

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

CO SEP 20 PM 7:30

Oil Conservation Division

IN THE MATTER OF THE HEARING CALLED BY)
THE OIL CONSERVATION DIVISION FOR THE)
PURPOSE OF CONSIDERING:)
APPLICATION OF MACK ENERGY CORPORATION)
FOR AN UNORTHODOX WELL LOCATION,)
LEA COUNTY, NEW MEXICO)

CASE NO. 12,483

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

September 7th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner on Thursday, September 7th, 2000, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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September 7th, 2000
Examiner Hearing
CASE NO. 12,483

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<u>PAT J. BREWER</u> (Geologist)	
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A P P E A R A N C E S

FOR THE DIVISION:

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FOR THE APPLICANT:

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P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

1 WHEREUPON, the following proceedings were had at
2 9:31 a.m.:

3 EXAMINER CATANACH: At this time I'll call Case
4 12,483, which is the Application of Mack Energy Corporation
5 for an unorthodox well location, Lea County, New Mexico.

6 Call for appearances in this case.

7 MR. CARR: May it please the Examiner, my name is
8 William F. Carr with the Santa Fe law firm Campbell, Carr,
9 Berge and Sheridan. We represent Mack Energy Corporation
10 in this case, and I have one witness.

11 EXAMINER CATANACH: Any other appearances?

12 Okay, will the witness please stand to be sworn
13 in?

14 (Thereupon, the witness was sworn.)

15 MR. CARR: Mr. Examiner, initially I'd like to
16 point out that the Bureau of Land Management has required
17 that the location of the well, the proposed location, be
18 moved 100 feet to the west, so it will be 760 feet from the
19 east line instead of 660 from the east line.

20 The well remains 40 feet from the spacing unit
21 boundary. This move does not change any of the affected
22 parties or the encroachment on adjoining units, and we
23 submit that the Application can be heard without requiring
24 additional advertisement in this matter.

25 EXAMINER CATANACH: And the affected parties will

1 not change, Mr. Carr?

2 MR. CARR: No, there will be absolutely no impact
3 -- or no difference in the impact on any offsetting
4 interest, working, royalty or override. It's all common on
5 the offsetting tract.

6 EXAMINER CATANACH: Okay.

7 PAT J. BREWER,

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

10 DIRECT EXAMINATION

11 BY MR. CARR:

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

14 A. Pat James Brewer.

15 Q. Mr. Brewer, where do you reside?

16 A. Artesia, New Mexico.

17 Q. By whom are you employed?

18 A. Mack Energy Corporation.

19 Q. And what is your position with Mack Energy
20 Corporation?

21 A. Geologist.

22 Q. Have you previously testified before the New
23 Mexico Oil Conservation Division?

24 A. No.

25 Q. Could you briefly review your educational

1 background for Mr. Catanach?

2 A. I have obtained a bachelor of science in
3 geological engineering and a bachelor of science in geology
4 from New Mexico State University in 1994.

5 Q. And since 1994, for whom have you worked?

6 A. I've worked for two years with Halliburton as a
7 logging engineer, and currently I've worked for Mack Energy
8 for three and a half years as a geologist.

9 Q. Are you familiar with the Application filed in
10 this case on behalf of Mack Energy?

11 A. Yes.

12 Q. Are you familiar with the status of the lands in
13 the area which is the subject of this case?

14 A. Yes.

15 Q. Have you made a geological study of the area
16 surrounding the proposed unorthodox well location?

17 A. Yes.

18 Q. And are you prepared to share the results of your
19 work with the Examiner?

20 A. Yes.

21 MR. CARR: Mr. Catanach, at this time we tender
22 Mr. Brewer as an expert witness in petroleum geology.

23 EXAMINER CATANACH: He is so qualified.

24 Q. (By Mr. Carr) Mr. Brewer, would you briefly
25 summarize for the Examiner what it is Mack Energy seeks

1 with this Application?

2 A. We seek an order approving an unorthodox well
3 location for our proposed MC well Number 6, which will be
4 drilled to an approximate depth of 14,900 feet, to test the
5 Devonian formation in the Maljamar-Devonian Pool, and the
6 Ellenburger formation, at a location of 2600 feet from the
7 north line and 760 from the east line, Unit Letter H of
8 Section 21, Township 17 South, Range 32 East, NMPM, Lea
9 County, New Mexico.

10 Q. What acreage does Mack Energy propose to dedicate
11 to this well?

12 A. We propose to dedicate a standard 40-acre spacing
13 and proration unit in the Devonian formation, comprised of
14 the southeast of the northeast quarter of Section 21, and
15 also a standard 320-acre spacing and proration unit in the
16 Ellenburger formation, comprised of the east half of
17 Section 21.

