

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

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

APPLICATION OF NORTHSTAR OPERATING)
COMPANY FOR APPROVAL OF A UNIT)
AGREEMENT, LEA COUNTY, NEW MEXICO)

CASE NOS. 13,527

APPLICATION OF NORTHSTAR OPERATING)
COMPANY FOR AN UNORTHODOX GAS WELL)
LOCATION, LEA COUNTY, NEW MEXICO)

and 13,528

(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

September 8th, 2005

Santa Fe, New Mexico

These matters came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, September 8th, 2005, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

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

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I N D E X

September 8th, 2005
Examiner Hearing
CASE NOS. 13,527 and 13,528 (Consolidated)

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A P P E A R A N C E S

FOR THE APPLICANT:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR
 110 N. Guadalupe, Suite 1
 P.O. Box 2208
 Santa Fe, New Mexico 87504-2208
 By: WILLIAM F. CARR

* * *

1 WHEREUPON, the following proceedings were had at
2 8:37 a.m.:

3 EXAMINER CATANACH: Call Case 13,527, the
4 Application of NorthStar Operating Company for approval of
5 a unit agreement, Lea County, New Mexico.

6 Call for appearances.

7 MR. CARR: May it please the Examiner, my name is
8 William F. Carr with the Santa Fe office of Holland and
9 Hart, L.L.P. We represent NorthStar Operating in this
10 matter, and I have two witnesses.

11 I would ask at this time that you also call the
12 next case, which is an application for an unorthodox well
13 location, and that the cases be consolidated for the
14 purpose of hearing.

15 As you will see as we present our case, Mr.
16 Examiner, we are forming a unit to cover a small geological
17 feature, and as it always seems to be, the prime location
18 to drill the well is basically on the quarter-section line.
19 And so the cases are interrelated and the testimony will be
20 the same.

21 EXAMINER CATANACH: At this time I'll call Case
22 13,528, the Application of NorthStar Operating Company for
23 an unorthodox gas well location, Lea County, New Mexico.

24 Are there any additional appearances in either of
25 these cases?

1 Okay, Mr. Carr.

2 Can we get the witnesses to stand to be sworn in?

3 (Thereupon, the witnesses were sworn.)

4 MR. CARR: Mr. Examiner, at this time we call
5 Robert W. Hodge, H-o-d-g-e.

6 ROBERT W. HODGE,

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

9 DIRECT EXAMINATION

10 BY MR. CARR:

11 Q. Would you state your full name for the record,
12 please?

13 A. Robert W. Hodge.

14 Q. Where do you reside?

15 A. Midland.

16 Q. By whom are you employed?

17 A. NorthStar Operating Company.

18 Q. And what is your position with NorthStar?

19 A. I'm the vice president.

20 Q. Have you previously testified before the New
21 Mexico Oil Conservation Division?

22 A. No, I have not.

23 Q. Would you summarize for Mr. Catanach your
24 educational background and then review your work
25 experience?

1 A. I have a BS in petroleum geology and I've been a
2 practicing petroleum landman for the last 26 years.

3 Q. Are you familiar with the applications filed in
4 these cases?

5 A. Yes.

6 Q. And are you familiar with the proposed East
7 Denton-Wolfcamp exploratory unit?

8 A. Yes.

9 Q. Are you familiar with the status of the lands in
10 this proposed unit?

11 A. Yes.

12 Q. And are you prepared to review these land matters
13 with the Examiner?

14 A. Yes, I am.

15 MR. CARR: We tender Mr. Hodge as an expert in
16 petroleum land matters.

17 EXAMINER CATANACH: Mr. Hodge is so qualified.

18 Q. (By Mr. Carr) Would you briefly state for the
19 Examiner what it is that NorthStar Operating seeks with
20 this Application?

21 A. We're seeking approval of the East Denton
22 exploratory unit agreement. It's a voluntary exploratory
23 unit containing 160 acres of fee land located in Lea
24 County, New Mexico.

25 We're also seeking approval of an unorthodox well

1 location for the Fort Well Number 1, located 2100 feet from
2 the north and 2500 feet from the east line of Section 8,
3 Township 15 South, Range 38 East, NMPM.

4 And our technical evidence will show that this is
5 necessary to efficiently produce the reserves in a small
6 reservoir.

7 Q. Have you prepared exhibits for presentation here
8 today?

9 A. Yes.

10 Q. Would you identify for the Examiner what has been
11 marked NorthStar Exhibit Number 1?

12 A. Exhibit 1 is the unit agreement, and the unit
13 agreement is fee tracts only. I used the State fee form
14 and deleted any references to the State Land Office in the
15 unit agreement.

