

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 17, 1976

EXAMINER HEARING

IN THE MATTER OF:

Case 5422 being reopened pursuant to)	CASE
the provisions of Order No. R-4981,)	5422
which order established special rules)	(Reopened)
and regulations for the EK-Bone Springs)	
Pool, Lea County, New Mexico.)	

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil	William F. Carr, Esq.
Conservation Commission:	Legal Counsel for the Commission
	State Land Office Building
	Santa Fe, New Mexico

For the Applicant:	W. Thomas Kellahin, Esq.
	KELLAHIN & FOX
	Attorneys at Law
	500 Don Gaspar
	Santa Fe, New Mexico

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

I N D E X

Page

DAROL K. RAMEY

Direct Examination by Mr. Kellahin

3

Cross Examination by Mr. Nutter

13

EXHIBIT INDEX

Page

Applicant's Exhibit No. One, Structure Contour Map

13

Applicant's Exhibit No. Two, Electric Log

13

Applicant's Exhibit No. Three, Cross Section

13

Applicant's Exhibit No. Four, Core Analysis

13

Applicant's Exhibit No. Five, Reserve Estimate

13

Applicant's Exhibit No. Six, Raw Production Data

13

Applicant's Exhibit No. Seven, Production Decline Curve

13

Applicant's Exhibit No. Eight, Cost Estimate

13

Applicant's Exhibit No. Nine, Cost Estimate

13

1 MR. NUTTER: We will call Case Number 5422, reopened.

2 MR. CARR: Case 5422 in the matter of Case 5422
3 being reopened pursuant to the provisions of Order No. R-4981,
4 which order established special rules and regulations for the
5 EK-Bone Springs Pool, Lea County, New Mexico, including a
6 provision for eighty-acre spacing.

7 MR. KELLAHIN: Tom Kellahin of Kellahin and Fox,
8 Santa Fe, New Mexico appearing on behalf of Hilliard Oil and
9 Gas, Inc. and I have one witness to be sworn.

10 (THEREUPON, the witness was duly sworn.)
11

12 DAROL K. RAMEY
13 called as a witness, having been first duly sworn, was
14 examined and testified as follows:
15

16 DIRECT EXAMINATION

17 BY MR. KELLAHIN:

18 Q Please state your name, by whom you are employed
19 and in what capacity?

20 A My name is Darol K. Ramey, I'm employed by Hilliard
21 Oil and Gas and I'm Vice President and Manager of drilling
22 and production.

23 Q Mr. Ramey, have you previously testified before
24 this Commission?

25 A No, I have not.

1 Q Would you state briefly your educational background?

2 A I have a B.S. degree from the University of Oklahoma,
3 I graduated in 1953.

4 Q Since graduation where have you been employed and
5 in what capacity?

6 A I have worked for various major and independent
7 oil companies in the capacity of in the drilling and production
8 end of the business.

9 Q How long have you been employed by Hilliard Oil and
10 Gas?

11 A It will be four years.

12 Q Have you made a study of and are you familiar with
13 the facts surrounding this particular matter in hearing?

14 A Yes, I am familiar with it.

15 MR. KELLAHIN: If the Examiner please, are the
16 witness's qualifications acceptable?

17 MR. NUTTER: He didn't state what his degree was in.

18 THE WITNESS: Yes, it was a B.S. in petroleum
19 engineering.

20 MR. NUTTER: Okay, thank you.

21 Q (Mr. Kellahin continuing.) Would you please refer
22 to Exhibit Number One, identify it and explain to the Examiner
23 what information it contains.

24 A Exhibit Number One is a structural contour map of
25 the area in question. The contours are drawn on the top of the

sid morrish reporting service
General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 Second Bone Springs sand, which is the primary pay in this
2 field that is under consideration. This is basically the same
3 map that was presented in the original hearing. The discovery
4 well was located in Section 30, the Hilliard Oil & Gas McElvain
5 Federal No. 1. Since the original hearing two additional wells
6 have been drilled in the field. The second well drilled was
7 the Hilliard Oil & Gas Union State No. 1 located in Section 32.
8 The third well drilled was the Hilliard Oil & Gas McElvain
9 Federal No. 2 located in Section 31. The line drawn connecting
10 these wells to a dry hole to the south is the line of a cross
11 section to be presented at a later time.

12 The significance of this exhibit is to show that this
13 is basically a stratigraphic and the structure has no control
14 on the trapping and also it indicates these spacings that
15 have been held to in the drilling. We have so far drilled only
16 one well per quarter section but drilling them on a pattern
17 that would lend itself to eighty-acre spacing.

18 The shaded area indicates the acreage that is
19 included in property under the control of Hilliard Oil & Gas
20 and our partners.