18 Q. Are there special pool rules in effect for the
19 Maljamar-Devonian Pool?

20 A. No, they're governed by statewide rules. In the
21 Devonian formation is a 40-acre spacing unit, wells drilled
22 no closer than 330 feet from the outer boundary of the
23 dedicated spacing unit, and the well is 40 feet from the
24 southern boundary of the 40-acre Devonian spacing unit,
25 instead of 330 feet. This is 88 percent closer than

1 permitted by statewide rules.

2 The Ellenburger formation is on a 320-acre
3 spacing with 660-foot setbacks from the outer boundary of
4 the dedicated quarter section upon which the well is
5 located. The well is 40 feet from the interior quarter
6 section line of the 320-acre Ellenburger spacing unit,
7 instead of 660 feet. This is 94 percent closer than
8 permitted by statewide rules.

9 Q. Let's go to what has been marked Mack Energy
10 Exhibit Number 1. I'd ask you to first identify it and
11 then review it for the Examiner.

12 A. Exhibit Number 1 is our MC Federal lease map, and
13 it shows the subject spacing and proration units. It shows
14 the unorthodox well in red, in the east half of Section 21.
15 It shows our MC Federal Number 1 McKee completion in the
16 west half of Section 22. It shows the offset development
17 wells, it shows the Division-designated operator of all
18 offsetting spacing units, and shows the ownership of the
19 offsetting leases, and Mack Energy's leases are shaded in
20 green.

21 Q. If we look at this exhibit, you've shaded two
22 standup 320-acre spacing units?

23 A. Yes.

24 Q. In the west half of Section 22, the well location
25 -- or the red dot shows an existing Mack Energy gas well,

1 correct?

2 A. Yes.

3 Q. And that well is completed in what formation?

4 A. The McKee sand formation.

5 Q. If we go to the west, into Section 21, the well
6 spot simply indicates what you are proposing to be an
7 unorthodox location; is that correct?

8 A. Yes.

9 Q. What is the status of the land in the east half
10 of Section 21?

11 A. All federal.

12 Q. Is this all one federal lease?

13 A. Yes.

14 Q. Is the working interest ownership common
15 throughout the east half of Section 21?

16 A. Yes.

17 Q. Is it the same federal royalty?

18 A. Yes.

19 Q. Are there any differences in overriding royalties
20 in the east half of Section 21?

21 A. No.

22 Q. At this point in time, is it fair to say that the
23 proposed unorthodox well location is only encroaching on
24 tracts under which the interest is identical to the
25 interest under the tract in which the well is located?

1 A. No.

2 Q. Is it identical interest throughout the east
3 half?

4 A. Yes.

5 Q. If this Application is granted, and if the well
6 is drilled, will the correlative rights of any interest
7 owner in the east half of 21 be adversely impacted?

8 A. No.

9 Q. Are there operators or affected parties toward
10 whom this well encroaches, who must be notified of this
11 Application in accordance with Oil Conservation Division
12 rules?

13 A. No.

14 Q. What is the primary zone of interest in the
15 proposed well?

16 A. The Devonian formation, and we have seismic data
17 in the Devonian, and that's what is driving our request for
18 the unorthodox well location.

19 Q. Now, the well in the west half of 22, that is
20 your Mack Energy MC Federal Number 1?

21 A. Yes.

22 Q. Where is the B-12 well?

23 A. B-12 well is directly southwest of our MC Federal
24 Number 1, in the west half of 22.

25 Q. And are you attempting with this new location to

1 encounter reservoir in the Devonian similar to what you've
2 encountered in the B-12?

3 A. Yes.

4 Q. What is the reservoir drive mechanism in this
5 Devonian reservoir?

6 A. It is a water drive and partial solution gas.

7 Q. To make an effective or successful well in the
8 Devonian, is it important to locate that well at the
9 highest structural point possible?

10 A. Yes.

11 Q. Let's go to what has been marked as Mack Energy
12 Exhibit Number 2. Can you identify and review that for Mr.
13 Catanach?

14 A. Yes, Exhibit Number 2 is a Devonian structure
15 map. As you can see, the Devonian is structurally high in
16 this area.

17 It shows the unorthodox location in the east half
18 of Section 21, our MC Federal Number 6, and it shows all
19 the other offsetting wells in the area.

20 It also shows a cross-section in green cross-
21 section line A-A', and it shows that our unorthodox
22 location, MC Number 6, is on the highest structural
23 position in the Devonian formation.

24 Q. This map was developed based on seismic
25 information?

1 A. Yes.

2 Q. When the BLM required you to move the well 100
3 feet to the west, you did not lose any structural advantage
4 with that, did you?

