

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 ENERQUEST RESOURCES, )  
L.L.C., TO AMEND SPECIAL POOL RULES )  
FOR THE EAST HOBBS-SAN ANDRES POOL, )  
LEA COUNTY, NEW MEXICO )

CASE NO. 12,179

ORIGINAL  
MAY 27 AM 5:46  
OIL CONSERVATION DIV

REPORTER'S TRANSCRIPT OF PROCEEDINGS  
EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

May 13th, 1999

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, May 13th, 1999, 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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 CASE NO. 12,179

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## A P P E A R A N C E S

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## FOR LYNX ENERGY COMPANY, INC.:

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\* \* \*

1           WHEREUPON, the following proceedings were had at  
2 8:47 a.m.:

3  
4  
5           EXAMINER CATANACH: At this time we'll call Case  
6 12,179.

7           MR. CARROLL: Application of Enerquest Resources,  
8 L.L.C., to amend special pool rules for the East Hobbs-San  
9 Andres Pool, Lea County, New Mexico.

10          EXAMINER CATANACH: Call for appearances in this  
11 case.

12          MR. CARR: May it please the Examiner, my name is  
13 William F. Carr. I'm with the Santa Fe law firm Campbell,  
14 Carr, Berge and Sheridan, and we represent Enerquest  
15 Resources in this matter.

16           I have three witnesses.

17          EXAMINER CATANACH: Call for additional  
18 appearances.

19          MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe,  
20 representing Lynx Energy Company, Incorporated, who is an  
21 operator in the pool.

22           I have no witnesses.

23          EXAMINER CATANACH: Will the three witnesses  
24 please stand to be sworn in?

25           (Thereupon, the witnesses were sworn.)

1 MR. CARR: At this time we call Robert Floyd.

2 ROBERT W. FLOYD,

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

5 DIRECT EXAMINATION

6 BY MR. CARR:

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

8 A. Robert W. Floyd.

9 Q. And where do you reside?

10 A. Midland, Texas.

11 Q. By whom are you employed?

12 A. Enerquest Resources.

13 Q. And what is your current position with Enerquest?

14 A. President.

15 Q. Have you previously testified before the Oil  
16 Conservation Division?

17 A. No, I have not.

18 Q. Would you briefly summarize your educational  
19 background for Mr. Catanach?

20 A. I graduated in 1983 from the University of Texas  
21 at Austin with a petroleum land management degree.

22 Q. Following graduation, for whom have you worked?

23 A. I worked for Sabine Corporation as the west Texas  
24 and east New Mexico landman and in 1988 became an  
25 independent and founded Enerquest in 1997 and acted as the

1 land duties and president.

2 Q. At all times since graduation, have you been  
3 working in petroleum land matters?

4 A. Yes, I have.

5 Q. Are you familiar with the Application filed in  
6 this case on behalf of Enerquest Resources?

7 A. Yes, I am.

8 Q. Are you familiar with the status of the lands in  
9 the East Hobbs-San Andres Pool?

10 A. Yes, I am.

11 MR. CARR: Mr. Catanach, we would tender Robert  
12 Floyd as an expert witness in petroleum land matters.

13 EXAMINER CATANACH: He is so qualified.

14 Q. (By Mr. Carr) Would you briefly summarize what  
15 Enerquest Resources seeks with this Application?

16 A. We would like to amend the special pool rules and  
17 regulations for the East Hobbs-San Andres Pool to include  
18 the assignment of a special depth bracket allowable of 160  
19 barrels of oil per day.

20 Q. Would you identify for the Examiner what has been  
21 marked as Enerquest Resources Exhibit Number 1?

22 A. This is the map showing the location of the East  
23 Hobbs-San Andres Pool as it relates to the Texas-New Mexico  
24 border.

25 Q. And these are the current boundaries of the pool

1 as defined in the records of the Oil Conservation Division?

2 A. Yes, they are.

3 Q. Let's go to Exhibit Number 2. Would you identify  
4 and review that?

5 A. This is an orientation plat, again in relation to  
6 the Texas-New Mexico Border. It outlines the Enerquest-  
7 operated as well as nonoperated acreage and outlines the  
8 current San Andres producers within the field pool.

9 Q. Lynx Energy's interest in this area, is that  
10 indicated on this exhibit, or could you identify it for us?

11 A. Yes, it is, it's identified as -- with a hach to  
12 the right. Actually, it's Fossil Fuels, which is one and  
13 the same as Lynx. They're the operator of one 40-acre  
14 tract.

15 Q. In the -- Basically in the center of the area  
16 shown --

17 A. Correct.

18 Q. -- in yellow?

19 A. Outlined as the Laney Reese lease.

20 Q. And then between your acreage and the Texas  
21 border is a row of about 40-tracts --

22 A. Right.

23 Q. -- irregular tracts?

24 A. David Arrington, correct.

25 Q. Is Enerquest Exhibit Number 3 an affidavit

1 confirming that notice of this Application has been  
2 provided to affected owners in accordance with Oil  
3 Conservation Division Rules?

4 A. Yes, it is.

5 Q. And to whom was notice provided?

6 A. We provided all the operators within the pool  
7 boundaries and all operators of the San Andres wells within  
8 a mile of the pool boundaries.

9 Q. And did you limit that to the San Andres  
10 operators in the State of New Mexico?

11 A. Yes, we did.

12 Q. Will Enerquest present technical witnesses to  
13 review both geological and engineering portions of this  
14 case?

15 A. Yes, we will.

16 Q. Were Exhibits 1 through 3 either prepared by you  
17 or compiled under your direction?

18 A. Yes, they were.

19 MR. CARR: At this time, Mr. Catanach, we would  
20 move the admission into evidence of Enerquest Resources  
21 Exhibits 1 through 3.

22 EXAMINER CATANACH: Exhibits 1 through 3 will be  
23 admitted as evidence.

24 MR. CARR: And that concludes my direct of Mr.  
25 Floyd.

## EXAMINATION

1  
2 BY EXAMINER CATANACH:

3 Q. Mr. Floyd, your Exhibit A is a list of operators  
4 who operate San Andres wells within the pool?

5 A. Yes, sir.

6 Q. And is there any San Andres production outside  
7 the pool boundary, or within a mile of that pool boundary?

8 A. No, we've identified outside of the pool. We've  
9 notified the operators outside the -- within the one-mile  
10 boundary.

11 MR. CARR: That is McClure Oil Company, isn't  
12 that right?

13 THE WITNESS: Correct --

14 MR. CARR: And that's --

15 THE WITNESS: -- McClure Oil Company to the  
16 south.

17 Q. (By Examiner Catanach) Where is their interest?

18 A. It's in Section -- I believe 31.

19 Q. And do they operate a San Andres well down there,  
20 or is it just --

21 A. Yes, they do.

22 Q. Okay. Do you guys operate on the Texas side of  
23 this field?

24 A. No, we do not. We do have some leasehold  
25 position. On Exhibit 2 you see approximately 280 acres

1 which we have rights to the San Andres. Currently we do  
2 not operate a well on that acreage.

3 Q. Do you know, by any chance, what the allowable is  
4 in Texas?

5 A. I do not. We can touch on that later.

6 Q. As far as you know, have any of these operators  
7 expressed any concern over raising the allowable in this  
8 pool?

9 A. No.

10 Q. How many wells do you guys operate?

11 A. Within this field, 17.

12 Q. Is this a relatively young field, or is it --

13 A. No, it began production in the early 1950s. It's  
14 -- which we'll touch on later -- out of the upper San  
15 Andres porosity. It's a relatively mature field.

