

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. 11,365  
)  
APPLICATION OF COLLINS & WARE, )  
INC. )  
\_\_\_\_\_ )

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

**ORIGINAL**

BEFORE: DAVID R. CATANACH, Hearing Examiner

**RECEIVED**

August 24th, 1995

SEP 7 1995

Santa Fe, New Mexico

Oil Conservation Division

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, August 24th, 1995, 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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## I N D E X

August 24th, 1995  
 Examiner Hearing  
 CASE NO. 11,365

	PAGE
APPEARANCES	3
APPLICANT'S WITNESSES:	
<u>CRAIG E. YOUNG</u> (Engineer)	
Direct Examination by Mr. Kellahin	5
Examination by Examiner Catanach	15
REPORTER'S CERTIFICATE	21

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## E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	6	15
Exhibit 2	6	15
Exhibit 3	7	15
Exhibit 4	9	15
Exhibit 5	12	15
Exhibit 6	14	15

\* \* \*

## 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 2265  
Santa Fe, New Mexico 87504-2265  
By: W. THOMAS KELLAHIN

\* \* \*

1           WHEREUPON, the following proceedings were had at  
2   8:39 a.m.:

3           EXAMINER CATANACH: At this time we'll call Case  
4   11,365.

5           MR. CARROLL: Application of Collins and Ware,  
6   Inc,. for three unorthodox oil well locations, Lea County,  
7   New Mexico.

8           EXAMINER CATANACH: Are there appearances in this  
9   case?

10          MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of  
11   the Santa Fe law firm of Kellahin and Kellahin, appearing  
12   on behalf of the Applicant, and I have one witness to be  
13   sworn.

14          EXAMINER CATANACH: Any additional appearances?  
15   Will the witness please stand to be sworn in?  
16   (Thereupon, the witness was sworn.)

17          MR. KELLAHIN: Mr. Examiner, my witness is Craig  
18   Young. Mr. Young is a petroleum engineer.

19          Mr. Young was before you back on June 1st of this  
20   year, in which he sought the first of these infill oil  
21   wells in the Denton-Devonian Pool for his company. It was  
22   approved by you in Order Number R-10,384 and was Case  
23   11,290. That well is the Pope 32 well.

24          It was successfully drilled, and it has recovered  
25   additional oil, and Mr. Young is back before you seeking

1 three more of these infill well locations in this same  
2 area.

3 I've got a copy of that order here, for your  
4 information.

5 EXAMINER CATANACH: Okay.

6 CRAIG E. YOUNG,

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

9 DIRECT EXAMINATION

10 BY MR. KELLAHIN:

11 Q. Mr. Young, for the record, sir, would you please  
12 state your name and occupation?

13 A. Craig E. Young. I'm an operations engineer with  
14 Collins and Ware.

15 Q. Did you qualify as an expert witness before this  
16 Examiner back on June 1st in a similar case in this  
17 particular pool?

18 A. Yes, I did.

19 Q. Have you continued your employment and study of  
20 this portion of the Denton-Devonian Pool to come to  
21 engineering conclusions about the feasibility of additional  
22 infill locations in this pool for your company?

23 A. Yes, I have.

24 MR. KELLAHIN: We tender Mr. Young as an expert  
25 petroleum engineer.

1 EXAMINER CATANACH: Mr. Young is so qualified.

2 Q. (By Mr. Kellahin) Mr. Young, let's turn your  
3 attention, sir, to Exhibit 1. Use this locator map to  
4 identify for the Examiner the pool that's of interest to  
5 you.

6 A. This basically shows the location of the Denton  
7 field in the New Mexico-Texas line, the Denton-Devonian  
8 Pool.

9 Q. When we move to a more specific map of the  
10 Denton-Devonian, do you have an illustration that would  
11 show that?

12 A. Yes, that's in Exhibit Number 2. This is --

13 Q. And what is that, sir?

14 A. That is a contour map showing structural  
15 elevation on top of the Devonian formation. This was a map  
16 prepared after -- in an NMOCC report.

