BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1714

TRANSCRIPT OF HEARING

JULY 8, 1959

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BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
JULY 8, 1959

IN THE MATTER OF:

CASE 1714 Application of John H. Trigg for an order authorizing a pilot water flood project, for capacity allowables for seven wells in said project area, and for establishment of an administrative procedure for expansion of said project and for granting capacity allowables. Applicant, in the above-styled cause, seeks an order authorizing it to institute a pilot water flood project in the Caprock-Queen Pool in Chaves County, New Mexico. Applicant proposes to inject water into the Queen formation through 4 wells located in Sections 4 and 5, Township 14 South, Range 31 East. Applicant also seeks capacity allowables for seven wells in said project. Applicant further seeks the establishment of a procedure whereby the project area may be expanded and capacity allowables granted without notice and hearing.

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will take next Case 1714.

MR. PAYNE: Case 1714. Application of John H. Trigg for an order authorizing a pilot water flood project, for capacity allowables for seven wells in said project area, and for establishment of an administrative procedure for expansion of said

[illegible]

[illegible]

IN THE MATTER OF:

CASE 7[illegible] Modification of Order [illegible] authorizing a joint water supply project, [illegible] capacity allowance in seven wells in each project area, and for other [illegible] administrative procedures in connection with said project and the creation of a [illegible] district. Applicant is the [illegible] corporation [illegible] an order authorizing the [illegible] joint water supply project [illegible] between [illegible] Oklahoma. [illegible] applicant proposes [illegible] between [illegible] and [illegible] Tomorrow [illegible] Tract. Applicant also seeks an [illegible] increase the seven wells in each project. Applicant further seeks the [illegible] of a procedure whereby the project may be organized and operated [illegible] without undue [illegible].

[illegible]

[illegible]

Rachel L. [illegible], Secretary.

[illegible]

MR. [illegible]: [illegible].

MR. [illegible]: Case [illegible]. [illegible] for an order authorizing a joint water [illegible] capacity allowance for seven wells in each [illegible] and [illegible] administrative procedure [illegible]

project and for granting capacity allowables.

MR. CAMPBELL: Jack M. Campbell, Campbell & Russell, Roswell, New Mexico, appearing on behalf of the applicant. We have one witness, Mr. Snow.

(Witness sworn)

GENE SNOW,

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

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A Gene Snow.

Q Where do you live, Mr. Snow?

A Maljamar, New Mexico.

Q By whom are you employed?

A John H. Trigg Company.

Q In what capacity?

A Production superintendent.

Q And how long have you worked for John H. Trigg?

A Approximately five years.

Q Would you give the Examiner a brief resume of your experience in the producing end of the oil business, please?

A Well, I was employed as field engineer for Odex Engineering and Equipment Company in sales, installation and maintenance. And following that, two years self employment as an oil

[illegible] and the [illegible] generally affirmed.

MR. [illegible] : Geoff M. [illegible] Leave it [illegible] unless [illegible] overall, the [illegible], [illegible] [illegible] [illegible] affirmed. We have one witness, Mr. Gunn.

[illegible]

MR. [illegible],

called as a witness, having [illegible] [illegible], testified as follows:

DIRECT EXAMINATION

BY MR. [illegible]:

Q. [illegible] your state [illegible]

A. [illegible] Gunn.

Q. [illegible] Gunn?

A. [illegible].

Q. Where are you employed?

A. [illegible] Tech [illegible].

Q. What is your capacity?

A. [illegible] [illegible].

Q. [illegible] you have [illegible] [illegible]

A. [illegible] years.

Q. [illegible] you [illegible] [illegible] [illegible]

field service contractor. Following that, five years for E. J. McCurdy, Fort Worth, as production superintendent in production and drilling.

Q When you were employed by Mr. McCurdy, where was your work done?

A In the Maljamar area, particularly the Young and the Force fields.

Q And for the past ten years with Mr. McCurdy and Mr. Trigg, you had been working in the completion, drilling and production of oil wells in Lea and Eddy County area, New Mexico, is that right?

A That is right.

Q Are you presently in charge of all such operations for Mr. Trigg?

A Yes, sir, I am.

