

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. 13,308

APPLICATION OF SAMSON RESOURCES COMPANY )  
TO ABOLISH THE SPECIAL RULES AND )  
REGULATIONS FOR THE TEAS-PENNSYLVANIAN )  
GAS POOL, LEA COUNTY, NEW MEXICO )

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

August 19th, 2004

Santa Fe, New Mexico

2004 SEP 2 AM 9 58

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, August 19th, 2004, 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.

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## I N D E X

August 19th, 2004  
Examiner Hearing  
CASE NO. 13,308

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

FOR THE APPLICANT:

JAMES G. BRUCE  
Attorney at Law  
P.O. Box 1056  
Santa Fe, New Mexico 87504

\* \* \*

1 WHEREUPON, the following proceedings were had at  
2 8:48 a.m.:

3 EXAMINER STOGNER: At this time I'll call Case  
4 Number 13,308, which is the Application of Samson Resources  
5 Company to abolish the special rules and regulations for  
6 the Teas-Pennsylvanian Gas Pool, Lea County, New Mexico.

7 Call for appearances.

8 MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe,  
9 representing the Applicant. I have two witnesses.

10 EXAMINER STOGNER: Any other appearances?

11 Will the witnesses please stand to be sworn at  
12 this time?

13 (Thereupon, the witnesses were sworn.)

14 PEGGY KERR,  
15 the witness herein, after having been first duly sworn upon  
16 her oath, was examined and testified as follows:

17 DIRECT EXAMINATION

18 BY MR. BRUCE:

19 Q. Would you please state your name and city of  
20 residence for the record?

21 A. Peggy Kerr, Midland, Texas.

22 Q. Who do you work for and in what capacity?

23 A. Samson Resources Company, I'm district landman.

24 Q. Have you previously testified before the  
25 Division?

1 A. Yes.

2 Q. And were your credentials as an expert petroleum  
3 landman accepted as a matter of record?

4 A. Yes.

5 Q. And are you familiar with the land matters  
6 involved in this Application?

7 A. Yes.

8 MR. BRUCE: Mr. Examiner, I tender Ms. Kerr as an  
9 expert petroleum landman.

10 EXAMINER STOGNER: Ms. Kerr is so qualified.

11 Q. (By Mr. Bruce) Ms. Kerr, would you refer to your  
12 exhibits? Would you identify Exhibit 1 for the Examiner  
13 and just briefly discuss what is shown on this plot?

14 A. Yes. Exhibit 1 is a land plat which identifies  
15 the operators, the outline of the Teas-Pennsylvanian Gas  
16 Pool. This outline was retrieved from the ONGARD pool map.  
17 It also shows wells deeper than 11,000 feet.

18 Q. Are there -- It shows wells deeper than 11,000  
19 feet. Are there currently any Morrow wells producing  
20 within the pool itself?

21 A. No.

22 Q. Okay. And then there are some -- oh, in Sections  
23 11, 14 and 15, some various wells marked. What do those  
24 items signify?

25 A. Within the Teas Pool Unit there are three wells

1 that have penetrated the Pennsylvanian formation.

2 Q. Okay.

3 A. None of those currently are producing from the  
4 Penn.

5 Q. Okay, and then the triangles?

6 A. The triangles are locations that have been  
7 planned for Samson Resources' future drilling.

8 Q. Okay. And those wells are either within the pool  
9 or within a mile of the pool and would be governed by the  
10 pool rules; is that correct?

11 A. Correct.

12 Q. What are the basic pool rules we're here today  
13 trying to abolish?

14 A. The pool rules for the Teas-Pennsylvanian Gas  
15 Pool are 990 from the outer boundary, 330 from the quarter  
16 quarter section.

17 Q. Okay, so -- and what does Samson request for the  
18 pool?

19 A. Samson would like to abolish the field rules and  
20 go with statewide field rules.

21 Q. Okay. What does Exhibit 2 show?

22 A. Exhibit 2 outlines three units, the red color  
23 being the Teas-Penn Pool outline, the color blue outlines  
24 the Quail Ridge-Morrow Pool, and the color of green  
25 outlines the Gem East-Morrow Pool.

1 Q. Now, we will present some geological testimony,  
2 will we not?

3 A. Yes.

4 Q. But with respect to -- the pool rules are rather  
5 restrictive, and is it difficult to obtain well locations  
6 in this pool?