17 On this map I have outlined our acreage position  
18 in yellow. I've shown the well that I sought permission to  
19 drill, the Number 32, as a red dot.

20 Q. It's the northernmost red dot on the display?

21 A. And the three pink dots being the additional  
22 infill locations that were designed.

23 Q. What's the reference point of the three red dots  
24 down in Township 15 South?

25 A. Those were three additional infill wells that

1 were drilled previously that -- part of the justification  
2 for drilling on the north part of the field for this  
3 program.

4 Q. This was a display you previously submitted in  
5 the prior case?

6 A. That is correct.

7 Q. All right, sir. Let's go to a more specific map,  
8 then, that shows the particular acreage that you operate.  
9 If you'll look at Exhibit 3 for me and again identify the  
10 acreage.

11 A. This acreage outlined in yellow, which is the  
12 south half of Section 26 and the east half of Section 35,  
13 is acreage that Collins and Ware has under farmout  
14 commitments, which were previously submitted.

15 Q. Let's talk about the Number 32 well, the Pope 32  
16 well. It's shown in the center of a square that contains  
17 wells 10, 14, 13 and 21. Do you see that block?

18 A. Yes, I do.

19 Q. Describe for us what has happened with regards to  
20 that well.

21 A. We have drilled and are in the initial phases of  
22 completing that well. The -- all indications at this point  
23 are very positive. We have actually finaled the well for,  
24 I believe, 75 barrels a day, 110 MCF per day and 25 barrels  
25 of water per day.

1 Q. Summarize for us the reason that you were seeking  
2 in the first place the drilling of the 32 well. What was  
3 the objective?

4 A. The objective was to recover additional oil that  
5 was bypassed from the four wells that you had mentioned,  
6 the 10, the 14, the 13 and 21.

7 It was due to volumetric calculations, and the  
8 existing -- or the previous offset wells drilled in the  
9 south part of the field, or the infill wells drilled in the  
10 south part of the field. This was an attempt to come in  
11 and recover undrained oil.

12 Q. What is the status of those four offsetting  
13 wells, the Number 10, 14, 13 and 21?

14 A. They're all currently shut in.

15 Q. Is it your plan to keep those wells shut in as  
16 you produce the Number 32 well?

17 A. That is correct.

18 Q. Is that to be the same plan as we move farther  
19 down into the acreage that you operate?

20 A. That is correct.

21 Q. So that as you go to Well 33, 34 and 35, all  
22 those offsetting wells would continue to be shut-in wells?

23 A. Yes, shut in, in reference to the Devonian  
24 formation.

25 Q. All right, sir. Let's turn to the data you've



1 summarized now for the Number 32 well, which is shown on  
2 Exhibit 4. Describe for us what you're illustrating.

3 A. Exhibit 4 shows the Devonian section of a CNL/LDT  
4 log on the left side. In the depth track we have the DST  
5 intervals illustrated. There are four DST intervals  
6 illustrated.

7 On the right-hand side of the depth track there  
8 are also two perforated intervals shown.

9 On the right-hand side of the exhibit I have the  
10 DST information that has been summarized. There were four  
11 DST's taken upon penetration of the Devonian formation.

12 And at the bottom of all that data I've also  
13 shown what the perforations were and what the test rate at  
14 this time is.

15 Q. Is there any potential production in the Denton-  
16 Devonian Pool below the lowest drill stem test?

17 A. No.

18 Q. So the lowest test represents the lowest  
19 opportunity in the reservoir?

20 A. Yes, sir.

21 Q. And what has then been your completion strategy?  
22 How are you going to propose to test and produce these four  
23 potential intervals?

24 A. We have taken a rather cautious approach on  
25 producing the intervals. This field has a rather -- has a

1 history of water production, so we're being very cautious  
2 in our approach here. We're trying to stay at the top of  
3 intervals that we know contain oil.