Q Have you been so since Mr. Trigg started the development of the area that is involved in this particular hearing?

A Yes, sir, from the beginning.

Q And in your work you are acquainted with the drilling and production history of the wells that are involved in this hearing?

A Yes, sir, that's right.

MR. CAMPBELL: Are the witness' qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

[illegible] service [illegible] July [illegible] [illegible]

[illegible] Wood [illegible] as [illegible] [illegible]

air [illegible].

Q [illegible] work [illegible] [illegible]

work time?

A I [illegible] [illegible] [illegible]

Force [illegible].

Q [illegible] the [illegible] [illegible] [illegible]

Judge, you [illegible] been [illegible] [illegible]

direction of [illegible] wells in [illegible] [illegible]

that [illegible]?

A That is right.

Q [illegible] [illegible] [illegible]

for Mr. Judge?

A Yes, sir, I am.

Q [illegible] [illegible] [illegible] [illegible]

[illegible] of the [illegible] [illegible] [illegible]

A Yes, sir, in the [illegible].

Q [illegible] [illegible] [illegible]

and people [illegible] [illegible] [illegible]

[illegible]

A Yes, sir, [illegible].

Mr. GIMPEL: [illegible] [illegible]

solo?

A. MEEK: Yes, sir, [illegible].

(Thereupon, John H.Trigg's Exhibit No. 1 was marked for identification.)

Q Mr. Snow, I refer you to what has been identified as Applicant's Exhibit No. 1 in this case, and ask you, please, to state what that is?

A This is a plat showing a portion of the Caprock-Queen field outlining our project area and our pilot area in Section 34, Township 13, Range 31 East. Also in Sections 4, 5 and 9 in Township 14 South, Range 31 East. It also shows the injection wells, circled in red, producing wells circled in green, in the pilot area.

Q I notice, Mr. Snow, that you have some wells or have outlined in yellow some wells in the SE/4 of Section 34, Township 13 South, Range 31 East, is that correct?

A That is right.

Q Is it the intention of Mr. Trigg, if this application is granted, to work out the development of that particular isolated tract in connection with the Cities Service project --

A Yes, sir.

Q -- on the basis of a line agreement?

A Yes, sir.

Q Mr. Snow, what formations do you propose to flood in this pilot area?

A The Queen formation, the Permian series.

Q At what depth does that occur?

A 2750 to 2800.

Q Are there any other water flood projects operating in this area at this time?

A Yes, sir. Cities Service has a pilot project immediately to the east.

Q And is that particular project developing toward Mr. Trigg's properties that are involved here?

A Yes, sir, it will.

Q Are the wells which you propose to use as injection wells and the proposed producing wells in the pilot area now producing at a full unit allowable?

A No, sir, they are not.

Q What is the average rate of production on those wells, Mr. Snow?

A Twelve barrels.

Q Do you have logs of all of the wells in the proposed pilot flood area?

A Yes, sir, every injection and every producing well.

(Thereupon, John H. Trigg's Exhibits 2-A, 2-B, 2-C and 2-D were marked for identification.)

Q I refer you to what has been identified as Applicant's Exhibits 2-A, 2-B, 2-C and 2-D, and ask you, please, to state what those are?

A This is a radioactive log, gamma ray curve and neutron curve of the wells.

A [illegible]

Q [illegible]

in this zone or [illegible]

A Yes, sir. Little [illegible]

ately to the east.

Q [illegible] Mr.

Tedge's [illegible]

A [illegible]

Q [illegible]

wells and the [illegible]

[illegible] at a [illegible]

A [illegible]

Q [illegible]

Mr. Snow?

A Twelve [illegible].

Q [illegible]

[illegible]

Q [illegible]

[illegible]

Q [illegible]

[illegible]

Q [illegible] Exhibits [illegible], [illegible], [illegible] and [illegible], [illegible] what

these are?

A [illegible]

[illegible] of the wells.

Q Are those the proposed injection wells?

A These particular logs here are for the proposed injection wells.

Q Have those wells been recently drilled?

A Yes, sir.

(Thereupon, John H.Trigg's Exhibits 3-A through 3-G were marked for identification.)