16 EXAMINER CATANACH: We have nothing further of  
17 this witness.

18 MR. CARR: Thank you. At this time we would call  
19 David Godsey.

20 DAVID A. GODSEY,

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

23 DIRECT EXAMINATION

24 BY MR. CARR:

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

1 A. David A. Godsey.

2 Q. Mr. Godsey, where do you reside?

3 A. Midland, Texas.

4 Q. By whom are you employed?

5 A. I'm self-employed.

6 Q. And what is your relationship with Enerquest  
7 Resources?

8 A. Well, I'm a working interest owner in the  
9 property in East Hobbs, and I'm a consulting geologist for  
10 this project.

11 Q. Have you previously testified before the New  
12 Mexico Oil Conservation Division?

13 A. No, I have not.

14 Q. Could you summarize your educational background  
15 for the Examiner?

16 A. I went to Stephen F. Austin College in  
17 Nacogdoches, Texas, received a bachelor of science degree  
18 in geology in 1977.

19 Q. Following graduation, for whom have you worked?

20 A. Following graduation, I started with Core  
21 Laboratories in Midland, Texas, doing core analysis until  
22 1979. Late in 1979 I went to work for Threshold  
23 Development Company in Midland, Texas, as a geologist.

24 In 1981 I went to work for TXO Production Corp.,  
25 which was a wholly owned subsidiary of Texas Oil and Gas,

1 as a geologist, in Midland, Texas.

2 In 1984 -- Yes, January of 1984, TXO moved me to  
3 Corpus Christi, Texas, where I was district geologist and  
4 then exploration manager.

5 1988, I was moved back to Midland, Texas, by TXO  
6 again, as exploration manager.

7 In 1990, TXO was merged into Marathon. I became  
8 self-employed for the first time at that time as a  
9 consulting geologist and prospect generator.

10 In 1997 I helped form Enerquest Resources.

11 And then in 1998 I went back as an independent  
12 consultant, again by myself.

13 Q. Are you familiar with the Application filed on  
14 behalf of Enerquest Resources in this case?

15 A. Yes, I am.

16 Q. Are you familiar with the development of the San  
17 Andres formation in the East Hobbs-San Andres Pool and the  
18 surrounding area?

19 A. Yes, I am.

20 Q. Have you made a geological study of the San  
21 Andres formation in the area of interest?

22 A. Yes, I have.

23 Q. And are you prepared to share the results of that  
24 work with the Examiner?

25 A. Yes, I am.

1 MR. CARR: Mr. Catanach, we tender Mr. Godsey as  
2 an expert witness in petroleum geology.

3 EXAMINER CATANACH: He is so qualified.

4 Q. (By Mr. Carr) Have you prepared exhibits for  
5 presentation in this case?

6 A. Yes, I have.

7 Q. Let's go to what has been marked for  
8 identification as Enerquest Exhibit Number 4, and I'd ask  
9 you to identify this and review it for the Examiner.

10 A. Okay, Exhibit Number 4 is really a producing zone  
11 map for the East Hobbs Pool area. Again, you'll see the  
12 state line. In there is a bold dashed line indicating New  
13 Mexico-Texas, a state line boundary.

14 What you see through various color codes  
15 basically are the zones that have actually produced in and  
16 around the field. And this is really presented to clear up  
17 confusion over what wells produced where for the  
18 Commission.

19 Basically, the -- anything that's in green,  
20 whether it's dark green or light green, is San Andres  
21 production. You'll see some kind of an orange-red color,  
22 which indicates Seven Rivers or Queen Production.

23 And then the -- well, I guess -- well, the color  
24 Xeroxing -- you see some Clear Fork or Blinebry production  
25 there in the more or less purple color, and then we do

1 indicate that there was one deeper Devonian dryhole on the  
2 structure as well.

3 Q. Let's go to what has been marked for  
4 identification as Enerquest Exhibit Number 5, your  
5 structure map on the top of the San Andres. And using this  
6 exhibit, I think it would be helpful if you would first  
7 sort of -- if you would first review the history of the  
8 development of the pool, and then --

9 A. Okay.

10 Q. -- the information on this exhibit.

11 A. The pool was discovered in 1951. Production was  
12 found in the top of the San Andres, what we now term the P-  
13 1 porosity. And the bulk of the field development was in  
14 the 1950s. I think by 1959 all the P-1 producers had been  
15 drilled at that time.

16 Typical production for that time. They would  
17 drill down to the top of the P-1 porosity, set pipe and  
18 then drill out and effect an open-hole completion into the  
19 P-1 porosity.

20 This structure map, particular map right here,  
21 the scale is 1 to 2000 scale. The contour interval, which  
22 is on top of the San Andres is 10 feet. The contour method  
23 is by Kriging method, just, you know, standard computer-  
24 generated Kriging technique with no particular bias to it.  
25 And really, it indicates the structure that's prevalent for

1 the field at the San Andres level.

2 In the 1960s, several wells were deepened a few  
3 feet, which really affected just opening up a little more  
4 of the P-1 porosity zone that had already been producing  
5 for some time.

6 In the late 1960s, two wells over on the Texas  
7 side, which would be the -- on the Jones lease in Section 5  
8 -- were deepened substantially further, approximately 90  
9 feet or so, which effectively opened up what we now  
10 recognize to be the P-2, the P-3 and part of the P-4  
11 porosity zones.

12 Due to that deepening, they had a significant  
13 increase in production. Of course, it is Texas, so  
14 production is not reported on a per-well basis. But the  
15 two wells on that lease, we calculated, recovered an  
16 additional 120,000 barrels incremental reserves by  
17 deepening those two wells into these deeper pay zones.

18 Now, at the time they did not recognize that they  
19 were in two separate zones. They didn't run any type of  
20 liner or anything; they just left the original production  
21 casing where it was and had the entire interval open-hole  
22 completed.

23 At about the same time in New Mexico, the Rocket  
24 Cain Number 2, which would be in Section 30, Unit L, was  
25 deepened a few feet also, as well as two or three other

1 wells in that area. So based upon the work that was done  
2 and not really recognized for what they were finding, we  
3 endeavored to search for significant deeper pay in the  
4 field, and that was the activity that we had beginning in  
5 1997.

6 Now, the P-1 zone, which has been producing since  
7 1951, basically has had flank water encroachment into the  
8 reservoir, such that the lower wells on the structure have  
9 essentially watered out. The wells up on the top of the  
10 structure, which you see pretty much centered in the  
11 southeast quarter of Section 30, are still commercial  
12 wells. Water has not quite reached that high, or at least  
13 the water cut is not significant at this point.

14 In 1997 Enerquest deepened four wells, and then  
15 drilled two new wellbores in the area. The wells we  
16 deepened, we deepened the Davis Number 1, which would be  
17 located in Section 29, Unit N; we deepened the State Lowe  
18 Number 1, which would be in Section 32, Unit C; the Davis  
19 Number 2, which would be in Section 29, Unit L; and then we  
20 deepened the Rocket Cain well that I mentioned before,  
21 which was in Section 30, Unit L.

22 After that, we drilled two new wellbores, the  
23 C.O. Davis Number 5, which is located in Section 29, Unit  
24 J, and then the Samuel Cain Number 5 in Section 30, Unit N.  
25 And then in 1998 Enerquest drilled the Laney A Number 1,

1 which again would be in Section 30, Unit J.

2           Currently -- You know, we've seen clearly that  
3 the current allowable of 80 barrels a day is not sufficient  
4 to properly drain this reservoir. We've found substantial  
5 amounts of new pay that is much thicker than the P-1  
6 porosity zone, and basically we feel like we need to have a  
7 higher allowable.