7 A. Yes.

8 Q. Could you refer to Exhibit 3 and describe why it  
9 is difficult to obtain well locations?

10 A. Yes. Exhibit 3 is an outline of the Teas-Penn  
11 Gas Pool unit, and it also has the underlying potash-  
12 restriction map, which shows that the entire is -- most of  
13 the entire area is under measured potash reserves, and we  
14 are restricted with potash issues as to where we make  
15 placement of our wells.

16 Q. Now, this map contains a number of additional  
17 wellbores. This contains all wellbores in this area?

18 A. Yes, this plat shows all wells shown in P.I.

19 Q. Now, with respect to locating wells, does the BLM  
20 require you or any operator to be within a certain distance  
21 of an existing wellbore?

22 A. That is correct.

23 Q. And what is that distance?

24 A. We've been advised that it's 150 feet within an  
25 existing wellbore.

1 Q. Okay, so again you just can't go out and place a  
2 well, let's say, in Section 11, 660 feet from the south and  
3 east lines, because you would be restricted by the BLM with  
4 respect to the location of a well?

5 A. That is correct.

6 Q. Will abolishing these pool rules allow Samson and  
7 other operators greater freedom in locating wells?

8 A. Greater freedom, yes.

9 Q. Were Exhibits 1 through 3 prepared by you or  
10 compiled from company business records?

11 A. Yes.

12 Q. And in your opinion is the granting of Samson's  
13 Application in the interests of conservation and the  
14 prevention of waste?

15 A. Yes.

16 MR. BRUCE: Mr. Examiner, I'd move the admission  
17 of Samson Exhibits 1 through 3.

18 EXAMINER STOGNER: Exhibits 1 through 3 will be  
19 admitted into evidence.

20 EXAMINATION

21 BY EXAMINER STOGNER:

22 Q. Ms. Kerr, in referring to Exhibit Number 1 --

23 A. Yes.

24 Q. -- the three sections that -- or portions of the  
25 sections that comprise this pool, are they currently



1 federal lands?

2 A. Yes.

3 Q. In your research of this -- Okay, I'm referring  
4 now to Exhibit Number 2. In your research you've outlined  
5 a couple of additional pools, one in green and one in blue,  
6 and these are both Morrow pools; is that correct?

7 A. Correct.

8 Q. Do you know if there's any Atoka production out  
9 there, or is that your next witness?

10 A. I'll defer that to my next witness.

11 Q. And again on Exhibit Number 3, this is  
12 information from the old enclave map; is that correct?

13 A. It's retrieved from the ONGARD pool map.

14 Q. Okay, I'm referring now -- did you testify -- you  
15 did testify on Exhibit 3, right?

16 A. Yes.

17 Q. Okay, I'm talking about the purple color, the  
18 blue?

19 A. Yes.

20 Q. Yeah, the different colors there.

21 A. Yes, I believe our tech did retrieve that from  
22 the --

23 Q. -- pool map or the potash enclave map that the  
24 federal government put out several years ago.

25 A. Potash map?

1 Q. Yeah.

2 A. Yes.

3 Q. Okay. Now, you testified about a BLM restriction  
4 of 150 foot from any existing wellbore. That's not just  
5 the wellbore -- That's any wellbore, not just a wellbore  
6 that's capable of producing from the same formation, is it?

7 A. That's what we've been advised, yes.

8 Q. Now, is that a BLM policy, or is that in a rule,  
9 the potash rule put out by the pool, or in the potash area  
10 put out by the OCD, R-111-P?

11 A. No, sir, I don't believe it's a rule. It's just  
12 an advisement that we've been given.

13 EXAMINER STOGNER: Okay. What's your next  
14 witness going to testify on?

15 MR. BRUCE: He's a geologist.

16 EXAMINER STOGNER: Okay. Who's the historian of  
17 the two?

18 MR. BRUCE: Probably Mr. Worthington knows a  
19 little bit more.

20 EXAMINER STOGNER: Okay. Just for historical  
21 aspect, hopefully he'll touch on. If not, we'll fill in  
22 the blanks of -- this is an interesting -- this is a good  
23 study of evolution in the potash area, in the different  
24 pools in the Pennsylvanian, because I notice they asked  
25 originally for 640, then it was denied and they went to

1 320, and it was 160 at the time, and then we went to 160  
2 statewide, and perhaps the -- if you look at the findings,  
3 we weren't inclined to do too many findings in those days.  
4 Perhaps there was no word-processing machine.

5 MR. BRUCE: The order is pretty thin on  
6 reasoning.

7 EXAMINER STOGNER: And of course it was still in  
8 the potash area in those days, might have been the reason  
9 for the restrictive -- this is a good evolution, how things  
10 change, how rules or procedures need to be more dynamic to  
11 take into account all the different situations.