16 Q. What horizons are being unitized in this proposed
17 unit?

18 A. From the surface to the base of the Wolfcamp.

19 Q. And what are the primary objectives in this
20 initial well?

21 A. The Abo and the Wolfcamp formations.

22 Q. Are there other wells within the unit area that
23 have penetrated these formations?

24 A. Yes, to the east is the Hunt Moreman Well Number
25 1. It was drilled to the Devonian. It's a dry hole.

1 Q. And that will be shown on the geological
2 exhibits; is that correct?

3 A. That's correct.

4 Q. Could you refer to what has been marked as
5 Exhibit 2 and identify that, please?

6 A. Exhibit 2 is the unit-outline plat, showing the
7 Tract 1 and Tract 2. They're both fee leases, and both of
8 the tracts are leased 100 percent by NorthStar or its
9 working interest owners, and they're our partners.

10 Q. When we look at this exhibit, the unit is
11 actually the two tracts in the north central portion of the
12 plot with the hached line around them; is that correct?

13 A. That's correct.

14 Q. And we're dealing with just two tracts, 1 and 2?

15 A. That's correct.

16 Q. And they're both fee tracts?

17 A. That's correct.

18 Q. Let's go to what has been marked as Exhibit
19 Number 3. Would you identify and review that, please?

20 A. Exhibit 3 is the Exhibit "B" to the unit
21 agreement, and it shows the ownership of each of the two
22 tracts. It shows the working interest, the royalty and the
23 overriding royalty interest.

24 Q. Let's go to NorthStar Exhibit Number 4, and using
25 this exhibit, I'd like you to review for the Examiner the

1 status of the voluntary commitment to this unit agreement.

2 A. We have 100 percent of the working interest, is
3 committed to the unit agreement, and only one owner has not
4 signed, Jon Massey, and Mr. Massey lives in New Orleans and
5 he was a victim of the recent hurricane. We can't reach
6 him by mail at the present, but as soon as we have his
7 signature we'll send it to the OCD.

8 Q. And you have discussed this with Mr. Massey?

9 A. Yes, I have.

10 Q. And he's ready to sign as soon as --

11 A. Ready to sign.

12 Q. Okay. Looking at this exhibit, could you review
13 the status of the commitment of the royalty and the
14 overriding royalty interest?

15 A. Currently we have 86 percent signed and 14
16 percent are verbally committed, so we have 100 percent
17 either signed or verbally committed to the unit.

18 And on this exhibit, sort of toward the center,
19 there's a column that has a number of X's in it. Those are
20 the people whose ratifications or joinders you actually
21 have in hand at this time?

22 A. Have in hand and attached.

23 Q. And the copies of those are attached to this
24 exhibit?

25 A. Yes, sir.

1 Q. What is NorthStar Exhibit Number 5?

2 A. Exhibit 5 is our AFE.

3 Q. And what are the totals as shown on this AFE?

4 A. The dryhole cost is \$733,304, and the completed
5 well cost will be \$1,240,744 -- -774, excuse me.

6 Q. Does NorthStar Operating desire to be designated
7 operator of this well?

8 A. Yes, we do.

9 Q. Is NorthStar Exhibit Number 6 and affidavit
10 confirming that notice of this hearing has been provided in
11 accordance with Division Rules?

12 A. Yes.

13 Q. The letters that were attached are actually to
14 the royalty owners on the tract that will not have the --
15 on which the well is not located?

16 A. That's correct.

17 Q. But these interest owners have voluntarily now
18 committed to the unit?

19 A. Yes.

20 Q. So the notice is, in this circumstance, virtually
21 meaningless as to those?

22 A. That's correct.

23 Q. There is also a copy of the publication that was
24 run in a newspaper in Lea County; is that right?

25 A. That's correct, uh-huh.

1 Q. Will NorthStar call a geological witness to
2 review the technical portions of this case?

3 A. Yes.

4 Q. Were Exhibits 1 through 6 either prepared by you
5 or compiled under your direction?

6 A. Yes, they were.

7 MR. CARR: May it please the Examiner, at this
8 time I would move the admission into evidence of NorthStar
9 Exhibits 1 through 6.