8           Q. Let's go to Enerquest Exhibit Number 6, the  
9 structure map on top of the P-1 zone. Will you explain to  
10 Mr. Catanach what this shows?

11           A. Okay, this is a structure map that's on the --  
12 let's say effectively the top of the P-1 reservoir, because  
13 I'm picking it right at the top of the San Andres P-1  
14 porosity, which is the old original producing zone for the  
15 field. Again, the map scale is the same, contour interval  
16 of 10 foot is the same, the contour method of Kriging is  
17 the same. You'll note that the structural configuration is  
18 all but identical as when you pick it at the top of this  
19 San Andres.

20           Indicated in green are P-1 producers that you can  
21 see the entire structure essentially has at some time or  
22 another produced out of the P-1. Many of those wells have  
23 now been plugged out due to watering out in the P-1, while  
24 essentially the wells on the top of the structure are still  
25 commercially active.

1 Q. All right, let's go to Exhibit Number 7.  
2 Identify and review that.

3 A. Exhibit Number 7 is dropping down to the top of  
4 the P-2 porosity, which begins where Enerquest has found  
5 new pay. Again, the contour method is the same, the same  
6 Kriging technique, the scale is the same so that everything  
7 should be similar. And you'll see that the structural  
8 configuration is very similar to what we see at the top of  
9 the San Andres and on the top of the P-1. Also indicated  
10 in green are wells that have produced or are producing out  
11 of the P-2 through P-4 intervals.

12 By the way, you had asked about Texas allowable  
13 across the state line. To my knowledge, there are  
14 currently no San Andres producers on the Texas side of this  
15 field. I don't recall the exact date when the production  
16 was, but it's been for some time.

17 Anyway, what we see here on this map is -- You  
18 know, obviously, the map is -- the contours are a lot  
19 smoother because of lack of control. Most of those wells,  
20 the original P-1 wells, did not go and penetrate the P-2  
21 through P-4 interval, and what we have found is  
22 approximately 180 feet of new pay in the field.

23 Q. This exhibit also has a trace on it for the next  
24 exhibit, the cross-section; is that right?

25 A. Yes, correct. You'll see it on there in dashed

1 line, the line of a cross-section, which would be the next  
2 exhibit. Essentially, it's a cross-section that runs  
3 across the strike of the field in more or less an east-to-  
4 west direction.

5 Q. Let's go to that cross-section, Enerquest Exhibit  
6 Number 8, and I ask you to review that.

7 A. I apologize for the size of the exhibit. That's  
8 even more than a saddle blanket, I believe.

9 This is a structural cross-section. On the right  
10 end of the section would be the east end of the section  
11 line; on your left, as you're looking at it, would be the  
12 west end. And this is a cross-section we prepared at some  
13 time in the past, after we had done our work in 1997 but  
14 before we drilled our well in 1998.

15 Basically what you see there, I've indicated the  
16 Premier sand, which is the basal Glorieta interval here,  
17 sitting just on top of the San Andres. We picked the top  
18 of the San Andres at that interface. It's a gamma-ray pick  
19 between the base of the -- Did I say Glorieta? I'm sorry,  
20 Grayburg sand, being the Premier sand, and the top of the  
21 carbonate there for the San Andres.

22 Just below that, you'll see the top of the P-1  
23 indicated on there, which is a very continuous porosity  
24 zone developed all the way across the field, and that's  
25 what the original production was out of.

1           Below that, you'll see the top of the P-2  
2 porosity indicated on there, and that's the other map  
3 horizon I've mapped on for the top of this P-2 through P-4  
4 interval.

5           Just about 20 feet below the top of the P-2  
6 marker, I've indicated a sandy marker. That would probably  
7 be equivalent to the Lovington sand that you see so  
8 prevalent through New Mexico in the upper part of the San  
9 Andres.

10           The relevant point to the cross-section is really  
11 to show continuity of the P-1 porosity across the field, as  
12 well as continuity of the P-2, P-3 and P-4 porosity zones.  
13 And you can see from the base of the P-1 to the top of the  
14 P-2 a low-porosity zone, which we've determined to be a  
15 low-porosity, low-permeability mudstone facies that  
16 separates the base of the P-1 from the top of the P-2  
17 interval. The P-2 through P-4 interval is a relatively  
18 consistent zone, or a series of porosity developments, all  
19 the way across the field.

20           Q. All right. Let's go now to Enerquest Exhibit 9,  
21 the core data statistical comparison, and I would ask you  
22 to explain to the Examiner what this exhibit is intended to  
23 show and then review the information.

24           A. Okay. Exhibit 9 is a statistical summary of core  
25 data that we took on our two new-drill wells in 1997, being

1 the C.O. Davis Number 5 and the Samuel Cain Number 5.

2 At the time we drilled these wells, we began  
3 coring just above the Premier sand with conventional core  
4 barrel, 60-foot barrel, and we continuously cored to TD on  
5 both of the wells. So we had approximately 300 feet of  
6 continuous core through the entire interval on both wells.

7 And again, the two wells -- or one of them is  
8 located in -- The Davis Number 5 is in Section 29, Unit L,  
9 and the Samuel Cain Number 5 is in Section 30, Unit N.

10 What we did with that data was, we had just  
11 conventional laboratory tests done to determine porosity,  
12 permeability, oil saturations and residual introduced water  
13 saturations, as well as grain density measurements.

14 Analysis technique, we took an inch-and-a-half-  
15 diameter core out of every foot, cleaned it with a Dean-  
16 Stark-type apparatus for fluid extraction and cleaning the  
17 core. We did a Boyle's law helium porosity. We did a  
18 steady-state air permeability in a Hassler holder to  
19 determine permeability, and then -- which is pretty much  
20 standard procedure for core analysis at this time.

21 What you see here on this sheet, then, is a  
22 summary of the results of what we see out of that, and you  
23 see for both wells, the Davis Well Number 5 and then the  
24 Samuel Cain Number 5, a statistical comparison between the  
25 P-1 zone and the P-2 through P-4 zones.

1           You'll note in the P-1 zone, this is just a  
2 fabulous reservoir. In the Davis Number 5, porosity  
3 averaged 21.2 percent, permeability was over 98  
4 millidarcies, whereas in the Samuel Cain Number 5 it was  
5 very similar, 20.1-percent porosity average and 82.6  
6 millidarcies.

7           The oil saturation, residual -- of course, these  
8 are residual saturations of 21.3 and 25.6, respectively.

9           You'll note the zone is not extremely thick: 27  
10 feet for the Davis 5, 35 feet for the Samuel Cain Number 5.  
11 It gives a porosity-foot, or a  $\phi h$  number, of 573 for the  
12 Davis 5 and 704 for the Samuel Cain Number 5.

13           When I compare that to the newly found zones by  
14 Enerquest here in the P-2, P-3 and P-4, the porosity has  
15 dropped, but still substantially a good reservoir. The  
16 Davis Number 5 averages 14.8-percent porosity, and the  
17 Samuel Cain Number 5, 13.7.

18           The permeabilities are running 12.9 for the Davis  
19 5 and 15.1 for the Samuel Cain. You'll note that, again,  
20 the oil saturations are very similar, running 24.4 and  
21 24.1.

22           My  $\phi h$  number, however, because the zone is so  
23 much thicker -- if you look there in the first column, it  
24 shows the actual feet in thickness -- we're looking at 165  
25 or 163 feet, so I get a  $\phi h$  number that's a lot higher, 2416

1 for the Davis 5, 2187 for the Samuel Cain.