Q I refer you now to what has been identified as Applicant's Exhibits 3-A through 3-G, and ask you to state what those are?

A That is also a radioactive log showing the gamma ray and neutron curve on the producing wells in the project area.

Q Do Exhibits 2 and 3 and their supplementals encompass all of the wells, either injection or producing, contained in the pilot area?

A That is right.

Q Without going into detail, Mr. Snow, as to the information contained on the logs, will you state how these wells are completed?

A Each well was drilled to an approximate depth of 20 to 30 feet below the producing pay. The casing was set through, cemented with a hundred sacks of cement and perforated opposite the Queen sand.

Q In the event water is injected in the injection wells, do you consider that there is any danger of that water finding its

Q. Are under the pressure in each of the

A. There production zone has been [illegible] the production zone wells.

Q. Have there been any [illegible]

A. Yes, sir.

(Mr. [illegible] Kimbrough [illegible]
[illegible]
[illegible])

Q. I believe you have stated that [illegible] defendant's [illegible] there [illegible] to [illegible] area?

A. [illegible] a [illegible] and [illegible] may and [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

Q. To substitute 2 [illegible] [illegible] [illegible] [illegible] all of the wells, either [illegible] [illegible] [illegible] [illegible] [illegible] point area?

A. That is right.

Q. Without going into [illegible] [illegible] [illegible] [illegible] [illegible]

way into any horizons above the horizon you intend to flood here?

A No, sir. We intend to use a packer set on tubing with cement lining tubing.

Q How much water do you anticipate you will be able to inject in the injection wells in the pilot area?

A In the beginning, 300 barrels a day.

Q Is that during the fill-up period?

A During the fill-up period.

Q Do you know what, or have any present idea, of what you may want to accomplish by way of rate of water injection after the fill-up --

A Well, as an example, Cities Service has had to cut theirs back. We will probably cut ours back to a hundred, hundred and fifty barrels a day.

Q What equipment do you intend to use in connection with the operation of this pilot water flood?

A The water flood consists of 2, 100 tanks, one for raw water and filtered water, an injection pump capable of injecting water at the pressure of 2,000 pounds, and a filtering system to filter water.

Q Do you also have a pipe line running into the area from your source of water supply?

A Yes, sir, we do.

Q What is that source of water, Mr. Snow?

A The Ogallala sand. It is in the Lovington water basin.

Q In the Lea County water basin?

A Yes, sir, Lea County.

Q Have you obtained permits for water from the office of the State Engineer?

A Yes, sir, we have.

Q What is the extent of your water right?

A One hundred seventy-nine acre feet per year, which would be approximately 3600 barrels of water per day.

Q Do you consider that that will be adequate to operate the pilot flood and what you reasonably intend to expand in the immediate future?

A Yes, sir, we do.

Q You have stated that Cities Service has a water flood project immediately to the east of your leases. Has Mr. Trigg, to your knowledge, executed a lease line agreement with Cities Service in connection with the two projects?

A Yes, sir, he has, and --

Q What generally does that line well agreement provide, Mr. Snow?

A Well, they are to furnish water for the No. 1 and 3 on our Federal "V" lease.

Q Just a moment until the Examiner gets those spotted there.

A We, in turn, furnish water for the Kerr McGee No. 1 Government "A."

Q In the [illegible] County was [illegible]?

A Yes, sir, in County.

Q Have you obtained permission from the water [illegible] of the State Engineer?

A Yes, sir, we have.

Q When is the return of your water right?

A One hundred acre-feet per year, which would be approximately 300 gallons per day.

Q In your opinion then you will be able to increase the pilot field and that you can carry [illegible] in the immediate future.

A Yes, sir, we do.

Q You have studied that [illegible] water [illegible] project immediately to the east of your lease. [illegible] you knowledge, erected a large line transmission [illegible] in connection with the two projects?

A Yes, sir, he has, [illegible]

Q What generally do [illegible] Mr. Sorg?

A Well, they go to [illegible] [illegible] in the federal "V" zone.

Q That's [illegible] the [illegible] the [illegible].

A Yes, in [illegible]. [illegible] Government "A."