12 Q. (By Examiner Stogner) Okay, I believe, again  
13 referring to Exhibit Number 1, you did mention that the  
14 wells that are shown by triangles, these are proposed  
15 wells; is that correct?

16 A. Correct. Actually the well in 14 is currently  
17 drilling.

18 Q. That is --

19 A. -- in the south half.

20 Q. -- the one in the south half of 14?

21 A. Yes, currently drilling, we just --

22 Q. And is that currently drilling under the Teas  
23 Pool rules or --

24 A. Yes.

25 Q. Okay. Was that a standard location?

1 A. Yes.

2 MR. BRUCE: Well, Mr. Examiner --

3 THE WITNESS: No, I'm sorry, Mr. Examiner --

4 MR. BRUCE: -- I think actually it was an  
5 unorthodox location. I don't have the order number, but we  
6 did obtain unorthodox location approval together with  
7 compulsory pooling about two months ago, I believe, for  
8 that --

9 THE WITNESS: I'm sorry, Mr. Examiner, that's  
10 correct. It was unorthodox --

11 MR. BRUCE: I think it's 660 off of the -- I  
12 think it's 1980 from the south line and therefore violates  
13 the pool rules?

14 EXAMINER STOGNER: By 10 feet.

15 MR. BRUCE: Well, actually by 330 feet.

16 EXAMINER STOGNER: 330 feet, okay.

17 MR. BRUCE: I can get you that order number, if  
18 you'd like.

19 EXAMINER STOGNER: Just make reference to it,  
20 I'll take administrative notice of that.

21 Q. (By Examiner Stogner) What is the name of that  
22 well?

23 A. That's our Maverick well.

24 Q. I'm sorry, what?

25 A. Our Maverick.

1 Q. Maverick. Do you have a --

2 A. Maverick Federal 14 Com Number 1.

3 EXAMINER STOGNER: I will take administrative  
4 notice of that well and any other pertinent data here at  
5 the OCD.

6 I have no other questions of this witness. You  
7 may be excused at this time.

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

11 DIRECT EXAMINATION

12 BY MR. BRUCE:

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

14 A. Ralph Worthington.

15 Q. Where do you reside?

16 A. Midland, Texas.

17 Q. Who do you work for and in what capacity?

18 A. I work for Samson Resources Company as the  
19 district geologist.

20 Q. Have you previously testified before the Division  
21 as a geologist?

22 A. Yes, I have.

23 Q. And were your credentials as an expert accepted  
24 as a matter of record?

25 A. Yes, sir.

1 Q. And are you familiar with the geology involved in  
2 this pool?

3 A. Yes, sir.

4 MR. BRUCE: Mr. Examiner, I'd tender Mr.  
5 Worthington as an expert petroleum geologist.

6 EXAMINER STOGNER: Mr. Worthington is so  
7 qualified.

8 Q. (By Mr. Bruce) Mr. Worthington, we've marked  
9 Exhibit 4, a structure map. Would you just briefly touch  
10 on that exhibit?

11 A. Yes, sir, this is a structure map that is datum'd  
12 on the top of the Morrow clastic interval, which we can  
13 reference off of the cross-section that's Exhibit Number 7,  
14 and what I'm trying to show with this structure map is that  
15 there's nothing unique to the Morrow structure in here that  
16 would define any pool boundaries or pool limits. We  
17 basically have regional dip to the southwest across all the  
18 Teas Pool unit and the adjoining Quail Ridge and Gem East  
19 Pools.

20 Q. Even though this is a Pennsylvanian gas pool, is  
21 most of the production from the Morrow?

22 A. Yes, it is.

23 Q. And getting to the Examiner's prior question, is  
24 there -- and maybe another map will show it better -- is  
25 there any Atoka production in this area?

1           A.    Not with -- on this map.  Shortly outside, about  
2 a mile or so outside of this, there is some Atoka  
3 production.

4           Q.    Okay.  Is structure important in the Morrow in  
5 this area?

6           A.    No, it's not.

7           Q.    Let's move on to your Exhibit 5 and identify that  
8 for the examiner.  And while you're at it, discuss the --  
9 if you could, discuss the first well drilled in this pool  
10 in a little more detail.

11          A.    Okay.  Exhibit Number 5 is an isopach map of the  
12 middle Morrow sand interval.  It is a total cumulative sand  
13 isopach, and again what this map is intended to represent  
14 is that the producing interval, the middle Morrow sands in  
15 this area is distributed throughout the area and not unique  
16 to any one of the adjoining pools.