4           Apparently there's some tighter intervals where  
5 the oil did not migrate all the way up. We're attempting  
6 to produce those tighter intervals, just below where  
7 there's been oil trapped. I guess there's -- There's  
8 tighter intervals, and below that there seems to be some  
9 oil trapped there. And that's been our approach on the  
10 first interval.

11           The next phase will be to come on up and test the  
12 other additional zones that were DST'd.

13           Q. Do you have an opinion as to whether or not the  
14 oil that's available to be produced at the Pope 32 location  
15 is oil that could not have been produced by the offsetting  
16 wells?

17           A. That -- I agree with that.

18           Q. And why do you have that opinion?

19           A. Basically, the four offset wells were all shut  
20 in. They had ceased to produce, either uneconomical due to  
21 high water volumes, operating problems -- There's  
22 mechanical problems. Those wells had no plans for return  
23 to production.

24           Q. Did the offset wells -- In your opinion, had they  
25 had a complete opportunity to produce all these intervals

1 within the Devonian?

2 A. Yes, they have.

3 Q. So if there was potential porosity in a zone in  
4 the Devonian, it had been perforated?

5 A. That's correct.

6 Q. What do you see in the 32 well in terms of either  
7 rate, pressure or other reservoir data that causes you to  
8 conclude that this is new additional oil?

9 A. One thing that was interesting was, upon looking  
10 at the shut-in pressures and the reservoir pressures, that  
11 the pressure was much higher than originally thought.

12 Part of the original report on the Denton-  
13 Devonian Pool showed the northeast side of the field to be  
14 a very limited water drive. I think this data probably  
15 substantiates that it may be a little stronger than what we  
16 initially thought. Some pressures are very encouraging.

17 Q. Give us a relationship on pressure. The kind of  
18 reservoir pressures you're dealing with here, these are  
19 bottomhole pressures, as opposed to a surface-adjusted  
20 pressure?

21 A. That is correct.

22 Q. For example, in your first drill stem test you've  
23 got a reservoir pressure of about 4500 pounds at that  
24 depth?

25 A. Yes, sir.

1 Q. How would that approximate or compare to what you  
2 were seeing in the offsetting wells at some point that's  
3 relevant to you?

4 A. The old field -- the report compared on the  
5 Denton-Devonian showed pressures on the order of 1500  
6 p.s.i. to 2000 p.s.i., in that range. It was an isobaric  
7 map that was submitted.

8 Some years later we saw pressures up in the 4400-  
9 pound range.

10 Q. So the pressure data plus this rate, at least in  
11 the last drill stem test on the lower zone of 75 barrels a  
12 day, is conclusive for you that you're getting new oil?

13 A. That's correct.

14 Q. Let's turn now to another topic. It's Exhibit  
15 Number 5. We'll discuss the details in a minute, but  
16 summarize for the Examiner what he's seeing on this  
17 spreadsheet.

18 A. Basically, this lists the affected wells, one  
19 well off our acreage, and all the wells contained within  
20 that acreage. I've shown the section, township, range.  
21 Also their location, who the operator is, the lease name,  
22 the cumulative oil produced, the cumulative gas produced  
23 and the cumulative water produced, according to petroleum  
24 information records.

25 I've also attempted to take and do some drainage-

1 radius calculations on these wells.

2 Q. Let's show on that part of the spreadsheet -- If  
3 you'll read down to the bottom and find Section 35 and then  
4 read across, we have a whole bunch of the Pope wells  
5 listed. Do you see that, Mr. Young?

6 A. Yes, I do.

7 Q. Yeah, all the Pope wells at the bottom, the last  
8 seven or eight wells there. As you read across, then, the  
9 second to the last column on the right is your drainage  
10 calculation, isn't it?

11 A. That is right, that is the drainage acres that we  
12 have calculated for these wells.

13 Q. And in all these situations, on average, those  
14 existing offsetting wells were draining probably no more  
15 than 25 to 30 acres apiece?