5 A. No.

6 Q. If I look at this map, how does the proposed
7 location compare to the B-12, which is at A' on the cross-
8 section?

9 A. This unorthodox location should be fairly on
10 strike with the B-12, and we should encounter the same
11 porosity in this well as we did in the B-12.

12 Q. Let's go to your cross-section, Exhibit Number 3.
13 Will you review that for Mr. Catanach?

14 A. Yes. Exhibit Number 3 is our MC Federal
15 structural cross-section, with a datum of minus 9000 feet
16 subsea. A to A' is from left to right. If we go back to
17 Exhibit Number 2, we start with the Baish A-12, moving east
18 to the B-14, then south to our MC Number 1, and further
19 south to the B-12.

20 This cross-section shows, if you look in the B-12
21 well, between the blue line and the green line, that
22 porosity section, as you move updip toward our MC Number 1
23 it gets eroded off of our MC well. So our MC well is on or
24 near the top of the structure, and that porosity zone has
25 been eroded off.

1 So what we want to do is come downdip from our MC
2 Number 1 well and be on strike with the B-12, which places
3 us in the east half of Section 21, where our unorthodox
4 location is, being on the highest point on the structure.

5 Q. So your proposed location both is downdip and
6 also from the top of the structure, so you maximize both
7 the factors that you're looking at when you're trying to
8 obtain commercial production in the area?

9 A. That is correct.

10 Q. Could this well, in your opinion, be drilled at a
11 standard location for the Devonian anywhere in the east
12 half of Section 21?

13 A. No.

14 Q. And why is that?

15 A. I think if we move the location, we're going to
16 have to move it north to be at a legal location, and then
17 we will be moving off of the structure and jeopardize the
18 well.

19 Q. There's no standard location available in this
20 half section for a Devonian well?

21 A. No.

22 Q. What conclusions can you reach from your work in
23 the area about the necessity for this location?

24 A. That we need to drill this well at this location
25 to adequately drain the reserves in the east half of

1 Section 21.

2 Q. If this well is successful, is there any way it
3 would prove up additional Devonian development in the area?

4 A. No. I believe that if we make a successful
5 completion in this Devonian well that it should adequately
6 drain the reserves in the east half of Section 21.

7 Q. If the Application was denied, what impact would
8 this have on Mack Energy? Would they be able to produce
9 any Devonian reserves under this half-section?

10 A. No.

11 Q. Would the Devonian reserves that are located
12 under this acreage therefore be wasted?

13 A. Yes.

14 Q. You also have indicated you're proposing to test
15 the Ellenburger formation?

16 A. Yes.

17 Q. And that's the formation that the McKee sand or
18 the McKee interval is what's producing to the east of the
19 proposed location, correct?

20 A. Actually, the Ellenburger in the MC Number 1 has
21 been eroded off, and the McKee sand is in the Simpson
22 formation.

23 Q. Why are you proposing to drill to the
24 Ellenburger?

25 A. We would like to -- Since we made a successful

1 completion in the MC Number 1 in the west half of 22, we
2 would like to see if that same zone is present in the east
3 half of 21.

4 Q. And you would drill and test that and attempt a
5 completion?

6 A. Yes.

7 Q. And then you're contractually obligated under
8 this acreage, are you not, to also drill and test the
9 Devonian?

10 A. Right.

11 Q. Could you identify what's been marked as Exhibit
12 Number 4?

13 A. Exhibit Number 4 is an Ellenburger structure map,
14 and as you can see, we have a bunch of estimated tops for
15 the Ellenburger, and since the Ellenburger was not present
16 in our MC Number 1, this is a rank wildcat for the
17 Ellenburger.

18 Q. The Ellenburger is there, it doesn't have any
19 impact, though, on the exact well location --

20 A. No.

21 Q. -- is that fair to say? You're just going to go
22 down and test it?

23 A. Right.

24 Q. In your opinion, will granting the Application
25 and drilling the proposed well at this unorthodox location

1 be in the best interest of conservation, the prevention of
2 waste and the protection of correlative rights?

3 A. Yes.

4 Q. Were Mack Energy Exhibits 1 through 4 prepared by
5 you?

6 A. Yes.

7 MR. CARR: Mr. Examiner, at this time we would
8 move the admission into evidence of Mack Energy Exhibits 1
9 through 4.