2 Based upon the quality of this reservoir and the  
3 thickness that we have here, this rock is capable of  
4 producing quite a bit of oil at one time, to drain it  
5 efficiently.

6 Q. Summarize generally your geologic conclusions.

7 A. Okay. Geologically, what all this has indicated  
8 to me very clearly is, number one, we can clearly separate  
9 the P-1 from the P-2, P-3 and P-4 zones. We have a good  
10 nonpermeable barrier between the base of the P-1 and the  
11 top of the P-2. The porosity is very consistent,  
12 vertically and horizontally across the field. I can trace  
13 the P-2, P-3 and P-4 zones all the way across the  
14 structure.

15 When you look at the rock type that we found  
16 there in the P-2 through the P-4, it's a good  
17 dolowackestone with an intercrystalline porosity very  
18 consistent throughout the interval. Porosity and  
19 permeability is very consistent throughout the interval.

20 Therefore, it's indicating it's a good -- For a  
21 carbonate, which is typically a heterogeneous, it's a very  
22 homogeneous heterogeneous rock, if you will. It should  
23 drain very consistently, you know, the same from the top of  
24 the reservoir versus the bottom of the reservoir. But when  
25 you're dealing with horizontal permeability in the 13-to-

1 15-millidarcy range, your effective vertical permeability  
2 over a large area is not going to be very high.

3           So what I surmise from this is, we've got  
4 obviously new pay in the P-2 through P-4 intervals that's  
5 separated from this, that we have several orders of  
6 magnitude greater  $\phi h$  in this new rock than what was  
7 producing in the P-1 for so long, and we've seen by our  
8 well tests that these wells will produce at a lot, you  
9 know, higher rate than what the 80-barrel-per-day allowable  
10 is.

11           And for example, in the Davis Number 5 well, we  
12 have the P-2 through P-4 interval open, virtually the whole  
13 thing. The well is capable of more than 80 barrels a day.  
14 And because of what we learned off of that, in the newer  
15 well we drilled in 1998, being the Laney A Number 1,  
16 because of allowable constraints, we opened up only part of  
17 the P-4, being the lower part of the interval. As a matter  
18 of fact, we opened up about 15 percent of the total amount  
19 of pay of the P-2 through P-4 interval.

20           And that well is capable of doing well over the  
21 current allowable. It's my contention that the best way to  
22 drain this reservoir is to have the entire thing open and  
23 depleting it consistently through time. I feel like this  
24 is an excellent waterflood candidate down the road, and for  
25 a waterflood I would much prefer to have all the zones

1 depleting naturally at about the same time for a more  
2 efficient waterflood.

3 Q. Will Enerquest also call an engineering witness?

4 A. Yes, they will.

5 Q. Were Exhibits 4 through 9 prepared by you?

6 A. Yes, they were.

7 MR. CARR: At this time, Mr. Catanach, we would  
8 move the admission into evidence of Enerquest Exhibits 4  
9 through 9.

10 EXAMINER CATANACH: Exhibits 4 through 9 will be  
11 admitted as evidence.

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

14 EXAMINATION

15 BY EXAMINER CATANACH:

16 Q. So you've got separation between the P-1 and the  
17 rest of the porosity intervals?

18 A. Yes, sir, we do.

19 Q. What about between the P-2 and the P-4? Is it  
20 vertically --

21 A. There is some, yes. The core data or the core --  
22 you know, visual examination as well as microscopic  
23 examination indicates that, for instance, between the P-1  
24 and the P-2 we have that mudstone facies developed that you  
25 can see it very well on the logs as a low-porosity zone

1 there. That's a mudstone facies that actually has no oil  
2 saturation to it, and I can consistently see that across  
3 the field. So that's an excellent, you know, no-doubt  
4 separation there, because of the lack of oil saturation.

5 Now, as we go from the P-2 through the P-4  
6 sequence, scattered through there, which you can see on the  
7 porosity logs on the cross-section, occasional lower  
8 porosity intervals -- and typically they're anywhere from a  
9 few inches to maybe a foot or so thick -- that are some of  
10 that mudstone facies scattered through that interval.

11 In the upper part of the interval, say through  
12 the P-2, whenever you'd see a little bit of mudstone, many  
13 times it did not have an oil saturation. As we went  
14 further and further down into the P-4, they started having  
15 a little bit of residual oil saturation, but the porosity  
16 and permeability was still substantially very low in those  
17 intervals.

18 So in effect, I think that in -- say in the lower  
19 part of the interval, say in the P-4 through, say, P-3,  
20 they probably have more of a baffling effect; it's not a  
21 complete barrier to communication. As we start going  
22 upward from the P-3 into the P-2, they're bona fide  
23 nonpermeable zones due to their lack of oil saturation in  
24 the rock.

25 The cores between the two wells, which were

1 approximately a mile apart on either side of the crest of  
2 the structure, were very consistent as far as rock type,  
3 porosity, permeability and saturations in the P-2 through  
4 P-4 interval.

5           However, I will say that some of these little  
6 mudstones I can correlate point to point across there, some  
7 of them I can't. The ones that I can, for instance, the  
8 mudstone there that separates the P-2 from the P-1, it's  
9 obviously there on every well across here. But in a few  
10 cases, you know, I cannot necessarily say that every single  
11 mudstone I see in one well is going to be present in the  
12 same thickness in another well across there, which is down  
13 into the P-3, P-4 interval, where I'm saying there would be  
14 more of a baffling effect and would reflect flow.

15           The vertical permeabilities, we did not measure  
16 vertical permeabilities in this rock. My experience tells  
17 me that the vertical permeability will be less than  
18 horizontal permeability.

19           We have no fracturing in this reservoir, by  
20 visual examination of the core, and we have no large vugs  
21 giving, you know, separated vug-type porosity that's not  
22 interconnected. It's all, in the P-2 through P-4 interval,  
23 very -- you know, fairly -- relatively consistent  
24 intercrystalline porosity, with the exception of the  
25 mudstone facies.

1           Now, you do see on the logs in there a few hot  
2 gamma-ray streaks in there, and these are very shin, shaly,  
3 organic shale intervals, that are anywhere from an inch or  
4 two thick to three or four inches thick. They're very hot,  
5 very high gamma-ray response. Some of them correlate well,  
6 some of them don't. Again, that would be a nonpermeable  
7 zone, giving a little bit of baffling through the interval.

8           Q.    In your opinion, are each of these zones  
9 producing, contributing production to these wells?

10          A.    Yes. Well, the exception of our most recent  
11 completion where we've only opened up the P-4.

12          Q.    But the P-2 through the P-4 are productive?

13          A.    Yes, sir.

14          Q.    I notice you've got a P-5 on here. Is that not  
15 productive?

16          A.    We found that out. It's sulfur-water productive.  
17 We tested that well -- that zone in our Samuel Cain Number  
18 5, and we found all the sulfur water we would want.

19          Q.    Okay, and this is a water-drive type of  
20 reservoir?

21          A.    In my opinion, no. The -- Our engineer will  
22 touch on that a little bit more, I'm sure, but the P-2  
23 through P-4 interval, I think, is a solution gas drive  
24 reservoir. The P-1 interval, I think, was a solution gas  
25 drive with a latent water push to it. The pressure in the

1 P-1 is down somewhere below 300 pounds, in the P-1, the old  
2 zone, with water having encroached around the flanks of the  
3 structure, whereas in this P-2 through P-4 interval, I  
4 believe -- I don't recall the exact number. I think we're  
5 over 1000 pounds bottomhole pressure.

