completion was ever made.

21 Q Now the well to the west -- I'm sorry,
22 to the east of that, not even a mile, the Black River Hud-
23 son Federal?

24 A Yes, sir.

25 Q Now you show some water.

1 A Yes, sir.

2 Q Was that water coming from the same for-
3 mation as the gas tested in the Florida well?

4 A Yes, sir, from the B-3 sand, and that
5 defines a -- a gas/water contact to the east.

6 Q Now I only show one seismic line. That
7 is the GL 135. Was there other seismic information that
8 was available to you for this extensive map?

9 A Yes, sir, there's a great deal of com-
10 mercial seismic available all throughout this area.

11 Q And that was utilized by you?

12 A Yes, sir.

13 Q Now this GL 135, was that run by Leonard
14 Resources?

15 A No, sir, It was a 1962 Shell CDP line
16 that we purchased and reprocessed.

17 Q Approximately how many lines did you
18 purchase or utilize?

19 A There was one line purchased.

20 Q And where did you obtain the other in-
21 formation off of the other seismic lines?

22 A Well, the individual who did the seismic
23 search and interpretation is Mr. Ed Lookabaugh, who is a
24 geophysical consultant in Midland, who has a great deal of
25 expertise. He was head geophysicist for HNG for a number of

1 years and has great familiarity with this area and has
2 looked at a great deal of seismic in this area.

3 I also had the opportunity in working
4 for Exxon and I was the area geologist for the development
5 of the Milepost Field. I had a great deal of opportunity
6 to look at the seismic that Exxon had in this area.

7 There has also been a dipmeter, Mr.
8 Examiner, in that Florida well, again that supports the
9 southeast dip in that particular well. This structure map
10 honors that -- that information, also.

11 Q Did you utilize any -- or what extent
12 did you utilize downhole surveys to show your faulting in
13 this area? I'm sorry, seismic -- Schlumberger logs, and
14 such?

15 A A great deal.

16 Q You didn't see it fit to draw a cross in
17 this area?

18 A I'm sorry?

19 Q You didn't see it fit to draw a cross
20 section utilizing that particular information at this time?

21 A No, sir. I have prepared a cross sec-
22 tion, a number of them.

23 I have that cross section available, if
24 you need it.

25 Q Yeah, let's take a look at it.

1 MR. STOGNER: Mr. Bruce, would
2 you submit that as an exhibit at this time?

3 MR. BRUCE: It will be Number
4 Five.

5 MR. STOGNER: I'm finding it
6 very difficult, Mr. Bruce, to -- there's a great deal of
7 information that went into drawing this map, but I have no
8 back-up data at this time to show it.

9 MR. BRUCE: Could we have two
10 minutes to set up here?

11 MR. STOGNER; Yeah, you can
12 have two minutes.

13 Mr. Bruce, you may continue.

14

15 REDIRECT EXAMINATION

16 BY MR. BRUCE:

17 Q Mr. Beikirch, I refer you to the cross
18 section marked Exhibit Five up on the wall and I'd ask you
19 to discuss its contents for the examiner.

20 A Mr. Examiner, as I have mentioned ear-
21 lier in my testimony, the structural interpretation of this
22 area is again the prospect was located on a southeast
23 plunging anticlinal feature that has been interrupted by a
24 series of downthrown faults to the southeast. This fault
25 running through here is a well documented fault in the sub-

1 surface. It's the Apache fault that runs along the eastern
2 flanks of the Guadalupes. There's approximately 3000 foot
3 of displacement across this fault.

4 These are a series of antithetic faults
5 that have developed off of this major fault.

6 MR. STOGNER: Now the fault
7 that you're referring to is the one that approximately runs
8 down the center of your Exhibit Number Two, is that cor-
9 rect?

10 A Yes, sir. The key to this prospect, or
11 our location, is this west bounding fault that runs across
12 Section 24.

13 The key to the prospect is pinning down
14 the location of this fault and also getting up dip to this
15 Florida well.

16 This regional cross section across the
17 area, A-A', starts on the downthrown side of the Apache
18 fault over to the Washington Ranch Field and then snakes
19 its way down to the Milepost Field.

20 This structural cross section illus-
21 trates the series of fault blocks that that been raised or
22 lowered relative to one another.

23 The faults that you see on the structure
24 map die out in Wolfcamp time. You have in the Washington
25 Ranch field gas production out of Morrow Sands at approxi-

1 mately 7200 feet. In the Milepost Field you have Morrow
2 gas production at approximately 10,200 feet.

3 These individual fault blocks constitute
4 separate reservoirs and there is data which I've shown you
5 in Exhibit Three on testing and production from these indi-
6 vidual sands that shows that these fault blocks have indi-
7 vidual gas/water contacts; they are separate fields.

8 It then becomes very critical to make
9 sure that we do not cross and wind up on the down side of
10 this other fault block, to see that we stay on this fault
11 block and also get as far up dip as possible from the
12 Florida well.

13 A legal location, as you can see shown
14 here by the blue dot, would put us right up on that fault
15 and there is certainly not enough control, seismic or any
16 other data, that would make you feel comfortable that that
17 is where you'd wind up at the bottom of the hole.

18 Again, as you can see the way this fault
19 trends, that in making the lower path designation for the
20 well it will allow with a successful well here in Section
21 24 the potential there for drilling another well that is
22 perhaps structurally high or at least equivalent to the
23 Florida well; whereas, if we did stand-up proration units,
24 there is a potential for only one well with the second well
25 being far down dip or possibly in the water leg of the

1 separate reservoir if we crossed over that far.

2 MR. STOGNER: Is that all you
3 have on Exhibit Number Five, Mr. Beikirch?

4 A Yes, sir.

5 MR. BRUCE: We move the admis-
6 sion of Exhibit Five, Mr. Examiner.

7 MR. STOGNER: Exhibit Number
8 Five will be admitted into evidence at this time.

9 I have no further questions of
10 either Mr. Leonard or Mr. Beikirch.

11 Are there any questions of
12 these witnesses?

13 If not, they may be excused.

14 Is there anything further in
15 Case Number 9432?

16 MR. BRUCE: No, sir.

17 MR. STOGNER: Case Number 9432
18 will be taken under advisement.

19

20 (Hearing concluded.)

21

22

23

24

25

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. ~~9432~~ 9432
heard by me on 20 July 19 88.

Michael H. Shermeyer, Examiner
Oil Conservation Division