21 Q Please refer to Exhibit Number Two and identify it.

22 A Exhibit Number Two is an electric log, a detail of
23 the pay section in the discovery well, the McElvain Federal
24 No. 1 and it is presented primarily to make available to the
25 Commission the data on this pay zone which is the Second

1 Bone Springs sand. It was presented originally in the
2 original hearing, the only significant change is the addition
3 of accumulative production which is highlighted on the right-
4 hand side.

5 MR. NUTTER: This is from the one well only?

6 A. This is from the No. 1 Well only, that is correct.

7 Q. (Mr. Kellahin continuing.) Let me put Exhibit Three
8 on the board here and have you testify by making your comments
9 directly to this exhibit.

10 A. Exhibit Number Three that we have presented is an
11 electric log cross section of the area and this is the cross
12 section that I referred to as the cross section AA prime that
13 is shown on Exhibit Number One and is also shown on the land
14 plat on the index map here on the side.

15 It is hung on the top of the Second Bone Springs
16 sand so it is a stratigraphic cross section. The main thing
17 that we feel that is of significance, we have hung on this
18 cross section, we have put our porosity logs, one inch scale
19 and then indicated the drill stem test and production data
20 that was available, all of which is listed below the log and
21 color coded and number coded to the log.

22 The main thing of significance here that we would
23 like to call to the Commission's attention is that the nature
24 of the Bone Springs is that it normally does not have consistent
25 reservoir development. The only zone that develops fairly

1 consistently is the Second Bone Springs, it is producing in
2 and this is the McElvain Federal No. 1, it's producing there.
3 The second well drilled was the Union State, it was present
4 but very poorly developed on our third well which is the
5 McElvain Federal No. 2. which we have not completed in that
6 zone at this time but the drill stem test information indicates
7 that we should be able to make a completion in that zone that
8 would be comparable to the No. 1.

9 The log on the Humble Oil Mescalero Unit No. 1,
10 which is on the south, although they did not test it, the zone
11 appears to be present and the log analysis indicates that it
12 is possibly productive.

13 The other zones have appeared. There have been
14 zones appear in other wells in the area, all of which have
15 indicated to be of limited areal extent. We on our Union State
16 No. 1 attempted completion and actually did complete and
17 produce oil from the First Bone Springs sand. It is actually
18 a sand body and it was testing at about twenty barrels of oil,
19 twenty-two barrels of oil and about eight barrels of water
20 per day and we came up the hole and completed in a Bone Springs
21 lime and we have been testing, we have been having some
22 mechanical problems with that well at the present time.

23 The McElvain Federal No. 2 had the Second Bone Springs
24 sand, it appears that we can make a commercial completion and
25 we have a zone develop right there at the very base of the

sid morrish reporting service

General Court Reporting Service
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

1 Bone Springs and that is where the well is presently completed
2 and we are installing production equipment at the present time.

3 I believe that is basically what the exhibit is
4 about.

5 MR. NUTTER: While you are there I might ask you
6 a couple of questions about this exhibit, Mr. Ramey. It would
7 appear then that the first well on the exhibit, which is the
8 McElvain No. 1, is producing from the top of the Second Bone
9 Springs?

10 A. That's right, the sand by the top of the Second
11 Bone Springs.

12 MR. NUTTER: The second well on the exhibit, the
13 McElvain No. 2, is producing from the very base of the Second
14 Bone Springs?

15 A. That is correct.

16 MR. NUTTER: And then the third well on the exhibit,
17 the Union State is producing from the Upper Bone Springs
18 formation, well above the top of the First Bone Springs sand?

19 A. That is correct.

20 MR. NUTTER: So all three of the wells in the pool
21 are completed in different intervals of the overall Bone
22 Springs formation?

23 A. At the present time that is correct. The pressure
24 data on this well here, on this zone --

25 MR. NUTTER: Indicate for the record which one.

1 A. Okay, that is the McElvain Federal No. 2. Pressure
2 data on the zone at ten thousand, four hundred, approximately,
3 indicates that it is a very limited extent, it would probably
4 not exceed five thousand barrels ultimate from that zone.

5 MR. NUTTER: So then I presume you would recomplete
6 on the top of the Second Bone Springs?

7 A. As soon as we deplete this zone we plan to complete
8 in the Second Bone Springs sand.

9 MR. NUTTER: Which is correlative to the producing
10 interval in the No. 1 McElvain?

11 A. That is correct. We don't believe we can make a
12 completion in the Second Bone Springs sand in the Union State
13 No. 1, it is too tight, too poorly developed.