17                On this map there are information as far as dates  
18 of completion, the cumulative production from the Morrow or  
19 the Penn as designated by PI, the ultimate recoveries that  
20 are projected by our engineering staff, and the area of  
21 drainage from that producing interval, which is also  
22 graphically represented by the circles.

23                Again, there is nothing unique to any one of  
24 these pools that would place any kind of restrictive or  
25 unique rules, should apply.

1           The Mahaffey Arc well was drilled in 1962 as a  
2 Devonian test by the old Sinclair company.

3           Q.    Which well is that?

4           A.    That is the well in the north half of Section 14.

5           Q.    And that was the initial well?

6           A.    And that was the initial well, the discovery for  
7 the Teas-Penn Pool. It was drilled as a Devonian well, and  
8 I believe that the 660 north offset from the north lease  
9 line, that was a standard location for a Devonian well at  
10 that time. Subsequent completion was in the Morrow sands,  
11 which in the early 1960s was very common, I believe, to  
12 designate generally as Penn and not Morrow, Atoka or Strawn  
13 or anything like that.

14           So it was designated as a Penn producer. And at  
15 that time they filed for special rules which would restrict  
16 any offset operator from drilling any closer than 990 feet  
17 from the offset lease boundaries.

18           Q.    Could you glean any information from the various  
19 orders as to why the 990 location was established?

20           A.    No, I could not. All I could do was read into  
21 that that -- my assumption was that it's a protective  
22 distance.

23           Q.    Now, in looking at the other two pools drilled  
24 within the pool itself, it looks like they would not have  
25 been -- even though they were drilled what, about 20 ears



1 later, that they would have not complied with the footage  
2 locations of the pool rules there?

3 A. Right, one did and one did not.

4 Q. Okay.

5 A. The well in Section 11 was an unorthodox  
6 location, and there is a record in that filing with the OCD  
7 for an unorthodox location. The well in Section 12 was  
8 orthodox, it is a 990-foot setback from the lease line.

9 Q. And looking at the drainage areas and recoveries,  
10 they look pretty similar across this area whether you're  
11 inside or outside the pool?

12 A. They are, and with the exception of a couple over  
13 in the Quail Ridge Pool, two very large wells producing in  
14 excess of 7 or 8 BCF, much larger drainage areas shown.

15 Q. Okay. Now, Exhibit 6 is kind of a duplicate to a  
16 certain extent, is it not?

17 A. Yes, it is, and that is -- we're oriented toward  
18 just the engineering aspect, the drainage aspect to show  
19 the production and the estimated ultimate recoveries and  
20 the drainage areas.

21 Q. Does this map also highlight a cross-section?

22 A. Yes, it does, a cross-section, which is Exhibit  
23 7, that goes from the Nearburg well in Section 3 in the Gem  
24 East field, through two wells within the Teas-Penn field,  
25 over to the east it encompasses two wells within the Quail

1 Ridge Pool.

2 Q. Okay, why don't you move on to your Exhibit 7 and  
3 discuss the geology -- primary geology developed in that  
4 area?

5 A. Like I said, this is a cross-section of the  
6 middle and lower Morrow intervals. The datum is on a local  
7 middle Morrow marker, a carbonate horizon which I have  
8 datum'd and hung the cross-section off of. The top below  
9 that, that I marked, is what I pick as the top of the  
10 Morrow clastics interval.

11 The next top is the top of the lower Morrow  
12 interval, as identified by a regional shale marker,  
13 identified on electric logs, and then the lower marker is a  
14 subjective marker picked to identify or recognize the top  
15 of a possible unconformity in the Barnett shale or the top  
16 of the Mississippian.

17 The isopach maps that we looked at and the  
18 structure maps all refer basically to the middle Morrow  
19 interval. Again, the datum on the structure map was the  
20 top of the Morrow clastics interval. The isopach map was  
21 generated by counting the amount of sand identified on the  
22 gamma rays, generally using a 50- or a 75-API gamma-ray  
23 reading to account for the total net sand within that  
24 interval.

25 Q. And so essentially the same middle Morrow zone

1 stretches across all three pools?

2 A. Yes, it does, and the perforations from each of  
3 the producing wells out there are shown on this cross-  
4 section too, and you can see that it's generally within  
5 several different sandstones within that general middle  
6 Morrow interval, and I think one of them is actually  
7 producing from the lower Morrow sand too.

8 Q. Okay. Now, regarding the well locations and the  
9 conflict with the potash area, at this point has Samson had  
10 to drill or plan on drilling any directional wells in this  
11 area?

12 A. Yes, we are planning on it. We have not actually  
13 filed and permitted those wells yet, but we are planning on  
14 that.