MR. NUTTER: What's the location of that?

A That is the SE of the SW, Section 33. Do you have it --

MR. NUTTER: Yes, sir.

A And the Government "C", Cities Service well, Government "C" No. 7; that is the SE of the SE of Section 33. Now, they are to furnish water to our 1 and 3, and we to their 1 and 7, and they are to inject the water in their 23 -- just a minute -- 21 and 17 on their Government "B" lease.

Q Which is adjacent to the lease line of Mr. Trigg's property in Section 4, is it not?

A That's right, and we'll inject in our Wells No. 7 and 5. That pattern is to be carried throughout the north, east, and south boundaries on the line agreement.

Q Do you consider that, by the use of this line agreement, you will be able to efficiently operate the flood at such time as it expands into that area?

A Yes, sir, we could operate it as well as under one unit, the same thing.

Q Do you feel, Mr. Snow, that in order to protect the properties of Mr. Trigg in Sections 4 and 9, that it is necessary that he commence some sort of water flood project at this time?

A Yes, sir, I do.

Q Now, you have requested in your application administrative procedures for the addition of water injection wells, have

Mr. [illegible]: [illegible]

A [illegible] in the [illegible], [illegible]. We are have it --

Mr. [illegible]: [illegible].

A [illegible] the Government [illegible] [illegible] ment "B" [illegible]. It [illegible] the [illegible] [illegible]. [illegible], they are to [illegible] [illegible] [illegible] they are to [illegible] the water [illegible] -- [illegible] -- [illegible] and if on their Government "B" [illegible].

Q [illegible] [illegible] [illegible] [illegible]. [illegible] [illegible] [illegible] [illegible].

A [illegible] [illegible] [illegible]

you not?

A That's right.

Q Have you set out in your application the procedures that you are suggesting?

A Yes, sir.

Q Are you acquainted with the procedures that the Commission is presently using in water flood projects with regard to the administrative approval for water injection wells?

A Yes, sir.

Q Is that procedure generally satisfactory insofar as you are concerned?

A Yes, sir.

Q I believe also that you have requested capacity allowables for the seven producing wells shown on your Exhibit No. 1. Will you state what your reason is for presently requesting capacity allowables for those wells, please?

A Well, Cities Service got a kick on their pilot in three to three and a half months. We expect a kick sooner than that because of injection up-dip from the gas-oil contact line; and to eliminate just having to come right back for another hearing.

Q I believe the notice of hearing in this case also refers to administrative procedures for granting capacity allowables in the future. What suggestions do you have with regard to such procedures?

[illegible]

Q. That's [illegible].

Q. Have you set out [illegible] that you are suggesting

A. Yes, sir.

Q. Are you saying [illegible] education is generally [illegible] the school activity approach [illegible]

A. Yes, sir.

Q. Is that [illegible] you are concerned?

A. Yes, [illegible].

Q. I believe [illegible] ability for the seven [illegible] Will you state [illegible] ability allows [illegible]

A. [illegible] there to be [illegible] that [illegible] and to [illegible] day.

Q. I believe [illegible] face to a [illegible] to use [illegible] procedures.

A Well, similar to expanding the injection wells, by -- if we feel a need or if our wells are producing at a capacity above the top allowable, **and by proof that our production is below** top allowable **or** above top allowable.

Q Do you feel that that is necessary to avoid the necessity for requesting emergency orders and hearings before the Examiner or Commission on capacity allowables?

A That's right, I do.

Q Do you believe, Mr. Snow, that if the pilot flood project here is approved by the Commission and you are permitted to commence a water flood operation, that you will be able to recover oil from this area which would not otherwise be recoverable by primary methods?

A That's right.

Q Who is purchasing the oil from this area, Mr. Snow?

A Cities Service.

Q Have you experienced any difficulty in moving oil from these leases, Mr. Trigg's, in the past?

A Not recently, no.

Q Do you anticipate any difficulty in moving this oil in the event you embark on this water flood project?

A No, sir.

Q Was Exhibit No. 1 prepared by you or under your supervision?

A Yes, sir, myself and a geologist.