6 Q. So basically, is the P-1 depleted in this field?

7 A. Almost. We still have several P-1 producers out  
8 there. The ones that are lower on the structure are a very  
9 high water cut. The ones higher on the structure -- For  
10 instance, the Laney Number 3, which would be in Section 30,  
11 unit P, shoot, I think that well is doing about 80 barrels  
12 a day, with just a few barrels of water a day. So you  
13 know, it's still a very commercial well.

14 As a matter of fact, that's an example there. In  
15 that 40-acre unit we can't even drill another well to  
16 capture this P-2 through P-4 production, because that old  
17 well that was drilled in the Fifties is still capable of  
18 allowable.

19 Q. So where is the potential development in the P-2  
20 through P-4? Is that throughout the whole field?

21 A. Yes, sir, that's my belief. Based upon what  
22 we've seen in our new wells, as well as those -- Those two  
23 Jones wells that were over in Texas were, relative to our  
24 new activity, relatively low on the structure, on the --  
25 say the eastern extension of that anticline, and they made

1 120,000 barrels in incremental reserves by deepening into  
2 the P-2, P-3 and P-4 interval.

3 Now -- And so my estimation is that the  
4 productive limits of this P-2 through P-4 interval will  
5 closely resemble the productive limits of the P-1 interval,  
6 as far as the areal outline.

7 Q. So there's a lot of potential in terms of  
8 drilling new wells or deepening some wells?

9 A. Yes, sir, I hope so. Yes, sir, there is.

10 Q. Your engineer is going to go into some more about  
11 what these wells are producing?

12 A. Yes, sir.

13 Q. Which zones are good candidates for waterflooding  
14 at this point, do you think?

15 A. At this point, I believe the P-2 through P-4  
16 interval is an excellent waterflood candidate. At some  
17 point obviously we need to produce some primary reserves  
18 first.

19 The P-1 zone, at one point we thought it might be  
20 a good waterflood candidate due to the -- With the porosity  
21 and permeability relationship in the P-1 zone, I think that  
22 this weak water encroachment has effectively done a pretty  
23 good job of sweeping that P-1 porosity zone. I guess it  
24 could be argued that it still may be a waterflood  
25 candidate. I don't rule it out entirely, but I think it's

1 a low probability that you would have much commercial  
2 return out of trying to flood the P-1. I think the  
3 recovery has been pretty high in it.

4 In the P-2 through P-4, this is -- The porosity  
5 and permeability and consistency of the pay indicates to me  
6 that it should be an excellent waterflood candidate.

7 EXAMINER CATANACH: Okay, I believe that's all I  
8 have of this witness.

9 MR. CARR: Thank you. At this time we would call  
10 Christopher Renaud.

11 CHRISTOPHER P. RENAUD,  
12 the witness herein, after having been first duly sworn upon  
13 his oath, was examined and testified as follows:

14 DIRECT EXAMINATION

15 BY MR. CARR:

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

17 A. Christopher P. Renaud.

18 Q. Would you spell your last name for Ms. McGraw?

19 A. Yes, R-e-n-a-u-d.

20 Q. Where do you reside?

21 A. Midland, Texas.

22 Q. By whom are you employed?

23 A. Enerquest Resources.

24 Q. And what is your current position with Enerquest  
25 Resources?

1 A. I am a vice president and engineering manager.

2 Q. Have you previously testified before the Oil  
3 Conservation Division?

4 A. No, I haven't.

5 Q. Would you summarize your educational background  
6 for the Examiner?

7 A. Yes, I graduated from the University of Texas at  
8 Austin, earned a degree, a bachelor of science degree in  
9 petroleum engineering, in December of 1981.

10 Q. Since graduation, for whom have you worked?

11 A. I started my career with Amoco Production  
12 Company, and then in 1986 I became employed by Western  
13 Reserves Oil Company and was associated as their operations  
14 manager through 1991, and then I still continue to this day  
15 to advise the founding -- the family that owns Western  
16 Reserves.

17 From 1991 until 1996, I was an independent  
18 operator, and then I founded Enerquest Resources in October  
19 of 1996, and that's where I am today.

20 Q. Are you familiar with the Application filed in  
21 this case?

22 A. Yes, I am.

23 Q. Have you made an engineering study of the East  
24 Hobbs-San Andres Pool?

25 A. Yes, I have.

1 Q. And are you prepared to share the results of that  
2 work with Mr. Catanach?

3 A. Yes.

4 MR. CARR: Mr. Catanach, we tender Mr. Renaud as  
5 an expert witness in petroleum engineering.

6 EXAMINER CATANACH: He is so qualified.

7 Q. (By Mr. Carr) Initially, when was the East  
8 Hobbs-San Andres Pool created?

9 A. The pool was discovered in 1951 and created by  
10 Order Number R-132 on March 26th, 1952.

11 Q. And what rules govern the development of this  
12 pool?

13 A. Presently, the statewide spacing and well-  
14 location requirements call for 40-acre spacing, 330-foot  
15 setbacks, and a depth bracket allowable of 80 barrels per  
16 day.

17 Q. There are special pool rules currently in effect  
18 for the pool; is that right?

19 A. That is correct. They were adopted by Order  
20 Number R-7511, dated April 20th, 1994. They provide for a  
21 special gas-oil ratio of 5000 cubic feet of gas per barrel  
22 of oil, and the resulting authorized -- a gas producing  
23 rate of 400 MCF per day.

24 Q. Mr. Renaud, would you explain why it is that  
25 Enerquest is seeking an increase in this pool's depth

1 bracket allowable?

2 A. Yes, from our recent work that untapped this  
3 additional pay in the P-2 through P-4 intervals, we  
4 presently have wells that cover that 160-foot gross  
5 section, that are capable of producing in excess of 80  
6 barrels per day.

7 Q. Have you prepared exhibits for presentation in  
8 this hearing?

9 A. Yes, I have.

10 Q. Let's go to what has been marked for  
11 identification as your Exhibit Number 10. Would you  
12 identify that and review it for Mr. Catanach?

13 A. Yes, Exhibit Number 10 was pulled down from  
14 *Dwight's Production Data*. It is simply an oil, gas, water  
15 and well-count curve of the East Hobbs-San Andres Pool.  
16 Please note that in 1997, June, Enerquest acquired most of  
17 its leases in the field and immediately began exploiting  
18 this new pay.

19 Daily production -- or monthly production shortly  
20 increased from 2700 barrels of oil per month, and we're now  
21 producing in excess of 10,000 barrels of oil per month from  
22 the field.

23 You'll also note, our work included the  
24 activation of some temporarily abandoned wells that we  
25 deepened. The water production increased by virtue of that

1 work, but you'll notice that the producing GOR has  
2 decreased with our increase in oil production.

3 Q. Let's go to Exhibit Number 11. Would you  
4 identify that, please?

5 A. Yes, Exhibit Number 11, I also pulled down from  
6 *Dwight's Production Data*, and it's an individual production  
7 curve showing our Carrie O. Davis Number 5 well, which -- I  
8 need a plat. It's located -- Our Carrie O. Davis Number 5  
9 is in Section 29, in the southwest of the northwest  
10 quarter. And the first production date for that well was  
11 July of 1997. We have all of the new P-2 through P-4 pay  
12 open in that well.

13 Cumulative oil production through March of 1999  
14 has been 45,811 barrels. You'll note a fairly consistent  
15 GOR. The well is being curtailed to its allowable. And  
16 you'll notice a fairly constant water production.

17 The dip in the curve in December of 1998 was due  
18 to work being done by GPM on their compressor station and  
19 transmission lines, and so we were down the majority of the  
20 month in December of 1998.