16 A. That is correct.

17 Q. All right. Again, it's a verification for you as  
18 an engineer that the original wells had not substantially  
19 depleted the area and that additional drilling was  
20 necessary?

21 A. Yes, sir.

22 Q. When we look at your plan for the three  
23 additional wells, why these particular locations? They're  
24 all unorthodox locations, but what is the reason you've  
25 chosen these particular positions?

1           A.    There's a couple of objectives.  One is to stay  
2 as far away from existing production -- or production  
3 that -- wells that have produced, as possible.

4                    And the other is to attempt to maintain as much  
5 structural height as we can.  In essence, the 33, 34 and 35  
6 are pretty much along the structural crest of the north  
7 feature in the Denton-Devonian field.  Trying to stay away  
8 from the wells that produced at one time because of water  
9 coning and those type issues.

10           Q.    In each of these three instances, is it your  
11 opinion that they represent the optimum location, then,  
12 within the east half of 35 for the additional infill well  
13 locations?

14           A.    Yes, they do.

15           Q.    Let's talk about the ownership involved here.

16                    Are you, in fact, encroaching only toward spacing  
17 units in which Collins and Ware is the operator?

18           A.    Yes, that is correct.  Collins and Ware has a  
19 farmout on the affected acreage.  It's a drill-to-earn-type  
20 farmout.  S&J is the operator of record for the acreage.  
21 Upon drilling and completing the well, Collins and Ware  
22 earns that acreage.

23           Q.    Exhibit 6 is verification that you have the  
24 agreement and concurrence of S&J Operating Company to  
25 initiate, drill and produce these three additional

1 unorthodox well locations?

2 A. That is correct. It is a waiver by S&J for these  
3 three particular locations.

4 Q. In your opinion, Mr. Young, will approval of this  
5 Application be in the best interests of conservation, the  
6 prevention of waste and the protection of correlative  
7 rights?

8 A. Yes, sir.

9 Q. Will it be an opportunity for Collins and Ware  
10 and the other interest owners entitled to share in  
11 production to achieve oil production from this pool that  
12 they might not otherwise receive?

13 A. Yes.

14 MR. KELLAHIN: We conclude our examination of Mr.  
15 Young, and I tender to you his Exhibits 1 through 6.

16 EXAMINER CATANACH: Exhibits 1 through 6 will be  
17 admitted as evidence.

18 EXAMINATION

19 BY EXAMINER CATANACH:

20 Q. Mr. Young, did you say that the Well Number 32  
21 had been tested thus far?

22 A. That is correct. We filed the completion papers  
23 on it, I believe, last week.

24 Q. You stated that you encountered 75 barrels of oil  
25 per day?

1 A. That is correct.

2 Q. 110 MCF?

3 A. That is correct.

4 Q. And I missed the water.

5 A. And 25 barrels of water per day.

6 I've got that at the bottom of Exhibit 4. Right  
7 below where the perforations are shown, I have the test  
8 rate.

9 Q. Okay. Are your -- Is the Well Number 32 going to  
10 be perforated in the same zones that the offset wells were  
11 perforated in?

12 A. There is some -- The offset wells, meaning the  
13 wells that are shut in?

14 Q. Right.

15 A. Okay, those wells produced -- typical history and  
16 completion of the Denton-Devonian field was to produce  
17 rather -- or perforate rather large intervals. So yes,  
18 those porosity units that we are shooting overlap with  
19 what's currently been produced in other -- in the offset  
20 wells.

21 Q. Now, you said you've encountered some additional  
22 zones that were not perforated in the offset wells; is that  
23 correct?

24 A. When we say additional zones, it's very difficult  
25 to correlate porosity from one well to the other. It seems



1 to come and go very quick.

2 The same subsea stratigraphic equivalent depth is  
3 -- These wells, the four offsets, have produced out of the  
4 same subsea depth as we are currently producing out of the  
5 32.

6 The logs are very old in the area. Most of them  
7 are micrologs. It's very hard to determine how much of the  
8 flood is coming from where. And like I say, they  
9 perforated, you know, 50- to 60-foot perforated intervals.