A. [illegible] to [illegible] by --

If we feel a need [illegible] we would [illegible] a [illegible]

above the top allowable, and by proof that our production is below

the allowable or above top allowable.

Q. To your best knowledge is [illegible] in the [illegible]

nearly the requesting emergency [illegible] and [illegible] the

Commission to [illegible] [illegible]

A. That's right, I do.

Q. If you believe, Mr. [illegible] the pilot flood

project here is approved by the Commission [illegible] you a recommendation

to recommence a water flood [illegible] [illegible] to recover

every oil from this area with work [illegible] [illegible]

by voluntary [illegible].

A. That's right.

Q. Is [illegible] [illegible]

A. [illegible] the service.

Have you [illegible] [illegible]

for these leases, [illegible], in the [illegible]

A. [illegible].

Q. [illegible] any difficulty [illegible]

in the event you [illegible] the water [illegible]

A. No, sir.

Q. Are [illegible] [illegible] [illegible] [illegible]

[illegible]

A. Yes, sir. [illegible]

Q Are Exhibits Nos. 2 and 3 and their supplementals, Exhibits which were prepared for you by the companies indicated, the well logs, the companies indicated?

A That's right.

MR. CAMPBELL: I would like to offer Applicant's Exhibits 2-A through D and 3-A through G in evidence.

MR. NUTTER: Without objection, John A. Trigg's Exhibits 1, 2-A through D, and 3-A through 3-G will be admitted in evidence.

MR. CAMPBELL: That's all the questions I have at this time.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Snow, what precautions have been taken to protect any fresh waters that may be in the area? By that, I mean do you intend to inject through tubing or casing only?

A Through tubing, cement lined.

Q Now, your application asks that the SE/4 of Section 34 be included in this project area. Do you think that is necessary at this time, in view of the fact that the Cities Service water flood has not reached the N/2 of Section 3 as yet?

A Yes, sir, I do for this reason. They are going to have to expand their pilot area very soon, and if they do, we are going to be affected by it.

Q You would like the SE/4 of Section 34 to be in this

same projection with Sections 4 and 9?

A That's right.

Q Is there any possibility of your trading acreage with Cities Service, the SE/4 of 34 for the SE/4 of 33?

A No, sir, I don't think so.

Q Are any of the wells within this proposed project area top allowable wells at present?

A No, sir, they are not.

Q So that you would be able to state affirmatively that the water flood project is what was causing the well to produce in excess of top unit allowable?

A Would you repeat that again,please?

Q Since none of these wells are capable of producing top unit allowable, as soon as one is capable, it will be the water flood project which was causing that?

A Yes, sir, that's right.

MR. PAYNE: That's all. Thank you.

QUESTIONS BY MR. NUTTER:

Q Mr. Snow, where is the gas-oil contact in this area, at what depth?

A At what depth?

Q Yes, sir.

A Well, it varies, but approximately 2780, I'd say.

Q Is the line of wells which is in the W/2 of the W/2 of Section 4, being Wells Nos. 32, 31, 30 and 29, is that area,

[illegible] project with [illegible]

A. [illegible] right.

Q. [illegible] any [illegible] with

[illegible] counties, the [illegible]

A. [illegible] I don't [illegible]

Q. [illegible] of the [illegible] and [illegible] right-of-way

[illegible] allowable costs to [illegible]

A. No, sir, they are [illegible].

Q. [illegible] would [illegible] will [illegible] in the

the water flood project is what was [illegible] would [illegible]

[illegible] or [illegible] to [illegible]

A. [illegible] project [illegible]

Q. [illegible] more [illegible] [illegible]

[illegible] water [illegible], as [illegible] [illegible]

water flood project which was [illegible].

A. Yes, sir, that's right.

MR. [illegible]: That's [illegible].

CROSS EXAMINATION BY MR. [illegible]:

Q. Mr. [illegible], would [illegible] [illegible] [illegible]

at that [illegible]?

A. It would [illegible].

Q. Yes, sir.

[illegible] [illegible]

Q. In [illegible] of [illegible] [illegible]

of [illegible], [illegible] Nos. [illegible], [illegible] [illegible]

is the perforated interval for those wells above or below, or does it intersect the gas-oil contact?