21 Q. All right, let's go now to Exhibit Number 10  
22 (*sic*), production data on the Laney A Number 1.

23 A. All right. Again, the Laney A Number 1 was  
24 drilled and put on production in November of 1998, so we  
25 now have virtually four or five months of production

1 history. This is the well, and I'll show you a more  
2 detailed log on it in a minute. But we only opened up  
3 about 20 feet in the P-4 porosity, and it, of course, has  
4 been curtailed to its allowable of 80 barrels of oil per  
5 day. It has a constant producing GOR of about 280 to 1,  
6 and its water production has leveled out at about 30  
7 barrels per day, or just right at 900 barrels per month.

8 Q. How are you currently producing this and other  
9 wells in the pool to keep them at their allowable rate?

10 A. Right now, these wells are producing on time  
11 clock, and so thus we're not able to pump the wells off to  
12 achieve full deliverability from the wells. But they're  
13 being produced on time clock to achieve their allowable.

14 Q. Let's go to the neutron log on the Laney A Well  
15 Number 1 --

16 A. Okay.

17 Q. -- which been marked as Enerquest Exhibit 13.  
18 Review the information on that exhibit for Mr. Catanach.

19 A. All right, Exhibit Number 13 is a cased-hole dual  
20 spaced neutron log from most recently drilled Laney A  
21 Number 1. It delineates -- If you'll go down to the 4400-  
22 foot depth on the log, it delineates the top of the P-1,  
23 top of the P-2, top of the P-3 and top of the P-4, and  
24 marked from a depth of approximately 4568 down to 4610 are  
25 the perforated intervals that are open in the P-4 at this

1 time.

2           Because the testing of this P-4 showed that we  
3 could make well above the present field allowable, we  
4 elected not to open up any more additional pay in this  
5 well. We didn't see any sense in -- My theory is, you  
6 know, a bird in the hand is worth taking. We had a top  
7 allowable well. Every time you go in and perforate and  
8 treat a zone, there are risks associated with breaking out  
9 of zone, and we weren't willing to take that risk at that  
10 time since we already had a top-allowable well.

11           Q. Let's go now to Exhibit Number 14 that shows the  
12 well test information on the Laney A Number 1 well. I'll  
13 ask you to explain how the exhibit is organized and then  
14 review the information on this for Mr. Catanach.

15           A. Okay, what -- My intent with this exhibit, in  
16 creating it, was to show that at producing the Laney A  
17 Number 1 at a higher rate did not affect either the gas-oil  
18 ratio, or did it adversely affect the water-to-oil ratio.

19           So if you'll notice in red I've -- that's a gas-  
20 oil-ratio curve, and it's showing basically a gas-oil ratio  
21 fluctuating from about 280 to 320 to 1 during the test  
22 period of this well.

23           The green curve is a daily oil rate test from  
24 this well while we were testing it.

25           And the blue curve is water-to-oil ratio.

1           And if you'll notice on the X axis, the  
2 horizontal axis, I have the well test period when we were  
3 testing this well to potential it in November of 1998, with  
4 the dates November 11th through November 30th marked. And  
5 we tested that well upwards of 160 barrels per day with no  
6 adverse water being brought in. The water-oil ratio  
7 actually dropped somewhat as we were increasing the rate on  
8 that well.

9           And I bring this up just to show, the P-1,  
10 historically, you can show from the production curve, it's  
11 a classic solution gas drive, and it had the edge water  
12 encroachment eventually as the field matured. This P-2  
13 through P-4, completely different reservoir pressure now.  
14 It's a classic solution gas drive. I'm just trying to  
15 demonstrate from our testing of this well that we saw no  
16 adverse effects that would insinuate waste or damage to the  
17 reservoir by testing this well at a higher rate.

18           Q.    Would you describe this reservoir as one which is  
19 not rate sensitive?

20           A.    Yes, I would.

21           Q.    Does Enerquest have any further development plans  
22 for the pool?

23           A.    Yes, we do. As Mr. Godsey testified earlier, we  
24 feel the areal extent of these new P-2 through P-4 reserves  
25 will pretty much mirror the areal extent of the P-1. And

1 thus, on the New Mexico side of the field, on 40-acre  
2 spacing, we have approximately 22 proved undeveloped  
3 locations to drill.

4 Q. How quickly do you anticipate those locations  
5 will be drilled?

6 A. Well, at this point we're hoping to drill two to  
7 three wells per quarter. So this development might stretch  
8 out over a two- to three-year period.

9 Q. If temporary rules are adopted by this Division  
10 providing for a depth bracket allowable of 160 barrels of  
11 oil per day, for what period of time should these rules  
12 remain in effect?

13 A. Well, initially, I think, because of our  
14 development plans, that an initial 18-month period would  
15 suffice so that we can get some historical production data  
16 from our development work.

17 Q. What conclusions, generally, have you reached  
18 from your study of this pool?

19 A. Well, the reservoir is not rate-sensitive.  
20 Withdrawal rates can be increased from this new P-2 through  
21 P-4 interval without damaging the reservoir. And increased  
22 depth bracket allowable will increase the ultimate recovery  
23 from this pool, and thus I also think we will prevent waste  
24 from this pool by having this increased allowable.

25 Q. In your opinion, will approval of the Application

1 also be in the best interests of conservation and the  
2 protection of correlative rights?

3 A. Yes, it will.

4 Q. Were Exhibits 10 through 14 prepared by you or  
5 compiled at your direction?

6 A. Yes, they were.

7 MR. CARR: At this time, Mr. Catanach, we would  
8 move the admission into evidence of Enerquest Resources  
9 Exhibits 10 through 14.

10 EXAMINER CATANACH: Exhibits 10 through 14 will  
11 be admitted as evidence.

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

14 EXAMINATION

15 BY EXAMINER CATANACH:

16 Q. Okay, as I recall, you guys have deepened four  
17 wells?

18 A. That's correct, we deepened four wells, and  
19 mechanically what we learned from those deepenings -- we  
20 deepened them, and they remained in an open-hole commingled  
21 state with the P-1.

22 Mr. Godsey didn't, I don't think, mention that  
23 the P-1, although the average permeability was 80 to 90  
24 millidarcies through our core analysis of the P-1, there's  
25 streaks in that P-1 that approach one darcy of

1 permeability.

2           And what happened to us with those deepenings is  
3 that we could not overcome -- in the open hole we could not  
4 overcome the water production with the P-1, we couldn't get  
5 the wells pumped off. The P-1 is a very fresh produced  
6 water, and we found out we needed a cased hole with the P-1  
7 cemented off to get a good, valid -- or a good, competent  
8 completion on these new wells.

9           The deepenings did show the pay development,  
10 though, through, through our log work and the sample work  
11 in those deepenings.

12           Q.    Okay, so the deepenings were not successful?

13           A.    One of them, the highest one on the structure, I  
14 would deem part -- You know, it's commercially successful.  
15 It's not as -- We deepened the C.O. Davis Number 2 well,  
16 which is a northeast diagonal to that C.O. Davis 5, and it  
17 potentialized for about 40 barrels a day, with over 200  
18 barrels of water a day, and it's now making about 18  
19 barrels a day.

20           But you can see we offset it with the C.O. Davis  
21 5 and have, you know, a better than top allowable well  
22 there, simply because we have pipe in the hole, and we  
23 could stay out of that P-1. And that's very strong  
24 evidence as to why we need the new wellbores with the  
25 cased-hole environment.

