BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 3, 1976

EXAMINER HEARING

IN THE MATTER OF:		
Application of Franklin, Aston and Fair for pool creation and special pool rules, Lea County, New Mexico.		CASE 5639

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission:	William F. Carr, Esq. 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

I N D E X

EXHIBIT INDEX

MR. STAMETS: We will call Case 5639.

MR. CARR: Case 5639, application of Franklin, Aston and Fair for pool creation and special pool rules, Lea County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox, Santa Fe, New Mexico appearing on behalf of the applicant and we have one witness to be sworn.

(THEREUPON, the witness was duly sworn.)

GRANT SMITH

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Would you please state your name and occupation?

A. I'm Grant Smith and I'm employed by Franklin, Aston and Fair as a Petroleum Geologist.

Q. Mr. Smith, have you previously testified before this Commission and had your qualifications as an expert witness accepted and made a matter of record?

A. Yes, I have.

Q. And are you familiar with the facts surrounding this particular application by Franklin, Aston and Fair?

A. Yes, I am.

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

MR. STAMETS: They are.

Q. (Mr. Kellahin continuing.) Mr. Smith, would you please refer to what has been marked as Applicant's Exhibit Number One, identify it and state briefly what the Applicant is seeking?

A. Exhibit Number One is a structure contour map with the Section 36 in the 17 South, 32 East outlined in yellow. The well circled in red is the discovery well. All other wells in the general area that have penetrated the Strawn formation are also circled in red and the subsea top for the Strawn formation is shown at each of these wells. The discovery well is located seven, ten from the north line and twenty-one, ten from the east line of 36, 17 South, 32 East.

Q. And you are seeking the promulgation of pool rules for the creation of a new pool for Strawn production in the northeast quarter of Section 36?

A. That's correct.

Q. And you would dedicate the entire northeast quarter to that particular well?

A. Yes, sir.

Q. Is this a new well, Mr. Smith?

A. Yes, it was plugged and abandoned in September of 1975 as an Abo dry hole at a depth of eighty-eight, thirty.

It was reentered in December the 10th of 1975, drilled to a total depth of eleven thousand, seven hundred and fifty-six feet in the Pennsylvanian and completed through perforations at eleven thousand, four hundred and ninety-three to eleven, five, forty-nine and is a Pennsylvanian-Strawn producer.

Q. What was the initial potential for this well?

A. This well was potentialed flowing six hundred and seventy-two barrels per day through a twelve sixty-fourth choke.

Q. In your opinion, Mr. Smith, is this a new discovery?

A. Yes, it is. The well is approximately four miles northeast of the Trigg Federal No. 1 Well.

Q. Where is the Trigg Federal No. 1 Well?

A. It is in the northwest quarter of the southwest quarter of Section 15, 18 South, 32 East and it produced some four thousand, three hundred and sixty-five barrels of oil from the Strawn.

Q. The Trigg Well is in what pool?

A. It's a Strawn producer. I don't know whether it was ever given a pool name -- Querecho Plains-Pennsylvanian.

Q. Are there any other pools in the area?

A. Yes, we are located some seven miles north-northeast of the north edge of the Lusk-Strawn pool.

Q. What is the spacing of the Lusk-Strawn Pool?

A. One hundred and sixty acres.

Q. That is the same spacing you are requesting for this

new pool?

A. That's right.

Q. Please refer to what has been marked as Exhibit Number Two and identify it?

A. Number two is a compensated neutron density log of the discovery well, showing the Strawn top, the porous Strawn interval is colored in red and the porosities are shown on the righthand side, porosity, water saturation and perforations are shown on this exhibit.

Q. Please refer to Exhibit Number Three and identify it?

A. Number Three is the dual-induction log of the same well.

Q. Exhibit Number Four?

A. Exhibit Number Four is a caliper log of this well and I would like to point out that this is not a normal caliper. The caliper tool with the pads against the side of the hole was not functioning properly when they logged this well and the logging company ran a four-arm caliper survey with just a finger sticking against the side of the hole and I think it's interesting to point out that the upper forty or fifty feet of the porous interval is highly irregular and probably this sensitive caliper survey is showing vuggy and/or fracture porosity.

Q. Please refer to Exhibit Number Five?

A. Exhibit Number Five is DST information taken in the

Strawn pay.

Q. In your opinion, Mr. Smith, is there any reason to believe that this requested pool is connected in any way to the Lusk-Strawn Pool?

A. No, I believe that it is not, primarily because of the distance and Exhibit Number One, the structure map, shows it to be located on a local northwest-southeast trending high. The DST chart shows a bottom-hole pressure of sixty-four hundred pounds for the Strawn in the discovery well and the original bottom-hole pressures in the Lusk-Strawn were in the neighborhood of fifty-eight hundred pounds.

Q. In your opinion, Mr. Smith, will one well be able to economically and efficiently drain a hundred and sixty acres?

A. I believe that it will primarily because of the indicated fracture pattern. I Xeroxed a section out of the Roswell Geological Society's symposium on the Lusk-Strawn Pool.

MR. KELLAHIN: Excuse me. That has not been introduced as an exhibit but I provided you a copy for your information.

A. Some of the interesting aspects of the write-up on this Pool have been highlighted in yellow. I think it is significant that we are on a northwest-southeast trending nose. The Lusk-Strawn Pool is on the northeast-southwest trending nose. On page nineteen they give the reservoir

characteristics of the Lusk-Strawn as an average of four point eight, five percent porosity, thirty point four percent water saturation and from our porosity log it looks like that we have very nearly the same thing.

I might point out that one well that they mention on page eighteen, paragraph five, had no visible porosity on the log. On the gamma ray sonic log they had ten feet of indicated fracture porosity and this well produced two hundred and ninety thousand barrels of oil on primary which is considerable oil for that much pay.