A Below the gas-oil contact.

Q How about the new wells that you drilled in Section 35, being 36, 35 and 34, are those wells completed below or above the gas-oil contact?

A Above.

Q They are in the gas?

A Yes, sir.

Q Is Well No. 29 in the SW, SW of Section 4, a very recently drilled well?

A Yes, sir.

Q It was drilled for the purpose of water injection?

A Yes, sir.

Q What are the actual allowables for the wells in Section 4?

A In the pilot area?

Q The wells in Section 4; no, sir, all of them?

A I couldn't tell you.

Q You said that the average of these wells was twelve barrels per day, and I just wondered what the actual productivity of the various wells is. Are some of them in excess of twelve barrels?

A Yes, sir, over on the east side of Section 4.

Q Are those wells in that area capable of making top

In the [illegible] interval [illegible]

it increases the [illegible] [illegible]

A. [illegible] [illegible].

Q. [illegible] the [illegible]

[illegible], being [illegible], [illegible] and [illegible], are those [illegible]

the [illegible] [illegible]

A. [illegible].

Q. [illegible] in the [illegible]

A. [illegible].

Q. [illegible] [illegible]

[illegible]

A. Yes, sir.

Q. It was [illegible] for the [illegible] [illegible]

A. Yes, sir.

Q. [illegible] [illegible] [illegible]

[illegible]?

A. [illegible]

A. [illegible]

A. I [illegible] [illegible].

Q. [illegible] that the [illegible]

[illegible] per day, [illegible] [illegible]

of the [illegible] [illegible]

[illegible].

A. [illegible]

Q. [illegible]

unit allowable?

A No, sir. No, sir.

Q None of the wells in Section 4 or 9, either one --

A No, sir.

Q -- are top allowable wells?

A That's right.

Q What is the highest productivity of any of the wells in Sections 4 and 9?

A Well now, No. 15, it is approximately 25 barrels.

Q Are there any other wells in there capable of making 25 barrels?

A 16 would be close to it.

Q How much can it make?

A I'd say 22.

Q What is the next highest well in the area?

A Our No. 6, which is in the neighborhood of 18 barrels.

Q How about Nos. 32, 31 and 30, how much can they make?

A Our last test on 32 and 31, 32 was 12 barrels and 31 was 8.

Q How about No. 30?

A About 5.

Q Are the wells in the W/2 of Section 4 high gas-oil ratio wells?

A Yes, sir.

Q When do you believe that it will be necessary to con-

[illegible] adjourned.

1 [illegible] Mr. [illegible].

[illegible] the wells [illegible] --

[illegible] Mr. [illegible].

[illegible] -- [illegible]

[illegible] Mr. [illegible].

[illegible] in the [illegible] wells

In Louisiana [illegible]

1 [illegible] Mr. [illegible].

[illegible] 812 [illegible] [illegible]

(2) [illegible]

1 It would be [illegible].

[illegible] How [illegible] [illegible].

1 Mr. [illegible].

[illegible] the [illegible]

Mr. [illegible] [illegible].

[illegible] Mr. [illegible] [illegible]

1 [illegible] [illegible] [illegible]

was [illegible].

[illegible] Mr. [illegible]

1 [illegible].

[illegible] [illegible]

radio [illegible]

1 [illegible].

[illegible] [illegible]

vert your No. 5 and your No. 7 to water injection? I believe you mentioned that those are two of the wells you had this agreement -- this line agreement with Cities Service?

A In the line agreement I think Cities Service stated September the 1st, but it wouldn't be necessary for us except for --

Q In other words, the conversion of those wells is going to be necessitated by the water flood that Cities Service is operating rather than the water flood that you are expecting to operate on the Trigg lease?

A That's right.

Q Now, Mr. Snow, you stated in your application and also in your testimony that you desire capacity allowables for seven wells, and administrative procedure for the granting of capacity allowables for additional wells in the future. What actually is the necessity for the capacity allowables based on?

A In the first place, as I stated before, that we expect a kick almost immediately, and that we will just have to come back for additional hearings.

Q Well, you still haven't stated the necessity for the capacity allowables.