1 Q. Okay, you guys drilled two or three wells?

2 A. We've now drilled three wells.

3 I wanted to emphasize one other thing about the  
4 allowable restriction right now. The Laney 3, which David  
5 mentioned, is still a P-1 producer. It's in the southeast  
6 southeast quarter of Section 30, and that well,  
7 fortunately, is still making its allowable of 80 barrels  
8 per day out of the P-1. But because of the current  
9 allowable restrictions, we can't even -- we're precluded  
10 from getting those reserves in the P-2 through P-4, in that  
11 proration unit.

12 Q. Okay, so you've got production data from the  
13 Laney A Number 1?

14 A. Yes.

15 Q. And that well is capable of -- What is it capable  
16 of?

17 A. It only -- Just out of the P-4 alone, it can  
18 make, consistently, between 120 and 130 barrels per day.  
19 We have not opened any porosity in the P-2 and P-3. Only  
20 15 percent of our pay interval is open in that well, and  
21 it's capable of producing between 120 and 130 barrels per  
22 day right now.

23 Q. Okay, your other two wells, the C.O. Davis 5 --

24 A. Yes.

25 Q. Okay, what's that capable of?

1           A.    The C.O. Davis 5 is opened in the P-2 -- the  
2 gross interval P-2 through P-4 is open.  It potentialled for  
3 approximately 163 barrels per day.  On an individual well  
4 test right now, I don't think it can make over a hundred  
5 barrels -- You know, it was completed in June of 1997, so  
6 it's coming up on two years old, but I believe it can still  
7 make, you know, 103, 105 barrels a day.

8           Q.    Okay.  And what about the other one?

9           A.    The Samuel Cain 5 was the well that we tested --  
10 You asked about the P-5.  We tested the P-5 in that well,  
11 and it swabbed sulfur water at a rate of 26 barrels per  
12 hour.  Our subsequent completion attempts in the P-2  
13 through P-4 were mechanical failures in that they continued  
14 to channel into the P-5, and we could never effectively  
15 complete the P-2 through P-4 due to our channeling into the  
16 sulfur-water-bearing zone.

17                        Since that time, the well is producing in the  
18 P-2, with a portion of the P-3 and the bottom part of the  
19 P-1 open, and it's making about 8 barrels of oil per day.  
20 But it is a -- I have strong evidence to show, through  
21 tracer work and fluid analysis, that it is a mechanical  
22 failure due to the channeling into the P-5.

23           Q.    Okay.  You guys haven't done any PVT analysis on  
24 these?

25           A.    Yes, we have.

1 Q. Oh, you have? What did that tell you?

2 A. I actually haven't looked at in a while. The  
3 bubble-point pressure -- I'm just going off memory, and  
4 that's available if you would like. It's like 1030 pounds.  
5 I have to be -- I haven't looked at the data in over a  
6 year.

7 Q. Okay, the GOR that was approved back in 1984,  
8 that was essentially done for the P-1 zone; is that  
9 correct?

10 A. That is correct.

11 Q. Have you taken a look to see if that 5000-to-1  
12 GOR will have any adverse effects on the P-2 through the  
13 P-4?

14 A. Because of the impermeable barrier at the base of  
15 the P-1 to the P-2, I don't believe so. And the only --  
16 I'm opening a can of worms. The fringe of the structure is  
17 where all this high gas is being produced, and don't -- I  
18 can't explain to you -- I can't give you a story that makes  
19 sense, why that is. But this high -- when this field -- A  
20 lot of high gas production right now is on the flanks of  
21 the P-1, and it might have something to do with  
22 communication up into that Premier sand. But I'm not --  
23 I'm not prepared -- I haven't been prepared to get into  
24 that argument for two years.

25 Q. Well, I thought those wells on the flank

1 were --

2 A. They were watered out for oil, but they still  
3 make some pretty good gas.

4 Q. Okay.

5 A. But what we're trying to -- or what our data  
6 proves is that -- or suggests, is that the P-1 is a stand-  
7 alone San Andres interval. It has a bottomhole pressure  
8 now of below 300 p.s.i., and the P-2 through P-4 is its own  
9 reservoir.

10 Q. Is this -- The Laney A Number 1, is that really  
11 the only well you've tested, as far as rates go, to make  
12 sure that you weren't having an adverse effect on the  
13 reservoir?

14 A. No, when we were testing the C.O. Davis 5 we did  
15 the same thing.

16 Q. And what did you come up with on that?

17 A. It also -- it didn't -- There was nothing adverse  
18 with our testing of that.

19 I mean, I could have -- I guess I should have,  
20 and I can prepare a plot similar for that well, if you'd  
21 like.

22 Q. It may be helpful to have.

23 A. Okay.

24 EXAMINER CATANACH: I think that's all the  
25 questions I have, Mr. Carr.

1 MR. CARR: Mr. Catanach, we'd request that the  
2 record remain open for a few days while we prepare the  
3 additional plot.

4 And with that, that concludes our presentation in  
5 this matter.

6 EXAMINER CATANACH: Okay. Mr. Bruce, did you  
7 have anything?

8 MR. BRUCE: I have nothing at this time, Mr.  
9 Examiner.

10 EXAMINER CATANACH: Okay. There being nothing  
11 further at this time in this case, this case, 12,179, will  
12 be taken under advisement.

13 (Thereupon, these proceedings were concluded at  
14 9:50.m.)

15 \* \* \*

16  
17  
18  
19 I do hereby certify that the foregoing is  
20 a complete record of the proceedings in  
the Examiner hearing of Case No. 12179,  
21 heard by me on 12/17/89 1989.  
David T. Catanach, Examiner  
22 Oil Conservation Division  
23  
24  
25

## 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 May 15th, 1999.




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STEVEN T. BRENNER  
 CCR No. 7

My commission expires: October 14, 2002

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:

CASE NO. 12179  
Order No. R-11208

APPLICATION OF ENERQUEST RESOURCES, L.L.C. TO AMEND THE  
SPECIAL POOL RULES FOR THE EAST HOBBS-SAN ANDRES POOL, LEA  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on May 13, 1999, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 21<sup>st</sup> day of June, 1999, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.

(2) By Order No. R-7511, entered in Case No. 8130 on April 20, 1984, the Division, upon application of Martindale Petroleum Corporation, established a limiting gas-oil ratio in the East Hobbs-San Andres Pool, Lea County, New Mexico, of 5,000 cubic feet of gas per barrel of oil.

(3) The applicant, Enerquest Resources, L.L.C. (Enerquest), seeks to amend the special rules for the East Hobbs-San Andres Pool to include the assignment of a special depth bracket allowable, pursuant to Division Rule No. 505.D., of 160 barrels of oil per day.

(4) According to Division records, the East Hobbs-San Andres Pool currently comprises the following described acreage in Lea County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM

Section 25: SE/4

**TOWNSHIP 18 SOUTH, RANGE 39 EAST, NMPM**

Section 29: All  
Section 30: All  
Section 31: N/2 N/2  
Section 32: Lot 1, N/2 NW/4

(5) The current oil allowable for the East Hobbs-San Andres Pool pursuant to Division Rule 505.A. is 80 barrels of oil per day.

(6) The applicant presented testimony indicating that:

- a) approximately 77% of the acreage within the East Hobbs-San Andres Pool is operated by Enerquest;
- b) Enerquest currently operates seventeen (17) of the twenty (20) wells currently producing from the East Hobbs-San Andres Pool. The remaining wells are operated by David H. Arrington Oil & Gas Inc. and Lynx Energy Company, Inc.;
- c) both David H. Arrington Oil & Gas Inc. and Lynx Energy Company, Inc. were notified of the application; and
- d) Lynx Energy Company, Inc. appeared at the hearing through legal counsel but offered no objection to the application. David H. Arrington Oil & Gas Inc. did not appear at the hearing.