14 MR. NUTTER: Okay, thank you.

15 Q. (Mr. Kellahin continuing.) Please refer to Exhibit
16 Number Four and identify it?

17 A. Exhibit Number Four is core analysis data on the
18 Second Bone Springs sand in a core taken in the Union State
19 No. 1 which is the third well on the cross section there on
20 Exhibit Three and it is presented largely because it is the
21 only core data available and it does indicate though, the
22 porosity permeability that is available in the better developed
23 sand in the Second Bone Springs. We did not believe that this
24 zone was drill stem tested, there was drill stem test data
25 over this and the core data in the logs indicated that we would

1 not be able to make a commercial completion in it.

2 Q Please refer to Exhibit Number Five and identify it?

3 A Exhibit Number Five is a reserve estimate, a
4 volumetric reserve estimate, prepared prior to the original
5 hearing of a year ago, at which time we had little or no
6 production history available and made just a volumetric
7 estimate based on the indicated net pay on the logs and the
8 log data of porosity, assumed water saturations and Beta factor
9 and assuming twenty-feet of net pay we calculated that an
10 eighty-acre drainage area would make available a hundred and
11 fifteen thousand, two hundred barrels of oil.

12 Q Exhibit Number Six?

13 A Exhibit Number Six is raw production data from the
14 McElvain Federal No. 1, which is the only well completed in
15 the Second Bone Springs sand, which is the primary and only
16 continuous producing zone in the area.

17 Q All right, sir, Exhibit Number Seven.

18 A Exhibit Number Seven is a production decline curve
19 based on the raw data presented in Exhibit Six and it shows
20 that -- it is a semi-log plot of barrels per month and actually
21 there is an error on that. That's indicated as barrels per
22 day on the side there and that should be BOPM. It's barrels
23 per month and a semi-log plot. It exhibits a twenty-six
24 percent per year decline rate and assuming a hundred and fifty
25 barrel per month or approximately five barrel per day economic

1 limit, would give an ultimate recovery of approximately a
2 hundred and thirty-one thousand barrels which is the purpose
3 to illustrate that a volumetric estimate of an eighty-acre
4 drainage would be a hundred and fifteen thousand. This well
5 indicates after one year of production that it will ultimately
6 produce a minimum of a hundred and thirty-one thousand.

7 As an experience factor on this type of decline
8 curve, a decline curve drawn during the early life of the
9 well, particularly like during the first year as this is done,
10 is usually a conservative estimate of the ultimate recovery.
11 The tendency is for the decline rate to flatten out with time
12 and the ultimate to exceed the early reserve estimate.

13 Q Exhibit Number Eight?

14 A Exhibit Number Eight is a cost estimate and authority
15 for expenditure which we presented to our management and our
16 partners prior to drilling the Union State No. 1. This was
17 the first well in the area drilled specifically to test the
18 Bone Springs. The McElvain Federal No. 1 was actually drilled
19 as a Devonian and Morrow test.

20 The significance of the exhibit is the cost of
21 drilling a well in this area. We had estimated a completed
22 cost of four hundred and five thousand dollars. Our actual
23 cost reported by our accounting department was five hundred and
24 seven thousand, seven hundred and forty dollars, partially
25 due to the mechanical problems in the drilling and inflation.

1 Q Exhibit Number Nine?

2 A Exhibit Number Nine is a cost estimate and authority
3 for expenditure, again that was presented to our management
4 and partners for drilling the McElvain Federal No. 2. It was
5 also drilled specifically to be a test of the Bone Springs.
6 The well is not completed, however, we did not have the
7 mechanical problems and had a better control, we believe that
8 we will have the well on production for approximately the
9 cost shown which is four hundred and sixty-eight thousand
10 dollars on the AFE.

11 Q In your opinion, Mr. Ramey, can you economically
12 drill a well in this particular area based upon less than an
13 eighty-acre unit?

14 A No, I believe that anything less than an eighty-acre
15 unit would be economically unfeasible.

16 Q Based upon your production information and on your
17 production curve, do you have an opinion with regards to the
18 ability of one well to drain at least an eighty-acre unit?

19 A Yes, I do. I believe that I can say that a well
20 in the -- the No. 1 McElvain Federal is definitely draining at
21 least eighty acres, perhaps more.

22 Q Would you recommend to the Commission at this time
23 that the temporary rules for this pool be made permanent?

24 A Yes, I would.

25 Q Were Exhibits One through Nine either compiled by

1 you directly or under your direction and supervision?

2 A. They were.

3 Q In your opinion, Mr. Ramey, will the approval of this
4 application be in the best interests of conservation, prevention
5 of waste and the protection of correlative rights?

6 A. Yes, it will.

7 MR. KELLAHIN: We move the introduction of Exhibits
8 One through Nine.

9 MR. NUTTER: Applicant's Exhibits One through Nine
10 will be admitted into evidence.

11 (THEREUPON, Applicant's Exhibits One through
12 Nine were admitted into evidence.)