10 EXAMINER CATANACH: Exhibits 1 through 6 will be
11 admitted.

12 MR. CARR: That concludes my direct examination
13 of Mr. Hodge.

14 EXAMINER CATANACH: Mr. Carr, the notice was
15 given to the interest owners --

16 MR. CARR: If the unit failed, we were still in
17 need of this location, and so we notified the interest --
18 the royalty interest owners on the other tract in the unit.
19 At this point in time they have joined the unit. We have
20 what we believe will be 100-percent voluntary commitment,
21 although some of them have not yet been returned. So those
22 interest owners are -- The well is toward the center of the
23 unit, and so we were just being certain in case there were
24 problems with the unit that we did notify people who would
25 be affected parties by the location.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Hodge, none of the interest owners, royalty interest owners, have expressed any reservations about this operation?

A. None to my knowledge.

Q. What happens if a royalty interest owner does not sign? How is their interest treated under the unit? I mean, is it -- I'm just curious.

A. I expect every one of them to execute, and they've all verbally agreed to do it. I'm lacking, as of --

MR. CARR: Mr. Examiner, I can answer that. If they don't sign -- the only unsigned interest owners today, the only ones who have just given a verbal, are in the tract on which the well is located, and they'd be paid pursuant to their individual leases and it would, in fact, tend to increase the amount of their royalty. However, unless we could put this together, they've been advised the well wouldn't be drilled.

EXAMINER CATANACH: So if you don't have 100-percent commitment, the unit is not in effect; is that --

MR. CARR: No, the unit's in effect. It's a voluntary agreement as to everyone who signs. If someone does not sign, their interest still would be dedicated to a

1 well, because there are leases in the spacing unit
2 committed to that well, and they'd be paid on a lease
3 basis.

4 EXAMINER CATANACH: But they've been told that
5 the well won't be drilled --

6 MR. CARR: They've been -- well, they've been
7 told that we're trying to put this together, so we're not
8 in the position of having either an immediate offsetting
9 well right across the line, and -- I mean, we've just
10 explained what we are and have shown the technical
11 information to them, why the well needs to be located as
12 it's proposed.

13 Q. (By Examiner Catanach) But you anticipate
14 they're all going to eventually sign; is that --

15 A. They've all verbally indicated that they were.
16 And like I said, I lack three of them that are not
17 physically in hand as of today.

18 Q. And this Fort well is going to be drilled deep
19 enough to test the Wolfcamp?

20 A. That's correct.

21 Q. Is the Wolfcamp primary, or are they -- How is
22 that split up?

23 A. It's -- the Abo-Wolfcamp is primary.

24 Q. So both of them.

25 EXAMINER CATANACH: Okay, I have no further

1 questions.

2 MR. CARR: And you may recall, we amended this
3 Application. It originally was filed with the Devonian,
4 which was my error because the offsetting well that is
5 immediately east of the proposed location was to the
6 Devonian, but we've corrected it with the amended
7 Application.

8 May it please the Examiner, at this time we would
9 call James Turbyfill, T-u-r-b-y-f-i-l-l.

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

13 DIRECT EXAMINATION

14 BY MR. CARR:

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

16 A. James Turbyfill.

17 Q. Where do you reside?

18 A. Midland, Texas.

19 Q. By whom are you employed?

20 A. Self-employed.

21 Q. And what is your relationship with NorthStar?

22 A. I'm a consulting geologist for them.

23 Q. Have you previously testified before this
24 Division?

25 A. Yes.

1 Q. At the time of that testimony were your
2 credentials as an expert in petroleum geology accepted and
3 made a matter of record?

4 A. Yes.

5 Q. Are you familiar with the Applications filed in
6 these cases?

7 A. Yes.

8 Q. Are you familiar with the proposed East Denton-
9 Wolfcamp exploratory unit?

10 A. Yes.

11 Q. Have you made a geological study of the area
12 which is the subject of these cases?

13 A. Yes, I have.

14 Q. And are you prepared to share the results of your
15 study with Mr. Catanach?

16 A. Yes.

17 MR. CARR: We tender Mr. Turbyfill as an expert
18 petroleum geologist.

19 EXAMINER CATANACH: He is so qualified.

20 Q. (By Mr. Carr) Have you prepared exhibits for
21 presentation here today?

22 A. Yes.

23 Q. Before we go to those, could you just identify
24 where you are proposing to drill the initial well on this
25 unit?

1 A. Okay, we plan to drill the initial well 2100 feet
2 from the north line and 2500 feet from the east line of
3 Section 8 in 15 South, 38 East.