15 Q. Okay. So again, the surface locations are  
16 restricted?

17 A. Yes.

18 Q. Okay, and either -- if it doesn't match up with  
19 your geology, you are having to go in and incur the  
20 additional expense of drilling directional wells?

21 A. Yes.

22 Q. And at least if the pools are abolished, it will  
23 give you a little bit more flexibility?

24 A. Yes, it will.

25 Q. Were Exhibits 4 through 7 prepared by you or

1 under your supervision?

2 A. Yes, sir.

3 Q. And in your opinion is the granting of this  
4 Application in the interests of conservation and the  
5 prevention of waste?

6 A. Yes.

7 MR. BRUCE: Mr. Examiner, I'd move the admission  
8 of Exhibits 4 through 7.

9 EXAMINER STOGNER: Exhibits 4 through 7 will be  
10 admitted into evidence at this time.

11 EXAMINATION

12 BY EXAMINER STOGNER:

13 Q. Mr. Worthington, the current wells out there,  
14 have they been restimulated in the last -- since their  
15 initial production started back in the 1960s?

16 A. I don't think the Mahaffey Arc well was ever  
17 artificially stimulated. The Smith Ranch well in Section  
18 11, in the west half of Section 11, may have been, but I  
19 could not say for certain if it was or not. And I do not  
20 believe that the well in Section 12 was.

21 Q. How were these old wells completed, compared to  
22 what Samson's proposed to their completions and the wells  
23 shown in 14, 15 and 22?

24 A. Most of the wells were generally completed  
25 naturally, with small acid cleanup jobs. The Mahaffey Arc

1 well did have a small -- it was described as a water frac  
2 that was applied to it, and I don't have the exact volumes  
3 or anything on that. Generally Samson's procedure is to go  
4 in and do a large sand frac, supercharged with CO<sub>2</sub> or  
5 nitrogen, on literally every Morrow well that we dill.

6 Q. Now, what Samson is proposing is essentially to  
7 make this pool equal to the surrounding pools and not any  
8 additional distances or --

9 A. Right, that's correct, sir.

10 EXAMINER STOGNER: Again, I'll take  
11 administrative notice of any previous record in the record  
12 of these three wells.

13 Also I'd like to take this time, Samson -- I do  
14 appreciate Samson coming in here and addressing these  
15 issues on these restricted pools as we move forward.

16 I'm going to take special interest in this  
17 particular order, Mr. Bruce, because this -- we're going  
18 through some change right now, and I'd like to make some  
19 additional comments on the order for our new Director's  
20 sake to kind of bring him up to speed on how the deep gas  
21 development over the years -- this is a good study of that,  
22 and I would welcome any rough draft order from you.

23 MR. BRUCE: I will do so.

24 EXAMINER STOGNER: And again, I'd like to thank  
25 Samson for their patience in coming in and addressing these

1 issues.

2 And also, I note, it being the potash area and  
3 federal lands in an area that has special interest, even  
4 the current Rules and Regulations you're going to find  
5 maybe somewhat restrictive, but if Samson has any need to  
6 request an unorthodox location, refer to this case number  
7 and any order number issued. That way it will make it  
8 easier to establish the need for your unorthodox location  
9 at any subsequent time.

10 If there's no other questions of Mr. Worthington,  
11 you may be excused. Again, thank you, Samson, for coming  
12 up and addressing these issues.

13 And Mr. Bruce, if you can provide me a rough  
14 draft as you see fit, the sooner the better, I'd appreciate  
15 it.

16 And if nobody else has anything further in Case  
17 13,308, this matter will be taken under advisement.

18 And also, let's take a 10- to 15-minute recess at  
19 this time.

20 THE WITNESS: Thank you.

21 EXAMINER STOGNER: Thank you.

22 (Thereupon, these proceedings were concluded at  
23 9:15 a.m.)

24 I do hereby certify that the foregoing is  
25 a complete record of the proceedings in  
\* \* \* the examiner hearing of Case No. 13308,  
heard by me on 19 August 2004.

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

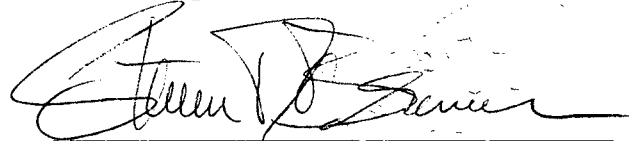
## CERTIFICATE OF REPORTER

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 August 20th, 2004.



STEVEN T. BRENNER  
CCR No. 7

My commission expires: October 16th, 2006