10 EXAMINER CATANACH: Exhibits 1 through 4 will be
11 admitted as evidence.

12 MR. CARR: And that concludes my direct
13 examination of this witness.

14 EXAMINATION

15 BY EXAMINER CATANACH:

16 Q. Mr. Brewer, is the B-12 a Devonian producer?

17 A. Yes.

18 Q. Okay.

19 A. It is not currently producing, but that's where
20 it produced from.

21 Q. It's currently what, abandoned?

22 A. Yes.

23 Q. But it did produce from the Devonian?

24 A. Yes.

25 Q. How much did it produce?

1 A. Approximately 488,000 barrels of oil.

2 Q. Okay, your geologic data over in Section 21 is
3 based on seismic?

4 A. Yes.

5 Q. There's no well control over there to look at?

6 A. No.

7 Q. And have you determined that your seismic is
8 accurate enough to pinpoint these locations?

9 A. Yes.

10 Q. Was seismic used to locate the B-12 well?

11 A. No, I do not believe it was. I think that well
12 was drilled in the 1950s, I believe.

13 Q. How about the Number 1 well?

14 A. The MC Number 1?

15 Q. Yes, sir.

16 A. Yes, seismic was used to locate that well.

17 Q. And was that primarily a Devonian objective?

18 A. Primarily a Devonian, and also to test the
19 Ellenburger also.

20 Q. Okay, so your seismic wasn't successful in that
21 well?

22 A. Right, we were on the structure -- We got too
23 high up on the structure and found out that it was eroded
24 off, that porosity zone that we are looking for.

25 We do have other shows in the Devonian in our MC

1 Number 1, which is down the hole about 100 feet from the
2 blue line.

3 Q. Okay, so in your Number 6 well, if you move
4 further north, which would put you at a more standard
5 location, won't you actually be gaining some structure?

6 A. I think we will be actually falling off of the
7 structure because of a nose that's coming down right at
8 that well location.

9 As you can see from the high in 22, as you come
10 down you see the nose coming down right toward that MC
11 Number 6 location.

12 Q. And you've seen that nose show up on the seismic
13 data?

14 A. Yes.

15 Q. When these wells are drilled, Mr. Brewer, do you
16 have any idea of the -- Do they have any drift to them?

17 A. Yes, they do, at that depth they will drift.

18 Q. Do you know what direction that might be?

19 A. No, I sure don't.

20 Q. It's possible your bottomhole location may not
21 even be on that 40-acre tract ultimately; is that a
22 reasonable assumption?

23 A. It's possible.

24 Q. The Devonian is the primary objective. If you
25 encounter production in the Devonian, the well will be just

1 completed in that interval?

2 A. Yes.

3 Q. And the Ellenburger won't even be tested at that
4 point?

5 A. After we have depleted the reserves in the
6 Devonian, then we will attempt an Ellenburger completion.

7 Q. Okay, that federal lease in Sections 21 and 22,
8 that's one common lease, right?

9 A. Yes.

10 Q. Is that lease held by production from the well in
11 Section 22, do you know?

12 A. I do not know if that well holds the production.
13 It does not hold the Devonian rights, because that well is
14 completed in the McKee. That's why we're contractually
15 obligated to complete the well in 21 in the Devonian.

16 Q. Well, let me ask you this. In Section 21, if you
17 drill your well and complete it as a Devonian well, will
18 that necessarily hold the east half of Section 21?

19 A. Yes.

20 Q. It will?

21 A. Yes.

22 Q. So that will be max for as long as that well is
23 producing?

24 A. Right.

25 Q. So there will never be any other affected

1 interest owners if that well is a Devonian producer?

2 A. No.

3 Q. And Mack is the only working interest owner at
4 this point?

5 A. Yes.

6 Q. And that's a -- just federal royalty?

7 A. Right.

8 Q. Do you know why the BLM made you move the
9 location?

10 A. Topography.

11 Q. And you've testified that you believe that that
12 well would drain the Devonian within the entire east half?

13 A. Yes.

14 Q. Does that suggest that maybe the spacing is a
15 little bit small for a Devonian well, or --

16 A. Well, it's because we were on the structurally
17 high -- in a structurally high position where that well is
18 located, and it should adequately drain any oil reserves
19 that are there.

20 Q. Do you know where the oil-water contact is in
21 this pool?

22 A. No.

23 EXAMINER CATANACH: I think that's all I have,
24 Mr. Carr.

25 MR. CARR: That concludes our presentation in

1 this case.

2 EXAMINER CATANACH: Okay, there being nothing
3 further in this case, Case 12,483 will be taken under
4 advisement.

5 Let's take a ten, 15-minute break here.

6 (Thereupon, these proceedings were concluded at
7 9:50 a.m.)

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14 I hereby certify that the foregoing is
15 a complete record of the proceedings in
16 the Examiner hearing of Case No. 12483
17 heard by me on September 7 - 19200
18 David K. Catanch, Examiner
19 Off Conservation Division
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OFFICIAL EXHIBIT FILE

EXAMINER HEARING

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Santa Fe, New Mexico

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