4 Q. So this puts you basically in the center of the
5 unit on that east-west axis?

6 A. Yes, that's correct.

7 Q. Let's go to what has been marked as NorthStar
8 Exhibit Number 7. Would you identify and review this,
9 please?

10 A. Okay, Exhibit Number 7 is an east-west
11 stratigraphic cross-section that runs from the Texaco
12 Dickinson Number 1 through the proposed location and then
13 to the Hunt Moreman Number 1. And the cross-section tries
14 to show the stratigraphic position of the primary
15 objective, which is really going to be the lower Abo and
16 upper Wolfcamp carbonates.

17 Q. Let's go to Exhibit Number 8. I'd ask you to
18 identify and review that, please.

19 A. Exhibit 8 is a map that's based off 3-D seismic.
20 It is a peak amplitude at the base of the lower Abo
21 porosity map. The scale is one inch equals 750 feet. The
22 outline of Section 8 is in the solid orange line, and
23 within that 40-acre tracts are denoted by the dashed orange
24 line. The proposed unit is outlined in yellow, and the
25 proposed location is the red dot within the unit.

1 Q. Mr. Turbyfill, take this exhibit and Exhibit
2 Number 7, the cross-section, and review for the Examiner
3 what this shows you about where you believe the porosity
4 will be located.

5 A. Well, in the Moreman well, which would be the
6 most easterly well on Exhibit 7, the Abo porosity zone has
7 about 25 feet of porosity. The upper four feet has 15
8 percent porosity, and the lower 20 feet about 5 percent
9 porosity.

10 According to the seismic, which this amplitude
11 map tries to depict, it appears as though we should get
12 quite a bit more porosity heading to the west, to the
13 proposed location, which will be about 600 feet west.

14 Q. Now, Mr. Turbyfill, we're looking at a proposed
15 unit that contains four 40-acre tracts; is that right?

16 A. That's correct.

17 Q. If we look at Exhibit Number 8, the blue shading
18 and the green shading extend off into the northern 40s. In
19 your opinion, will these northern 40s contribute reserves
20 to the proposed well?

21 A. Yes, they will, everything that's colored within
22 that unit should contribute oil.

23 Q. Let's go to NorthStar Exhibit Number 9. Would
24 you identify that and review for Mr. Catanach what it
25 shows?

1 A. Okay, this is also a seismic map. It's a
2 structure map of the lower Abo porosity. It's on the same
3 scale, about one inch equals 750 feet. The unit outline is
4 in yellow, proposed location is the red dot in the unit.
5 The contour interval is 10 feet. It shows dip to the
6 southeast at a rate of about 140 feet per mile, and the
7 proposed location will be slightly updip to the Moreman
8 Number 1.

9 Q. What does your geologic study tell you about this
10 formation and the proposed development of this acreage?

11 A. What it shows is that in order to justify
12 drilling a million-plus well for an exploratory well, you
13 need to be on the most favorable geologic feature possible,
14 and that winds up being the unorthodox location we're
15 applying for.

16 Q. If, in fact, this well is successful, is it
17 possible that additional wells might be drilled within the
18 unit area to the north of this location?

19 A. Yes.

20 Q. In your opinion, will approval of this
21 Application be in the best interest of conservation, the
22 prevention of waste and the protection of correlative
23 rights?

24 A. Yes, it will.

25 Q. How soon does NorthStar plan to commence drilling

1 of this well?

2 A. I believe we've got a rig lined up to spud
3 September 22nd.

4 Q. Were Exhibits 4 through 7 prepared by you or
5 compiled under your direction?

6 A. Yes.

7 MR. CARR: Mr. Catanach, at this time we move the
8 admission into evidence of NorthStar Exhibits 7 through 9.
9 And I asked -- I had the wrong exhibit numbers. I asked
10 Mr. Turbyfill to identify.

11 Q. (By Mr. Carr) We're talking about your geologic
12 exhibits, Mr. Turbyfill, and I need for you to testify
13 whether or not Exhibits 7 through 9 were prepared by you.

14 A. Oh, yeah, it was -- yeah, 7 through 9, right.

15 MR. CARR: And at this time, Mr. Catanach, we
16 move the admission of NorthStar Exhibits 7 through 9.

17 EXAMINER CATANACH: Exhibits 7 through 9 will be
18 admitted.

19 MR. CARR: And that concludes my direct
20 examination of Mr. Turbyfill.

21 EXAMINATION

22 BY EXAMINER CATANACH:

23 Q. Mr. Turbyfill, was the Moreman well productive?

24 A. No, it was not. It was completed as a dry hole.
25 They didn't run any drill stem tests in the zone we're

1 targeting, which is that lower Abo/upper Wolfcamp zone.
2 Looking at the log, the porosity that is present in that is
3 not adequate to be a commercial well. In this particular
4 formation, the dolomite reservoir at the base of the Abo
5 needs about 10 percent porosity to be a commercial producer
6 for a vertical well.