I think our caliper log is an indication that we have much the same situation.

Q. (Mr. Kellahin continuing.) Would you give the Examiner some of the reservoir data you have derived from use of the logs on your discovery well. Specifically, what is the pay thickness of your discovery well?

A. Well, we have approximately seventy-five feet of pay. We ran a drill stem test in the upper part of the pay and our bottom-hole pressures are a little high, I will say that. As to the other reservoir characteristics at this time, I can't say for certain what the reservoir drive mechanism might be. Our drill stem test that took in the upper twenty-feet above the porous zone never had any excessive amount of gas. I think our GOR was something like seven hundred and fifty to one. In completion we perforated to the base of the

pay and we are not at this point making any water so I can't say at this time that there is a gas cap in the pool and I can't say that we have a water drive. From this information, I would say at this time it indicates that we probably have a depletion drive mechanism as does the Lusk-Strawn.

Q. What do you estimate to be the average porosity in your discovery well?

A. Well, that would be hard to say because of our fracture indications in this thing. The figures that are shown on the righthand side of Exhibit Number Two, the compensated neutron density, is the porosity figures shown by the logging engineer for Dresser Atlas, you can see if you run through them, they are four point seven, four point four, sixteen, that might be a vug or a fracture, I don't know. We have three percent and four point six and four and four. It looks like it is much like the Strawn.

Our water saturations of twelve percent and twenty-eight percent are quite low.

Q. Were Exhibits One through Five either prepared by you directly or compiled under your direction and supervision?

A. Yes, they were.

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

A. I believe it will.

MR. KELLAHIN: If the Examiner please, we move the introduction of Exhibits One through Five.

MR. STAMETS: These exhibits will be admitted.

(THEREUPON, Applicant's Exhibits One through Five were admitted into evidence.)

MR. KELLAHIN: That concludes our direct examination.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Smith, is that seven hundred and fifty to one the only gas-oil ratio on this well that you have at the present time?

A. At the present time. That was from a DST. Since we have completed and have been producing, we have an unusual feature in the well. Our production superintendent tells me that when we had the well shut in, building the tank battery and so forth, when we opened up the flow there was no head of gas, it just starts making straight oil and we have not run any GOR since then.

Q. Looking at Rule 505, Commission Rules and Regulations, it would appear that the depth-bracket allowable for a well from eleven to twelve thousand feet deep on a hundred and sixty acres would be six hundred and five barrels a day. Do you feel that this well can produce that volume of oil without waste, without being inefficient?

A. I think that if we have a depletion-drive mechanism that it probably would not produce at that rate for an extended period of time but even if it was produced at a lower rate that we would still drain a hundred and sixty acres. I think that is pretty well the case in the Lusk-Strawn Pool also.

Q. Do you feel that until some experience has been gained in this reservoir that some lower allowable should be set to avoid, say, the possibility of gas breaking out in the reservoir or water influx?

A. Well, I suppose that is a possibility, although our information at the present time isn't such that we would expect that. I know that in reading the write up on the Lusk-Strawn Pool, they thought they had when it was first being drilled, an active water drive on the southwest side of the pool but this never developed into any type of an active drive.

Q. Assuming that this standard allowable were assigned, what would you be looking for to indicate to you that this rate of production was too high?

A. I would look at probably an abnormal pressure drop. If we had suddenly started making a high GOR or if we got an influx of water, which we would be watching for.

Q. The gas-oil ratio and the water are pretty obvious, do you intend to take a periodic pressure test on this well?

A. We will take pressure tests on it. I might also mention that we have a ninety-day drilling commitment on this

lease and we will be starting another well. It was our plan to start another well in sixty days and we hope to know a lot more about it at that time when we complete that well.

Q. Would you be willing to file a report with the Director of the Commission, say, every ninety or a hundred and twenty days, relaying the latest reservoir information on it?

A. We certainly would. We are not anxious to over-produce it, we are anxious to adequately drain the reservoir with a proper well spacing.

Q. Now, speaking of spacing, do you have any recommendations as to how these wells should be located within the one hundred and sixty acre tract?

A. Not specifically. There are several people involved in this well. Franklin, Aston and Fair, Featherstone, Hanson Oil Company and Larry Harris out of of Roswell. We are at the present time discussing a location, possibly in the northwest of the southeast of 36 or possibly in the southeast or the northwest of 36 but we don't have any specific recommendation on that at this time.

Q. Do you feel that there should be a minimum of, say, six hundred and sixty feet between the wells and the outer boundary?

A. I believe there should be this. At the present time, I might say one problem that we are facing, you can see that the control is rather sparce. Our intention is probably to

take the next well to the Devonian and as I said, it will probably be in the northwest quarter of the southeast quarter of the section.

Q. Six hundred and sixty feet from the outer boundary of the proration unit?

A. That's right. It would probably be nineteen eighty from the north and west or nineteen eighty from the south and east of the section but we haven't had a meeting of the minds and I know there is some difference of opinion on that.

Q. Say three hundred and thirty feet from the quarter quarter section, that would give you the flexibility that is needed?

A. That's right.

Q. Do you have a proposed name for this particular pool?

A. Well, I haven't really, it's pretty close to Maljamar, I guess Maljamar-Strawn would be a pretty good name but we'll leave that to the Commission.

MR. STAMETS: Any other questions of this witness? He may be excused.

(THEREUPON, the witness was excused.)

MR. STAMETS: Anything further in this case?

MR. KELLAHIN: No, sir.

MR. STAMETS: We will take the case under advisement.

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. 5639, heard by me on 3-3, 1976.

Richard L. Stamets, Examiner
New Mexico Oil Conservation Commission