13 Q (Mr. Kellahin continuing.) Are there any other
14 pool rules that exist for this pool that you desire to have
15 changed?

16 A. No, I believe that all of the other pool rules that
17 are in existence would be acceptable.

18 MR. KELLAHIN: We have nothing else.

19

20 CROSS EXAMINATION

21 BY MR. NUTTER:

22 Q Now, Mr. Ramey, according to your Exhibit Number
23 Six, the McElvain Federal No. 1 has presently produced about
24 forty-two thousand, six hundred and seventy barrels of oil?

25 A. As of February 1 that is correct.

1 Q How about the other two wells, what has the history
2 been on those, I realize they are both newer wells?

3 A Yes, they are both newer. The McElvain Federal No. 1
4 is just at the completion stage right now, we are installing
5 production equipment so it has no production history.

6 Q The McElvain Federal No. 2, you mean?

7 A Yes, the McElvain Federal No. 2 has no production
8 history. The Union State Comm No. 1 has -- I don't have that
9 production. Well, I do too, come to think about it.

10 As of January 1 it had a cumulative oil of thirteen
11 thousand, six hundred and sixty-two.

12 Q When was the well completed?

13 A In July, first production was in July of '75. It
14 was exhibiting and has exhibited severe pressure decline. It
15 is apparently completed in a limited reservoir.

16 Q Now, it has already been recompleted too, hasn't it?

17 A It was initially tested in the First Bone Springs sand
18 and then a retrievable bridge plug set above it and we
19 perforated and produced.

20 Q So it wasn't actually completed down there, just
21 tested?

22 A No, just tested.

23 Q Do you anticipate that it will be recompleted down
24 there in the top of the First Bone Springs?

25 A Yes, it will be.

1 Q Now, you mentioned here on this Exhibit Eight, I
2 think, that although your AFE was for four hundred and five
3 thousand dollars, the well cost five hundred and seven thousand.
4 Did it go to the Morrow or test the Morrow?

5 A No, it only went to approximately ninety-six or
6 ninety-seven hundred feet and it bottomed in the Second Bone
7 Springs interval.

8 Q Which well went to the Morrow?

9 A The No. 1, the McElvain Federal No. 1.

10 Q What did the Morrow look like in that well?

11 A It was tight and non-commercial. We didn't go to
12 the Devonian, we stopped in the Mississippian because we were
13 running low, we didn't take it below the Mississippian.

14 Q Do you have any idea yet what the productivity of
15 the McElvain No. 2 is going to be?

16 A No, the indications, the zone that we have perforated
17 at the present time at the base of the Bone Springs is a lime
18 zone. The drill stem test pressure charts indicate that it
19 is a limited reservoir. We elected to set pipe through it
20 and test it prior to coming back up to the Second Bone Springs
21 sand. Production tests have verified the limited nature. We
22 anticipate that probably it will not exceed five thousand
23 barrels cumulative ultimate out of the Lower Bone Springs
24 lime.

25 Q What did the drill stem test in the Second Bone Springs

1 look like?

2 A The drill stem test in the Second Bone Springs was
3 similar to the drill stem test in the McElvain Federal No. 1
4 in that same interval. We believe that we can make a comparable
5 well.

6 Q Which would really be only your second good well
7 in the whole thing?

8 A That is correct.

9 MR. NUTTER: Are there any further questions of
10 Mr. Ramey?

11 MR. KELLAHIN: No, sir.

12 MR. NUTTER: He may be excused.

13 (THEREUPON, the witness was excused.)

14 MR. NUTTER: Do you have anything further, Mr.
15 Kellahin?

16 MR. KELLAHIN: No, sir.

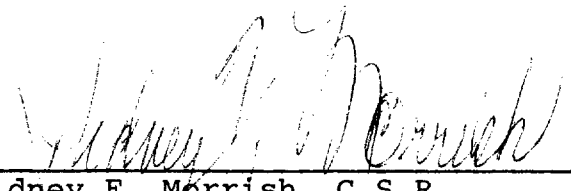
17 MR. NUTTER: Does anyone have anything they wish to
18 offer in Case 5422?

19 MR. CARR: Mr. Examiner, we received some correspon-
20 dence concerning this case, a telegram from Mr. C. W. Trainer,
21 urging the Commission to continue the field rules for an
22 additional year. He states in this telegram that he hopes to
23 drill two more wells during the next year and should be able
24 to give data concerning permanent rules in a year.

25 We received a telegram from Jake L. Hamon urging

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,
do hereby certify that the foregoing and attached Transcript
of Hearing before the New Mexico Oil Conservation Commission
was reported by me, and the same is a true and correct record
of the said proceedings to the best of my knowledge, skill and
ability.


Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 5422,
heard by me on 3/17, 1976.


Examiner
New Mexico Oil Conservation Commission