A Well, I'm going on Cities Service mostly. They were operating under a unit allowable in the beginning, and now they are above that and have had to ask for capacity allowable. We think the time between our injection date and the time that we'll be above

unit allowable will be much shorter than what theirs was, so we felt it necessary to ask for it now. Am I making myself clear?

QUESTIONS BY MR. PAYNE:

Q Do you think it causes waste to restrict the production from water flood producing wells?

A Yes, sir.

Q Mr. Snow, in completing these new water injection wells, was surface casing run?

A Ninety feet of eight and five-eighths.

Q Was cement circulated on that?

A Yes, sir.

Q And you run four and a half inch pipe in the well, is that right?

A That's right.

Q How much cement was used?

A One hundred sacks.

Q What was the top of the cement?

A On No. 36, 2198; 35, 2224; 34, 2202; 29, 2247.

Q So there is an interval from ninety feet to approximately 2200 feet that has no cement, is that correct?

A That is right.

Q Now, you stated that you would inject your water down tubing set on a packer. Where will the packer be set, Mr. Snow?

A Immediately above casing perforations.

Q Mr. Snow, is there any known corrosive problem that

exists in this area?

A No, sir.

Q What do you expect to do with the annulus around the tubing, will that be filled with a non-corrosive medium?

A Yes, sir, I intend to use chemically treated water, fill it, pressure test it to five hundred pounds.

Q Will the pressure be maintained on the annulus, then?

A Yes, sir, it will be with gauge.

Q So that any leakage in the tubing or the casing, either one, could be determined from the surface?

A That's right.

QUESTIONS BY MR. PORTER:

Q Mr. Snow, you referred to some high gas-oil ratio wells. Does Trigg have any high gas-oil ratio wells that are shut in or any wells that are shut in because of high gas-oil ratio?

A Yes, sir, we do.

Q Now, in the wells that you are producing, what is being done with the gas at the present time?

A Vented.

Q Is this commercial gas salvageable?

A No, sir, it is not.

Q What is the percentage of nitrogen?

A Thirty to fifty percent.

Q And it is not combustible?

A Yes, sir, it will burn, but the BTU is very low.

[illegible] minutes on that point?

A. No, sir.

Q. Did you request [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

A. Yes, sir, I forwarded [illegible] [illegible] [illegible] [illegible] [illegible]

Q Nobody wants to buy it?

A No. Sure can't sell it.

Q Now, Mr. Campbell asked if you had any difficulty moving the oil, and you mentioned Cities Service as a purchaser, and you said not recently, which indicated that you might have had some trouble in the past. Were you referring to periods of cold weather when the oil was hard to move because of the low viscosity of the oil?

A No, sir, I was not. I was referring to a strike.

Q You didn't have any trouble at the time that other operators in the pool had trouble -- difficulty getting their oil into the pipeline?

A No, sir, we did not because in the beginning we installed heaters, and we had -- all of your crude was at lease fifty degrees temperature.

Q You had it ready for the pipeline?

A Yes, sir.

MR. PORTER: That's all I have.

QUESTIONS BY MR. NUTTER:

Q Mr. Snow, what are the wells in Sections 4 and 9 that you ultimately expect to put on water injection?

A Beginning with Section 4, Well No. 16, 7, 5, 3, 2.

Q Where is No. 3?

A That is on down in Section 9. I am just going around the outside edge. Well No. 17 in Section 9. Now, these would come

first because of the line agreement with Cities Service. Now, to to back to Section 4, Well No. 23, 14, down in Sections 9, 12, 10, 19, 26, this could carry out the pattern, 80-acre five spot, that is already in use throughout the field.

Q That would be the complete water flood program?

A That's right. Yes, sir.

Q And then on Federal "V" lease you would intend to put Nos. 1 and 3 on injection, is that right?

A Yes, sir, that's right.

MR. NUTTER: Any further questions of Mr. Snow? The witness may be excused.

(Witness excused)

MR. NUTTER: Does anyone have anything further in Case 1714? We will take the case under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 23rd day of July, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1714, heard by me on 7-8, 1959.

Examiner
New Mexico Oil Conservation Commission