7 The upper four feet that has 15 percent porosity
8 would work, but it's only four feet thick.

9 Q. So do you need a minimum thickness of that
10 porosity?

11 A. I'd say 10 feet of 15 percent would be -- would
12 probably make a commercial well.

13 Q. So you don't think that four feet in that -- four
14 feet at 10 percent, was it?

15 A. It's four feet at 15 percent.

16 Q. Four feet at 15 percent. You don't think that's
17 sufficient in that well?

18 A. Huh-uh, not to justify setting pipe on.

19 Q. So what does your 3-D seismic tell you about the
20 proposed location? What do you anticipate getting at that
21 location?

22 A. What we're hoping to get out of it will be a
23 thicker section, increase that from 25 feet of porosity to
24 probably 35 feet of porosity, and hopefully have the
25 majority of that over 14 percent porosity.

1 I might add that if you run water saturation
2 calculations on the Moreman well, that four feet does
3 calculate to be oil.

4 Q. Now, is that actually in the Abo, where the
5 porosity is in the Moreman well?

6 A. Yes, it's hard to tell off this cross-section,
7 but it is in the Abo. And where I'm putting the Abo-
8 Wolfcamp division is, the Abo formation is dolomite and the
9 Wolfcamp is limestone. So that contact -- well, the datum
10 which is the top of the Wolfcamp is the top of the
11 limestone. And that was derived from the Texaco well,
12 which did run a neutron density log, which easily
13 identifies the top of the limestone. The sonic log, it's a
14 little bit more difficult to tell that.

15 Q. But you do anticipate encountering some porosity
16 in the Wolfcamp, at that location?

17 A. In the -- locally, there is some additional
18 dolomite stringers down in the Wolfcamp, within the upper
19 50 feet, and they are productive, and we're going to go
20 ahead and drill through those, just to see if we can
21 encounter them. But the primary target is going to be the
22 dolomite reservoir at the base of the Abo.

23 Q. Is there any chance that -- based on your data,
24 that you would drill a well in the north half of that unit?

25 A. Yes, I believe the -- caddy-corner northwest of

1 the proposed location, there's a pretty good-looking
2 anomaly. It's in the center of the C unit in that section.
3 We tried to fine-tune the amplitude anomaly map to only
4 color rocks that should have adequate porosity to be
5 productive. So basically, in my opinion, everything that
6 has color should be productive or contribute in some way.

7 So I do see that if we hit a well here, we will
8 drill the northwest offset to it.

9 Q. And the -- basically, the Wolfcamp and the Abo
10 are the only two prospective formations?

11 A. That's correct. We'll drill through all the San
12 Andres and all that stuff, but there's no commercial
13 production anywhere near us. The only other commercial
14 production is in the Devonian, and the seismic didn't
15 indication any structure that would warrant drilling a
16 Devonian test. This is primarily a stratigraphic
17 reservoir.

18 Q. How much deeper would the Devonian be?

19 A. Oh, gosh, it's about 12,000 feet. And the
20 Moreman well -- You're going to catch me on this. I don't
21 believe they even drill-stem-tested the Devonian. If they
22 did, they didn't have a show in it.

23 EXAMINER CATANACH: Okay. All right, I think
24 that's all I have.

25 MR. CARR: That concludes our presentation in

1 this case.

2 EXAMINER CATANACH: Okay, Case Number 13,527 will
3 be taken under advisement. I'm sorry, 13,527 and 13,528.

4 (Thereupon, these proceedings were concluded at
5 8:59 a.m.)

6 * * *

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15
16 I do hereby certify that the foregoing is
17 a complete record of the proceedings in
the Examiner hearing of Case No. 13527, 13528
18 heard by me on September 8, 2005.
19 Devon R. Catnach, Examiner
Oil Conservation Division
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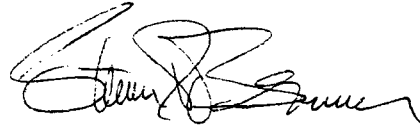
CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL September 9th, 2005.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2006