(7) The applicant presented geologic evidence indicating that:

- a) the San Andres formation within the East Hobbs-San Andres Pool is comprised of at least four porosity zones designated (from shallowest to deepest) the P1, P2, P3 and P4 porosity zones;
- b) development of the East Hobbs-San Andres Pool, which commenced during the 1950's, has occurred primarily within the P1 porosity zone. Wells were typically drilled to a depth sufficient to penetrate the P1 porosity zone only. This zone is still being commercially produced from wells located at the top of the structure, which is centered on the SE/4 of Section 30. Wells on the flank of the P1 zone have watered out;
- c) production from the P2 through P4 porosity zones did not occur until the late 1960's, at which time several wells within the field were deepened to penetrate these zones;
- d) during 1997-98 the applicant deepened four wells and drilled three additional wells in the field to test the deeper P2 through P4 porosity zones;

- e) the P1 porosity zone appears to be vertically separate from the P2 through P4 porosity zones by a permeability barrier;
  - f) core data obtained from the Samuel Cain Well No. 5 located in Unit N of Section 30 shows an average of 704 porosity feet within the P1 zone and 2,187 porosity feet within the P2 through P4 zones; and
  - f) the P2 through P4 porosity zones are laterally continuous across the field and the potential for development of these zones is extensive.
- (8) The applicant presented engineering evidence indicating that:
- a) the P2 through P4 interval within the San Andres formation is a solution gas drive reservoir;
  - b) its Carrie O. Davis Well No. 5 and Laney "A" Well No. 1, located in Unit M of Section 29 and Unit J of Section 30, respectively, which were drilled in 1997-98, are currently capable of production in excess of the current top allowable for the East Hobbs-San Andres Pool;
  - c) preliminary production and test data performed on the Carrie O. Davis Well No. 5 and Laney "A" Well No. 1 indicate that these wells may be produced at a rate of 160 barrels of oil per day without harm to the reservoir; and
  - d) increasing the top allowable producing rate for the East Hobbs-San Andres Pool will also provide the allowable flexibility necessary to further develop those proration units within the pool that have existing producing wells dedicated thereto.
- (9) The applicant requested that the proposed top allowable producing rate for the East Hobbs-San Andres Pool be adopted for a temporary period of eighteen months in order to provide the applicant and other operators in the pool the opportunity to gather additional data to confirm that a top allowable producing rate of 160 barrels of oil per day should be permanently adopted.
- (10) No offset operator and/or interest owner appeared at the hearing in opposition to the application.
- (11) Approval of this application will provide the applicant the opportunity to economically develop the P2 through P4 San Andres reservoir within the East Hobbs-San Andres Pool, thereby preventing waste and will protect correlative rights.
- (12) A temporary top oil allowable of 160 barrels of oil per day for the East Hobbs-San Andres Pool should be established for a period of eighteen months.

(13) This case should be re-opened at an examiner hearing in December, 2000, at which time the operators in the pool should be prepared to appear and show cause why the top oil allowable rate of 160 barrels of oil per day for the East Hobbs-San Andres Pool should not be rescinded.

**IT IS THEREFORE ORDERED THAT:**

(1) The application of Enerquest Resources, L.L.C. to amend the special pool rules for the East Hobbs-San Andres Pool, Lea County, New Mexico set forth in Division Order No. R-7511 is hereby approved.

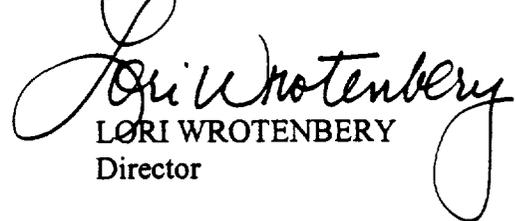
(2) The top allowable producing rate for the East Hobbs-San Andres Pool is hereby established at 160 barrels of oil per day for a temporary period of eighteen months.

(3) This case shall be re-opened at an examiner hearing in December, 2000, at which time the operators in the pool should be prepared to appear and show cause why the top oil allowable rate of 160 barrels of oil per day for the East Hobbs-San Andres Pool should not be rescinded.

(4) Jurisdiction is hereby 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.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
LORI WROTENBERY  
Director

S E A L

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& SHERIDAN, P.A.  
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April 20, 1999

**HAND-DELIVERED**

Lori Wrotenbery, Director  
Oil Conservation Division  
New Mexico Department of Energy,  
Minerals and Natural Resources  
2040 South Pacheco Street  
Santa Fe, New Mexico 87503

12179

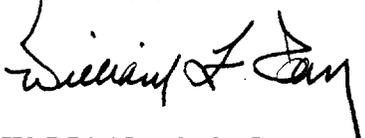
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Re: *Application of Enerquest Resources, L.L.C. for Special Pool Rules, Lea County, New Mexico*

Dear Ms. Wrotenbery:

Enclosed in triplicate is the Application of Enerquest Resources, L.L.C. in the above-referenced case as well as a copy of the legal advertisement. Enerquest Resources, L.L.C. requests that this matter be placed on the docket for the May 13, 1999 Examiner hearings.

Very truly yours,



WILLIAM F. CARR

WFC:mlh

Enclosures

cc: Mr. Chris Renaud  
Enerquest Resources, L.L.C.

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

IN THE MATTER OF THE APPLICATION  
OF ENERQUEST RESOURCES, L.L.C.  
FOR SPECIAL POOL RULES,  
LEA COUNTY, NEW MEXICO.

CASE NO. 12179

**APPLICATION**

ENERQUEST RESOURCES, L.L.C. ("Enerquest"), by its undersigned attorneys, hereby makes application to the Oil Conservation Division for an Order promulgating special pool rules and regulations for the East Hobbs-San Andres Pool, including a special depth bracket allowable of 160 barrels of oil per day, and in support of this application states:

1. The East Hobbs-San Andres Pool was established by Division Order No. R-132, dated March 26, 1952, and has been extended from time to time to include the following acreage in Lea County, New Mexico:

**Township 18 South, Range 38 East, N.M.P.M.**

Section 25: SE/4

**Township 18 South, Range 39 East, N.M.P.M.**

Sections 29 and 30: All

Section 31: N/2 N/2

Section 32: N/2 N/2

2. Certain wells in the East Hobbs-San Andres Pool are operated by Enerquest Resources, L.L.C. under statewide rules with a depth bracket allowable of 80 barrels per day.

3. Certain wells in this pool can produce at rates in excess of the authorized depth

OIL CONSERVATION DIV.  
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bracket allowable and continuing to produce wells at the current authorized rates will result in oil ultimately being left in the ground thereby causing waste.

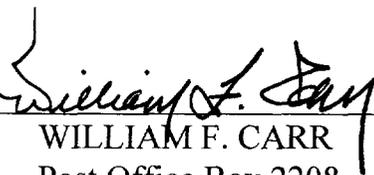
4. Enerquest seeks the establishment of a special depth bracket allowable for the pool of 160 barrels per day.

5. Approval of this application will result in the production of hydrocarbons which otherwise will not be produced and will be in the best interest of conservation and the protection of correlative rights.

WHEREFORE, Enerquest Resources, L.L.C. requests that this application be set for hearing before an Examiner of the Oil Conservation Division on May 13, 1999, that notice be given as required by law and the rules of the Division, and that the application be approved.

Respectfully submitted,

CAMPBELL, CARR, BERGE  
& SHERIDAN, P.A.

By:   
WILLIAM F. CARR

Post Office Box 2208

Santa Fe, New Mexico 87504

Telephone: (505) 988-4421

ATTORNEYS FOR ENERQUEST  
RESOURCES, L.L.C.