10 Q. Due to the drainage areas of the offset wells,  
11 you're encountering an area that may not have been drained  
12 by these wells?

13 A. That is correct.

14 Q. Okay. The offset wells to the Well Number 32,  
15 you say, were uneconomic to produce?

16 A. That is correct.

17 Q. Is that the same situation for the offset wells  
18 and your three proposed new wells?

19 A. Yes, sir.

20 Q. They're all going to be shut in?

21 A. That is correct. They are currently shut in and  
22 will remain as such.

23 Q. What -- Does Collins and Ware have any plans for  
24 those wells?

25 A. Actually, the wellbores themselves belong to S&J

1 Operating.

2 We obtained a farmout for drilling new wells  
3 along the crest of the structure, so I'm not sure what S&J  
4 has planned for those wellbores. They're, in fact, owned  
5 by S&J.

6 Q. Is there any potential in this area for secondary  
7 recovery?

8 A. I think due to the nature of the strong water  
9 drive that's within the Denton-Devonian field, that there's  
10 probably minimal potential for secondary-type recovery.

11 Q. Have you calculated what additional oil may be  
12 recovered by the three new wells?

13 A. We have and, you know, those estimates vary  
14 between -- somewhere between 150,000 and 300,000 barrels of  
15 oil. The reservoir data on this field is very hard to  
16 obtain. There's a lot of core data spread throughout the  
17 field, but the logs are the older type electric logs with  
18 micrologs, so it's very difficult to get exact porosities  
19 and things like that.

20 And also the factor of water coning is an issue  
21 that has caused a lot of these wells probably to  
22 prematurely water out.

23 Q. But you're comfortable with that range of  
24 recovery --

25 A. Yes, sir, I am.

1 Q. -- 150,000 to 300,000?

2 A. Yes.

3 Q. Okay. I don't have a structure map, but you said  
4 these three wells are located on the crest of a structure  
5 that runs --

6 A. Exhibit Number 2 is basically a structural map on  
7 top of the Devonian that was taken from an NMOCC report.

8 See, basically in the Devonian field there's a  
9 south structure and a north structure.

10 Q. So these wells -- You're going to attempt to  
11 locate these wells high on the structure?

12 A. Yeah, there's some question in our mind, how much  
13 does structure play a part?

14 Obviously, in a water-drive reservoir you'd like  
15 to stay as high as you can to obtain attic oil. But since  
16 we found oil so low in the Devonian itself, we think there  
17 exist some tight areas that it may not be that important if  
18 you're high on structure, due to the complex reservoir that  
19 we're dealing with.

20 I would have to say obviously they get a little  
21 riskier as you come offstructure, but that's something that  
22 we won't know till we find out, till we drill it.

23 Q. But that was a factor in determining the  
24 location, was structure?

25 A. That is correct.

1 Q. Okay. Have these wells already been staked and  
2 the locations approved?

3 A. The wells have been staked, and we have submitted  
4 applications. I'm not sure if they've been approved to  
5 drill or not.

6 Q. Are these -- what -- Are these on state land or  
7 federal land, or do you know?

8 A. Fee.

9 Q. Fee land, okay. You don't anticipate any  
10 problems with any of the locations?

11 A. Well, we've got stakes in the ground, so we've  
12 physically been on location and adjusted them as necessary  
13 for surface facilities.

14 EXAMINER CATANACH: I have nothing further, Mr.  
15 Kellahin.

16 MR. KELLAHIN: Thank you, Mr. Examiner.

17 EXAMINER CATANACH: There being nothing further  
18 in this case, Case 11,365 will be taken under advisement.

19 (Thereupon, these proceedings were concluded at  
20 9:02 a.m.)

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## CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL August 26th, 1995.



STEVEN T. BRENNER  
 CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11365, heard by me on 8/24 1998 :

David R. Catanzano, Examiner  
 Oil Conservation Division