BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 24, 1965

EXAMINER HEARING

IN THE MATTER OF:

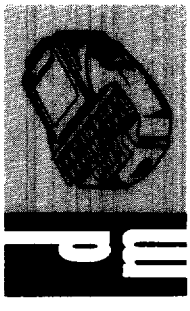
APPLICATION OF ARCHIE M. SPEIR FOR A WATERFLOOD PROJECT, EDDY COUNTY, NEW MEXICO

Case No. 3212

BEFORE:

ELVIS A. UTZ

TRANSCRIPT OF HEARING



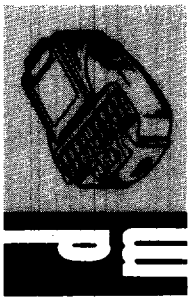
MR. UTZ: Case Number 3212.

MR. DURRETT: **Application of Archie M. Speir for a water flood project, Eddy County, New Mexico.**

MR. LOSEE: Mr. Examiner, A. J. Losee of Artesia, New Mexico, representing the applicant. I have one witness, Mr. Speir.

MR. DURRETT: Let the record show that Mr. Speir was sworn in the previous case, Case Number 3211, and is still under oath.

MR. LOSEE: Before we start cross-examination of the witness, the question has been raised outside of the record that the State Engineer did not receive a copy of the application with the exhibits. I would like for the record to show that, one, my file reflects that a copy was directed to the State Engineer's Office; I have a certified slip made out that the letter was prepared for that delivery; I would testify that my recollection is that I added a pen note to Mr. Frank Irby; and, although not reflected by my file, I have a recollection that a return receipt has been received on it. Now, let me also state that I don't intend to say that the State Engineer's Office received it; if I had the return receipt--I have another file--I might then argue. But we would like to furnish him with such information as is necessary for them to evaluate the project, whether it be at this hearing or after



the hearing, so that they would have an opportunity to review it.

MR. IRBY: Mr. Examiner, I am Frank Irby, State Engineer's Office. Yesterday I reviewed the docket that had been sent out, and noted that I had nothing on Mr. Speir's application, or designated as Case Number 3212, and directed or dictated a letter to the Secretary-Director of the Commission so stating, and also advised the Director that I would object to granting of the application until such time as I had received the application and exhibits and had reasonable time to study them. I do not object to the hearing going on and possibly any objections that I may have to this application can be satisfied here today in this hearing. I did not send a copy of this letter to Mr. Spier because I didn't have an address in my files--I enclosed an extra copy to the Secretary-Director to be forwarded to Mr. Speir in case they did have his address.

MR. UTZ: We'll forward it to him right now. Do you want to hand that back, please? Under those conditions we will proceed with the hearing, and see what develops. You may wish to make a statement at the termination of the testimony, Mr. Irby.

MR. IRBY: Thank you.

A R C H I E M. S P E I R, the witness, having

been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOSEE:

Q Would you state your name, residence and occupation, please.

A I am Archie M. Speir, Artesia, New Mexico. I am a practicing petroleum engineer.

MR. LOSEE: In view of Mr. Speir's statement in the previous case, are his qualifications acceptable, Mr. Examiner?

MR. UTZ: Yes, sir, they are.

MR. LOSEE: Please refer to what has been marked Exhibit 1, and explain what it portrays.

A Exhibit 1 is a plat of the area, and it shows the boundary of the waterflood project area. It also shows the proposed injection pattern, and it reflects also the maximum allowable under Rule 701 that would be granted to this project at this particular time.

Q It shows the location of all wells completed within the formation proposed to be waterflooded, does it not?

A Yes, sir, and only those wells, except for the dry holes in offsetting leases.

Q Have there been waterflood projects in the adjoining area in the same formation?

A Yes, sir, there are three waterflood projects now

in existence that we can use as a guide to what we may do here, and one of them is Curzy & Company waterflood in the Red Lake pool and the other is the Sema Capitan project of the Red Lake area. The first two are offsetting projects to the north of the proposed area. The third is the Gray Ridge Corporation's waterflood project in the north part of the Artesia Pool.

MR. UTZ: Where is that located from this flood?

A Approximately six miles east.

MR. LOSEE: How far is the Kersey Curzy?

A Approximately two miles--more than two miles north, and the Sema Capitan is an east offset to the Curzy project.

Q Are these projects all waterflooding the same Premiere zone you have requested approval to waterflood?

A Yes, sir. There are other floods in the area that are flooding a different zone than the Premiere, that have not been brought to your attention.

Q Have any of these floods responded to water injection?

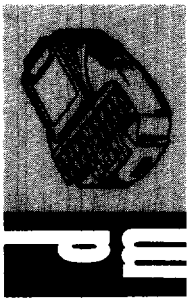
A Yes, sir, they have all responded to water injection.

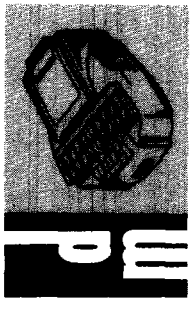
Q Have you prepared an engineering report of this proposed project area and submitted it to the interest owners?

A Yes, I have.

Q Has that engineering report been marked Exhibit 2 in this hearing?

A Yes, it has.





Q How many producing wells are there in the proposed project area?

A There are 34 wells that are now within the proposed project area.

Q Have those wells reached an advanced or stripper state of depletion?

A Yes, sir, all of the wells are in the stripper stage.

Q Now, please refer to what has been marked Figure 3 of your engineering report, and explain what that figure reflects--I'm sorry; it's Figure 6.

A Figure 6 is a decline curve of the total unit area, Mr. Examiner. This is a larger area than our proposed project--it includes the three tracts that were omitted in our project area.

Q Is there any material difference between the decline curve on the project area and this decline curve as shown on Figure 6?

A No, sir. The present state of production is of the same order that is shown on this decline curve.

Q Is that true in all of the 34 wells?

A Yes, sir, in all wells.

Q I notice that this ends in November of 1963, this decline curve. Have you tabulated the data since November of 1963?

A Yes, sir, I have.

Q Is that reflected by Exhibit 3?

A Yes, it is.

Q In your engineering report did your Figures 7 through 25 contain any information which would reflect on the present production of this?

A Figures 7 through 25 are the individual leases. It is the decline curve of the individual leases within the unit area, identical to the leases as shown in Exhibit 3.

Q In this engineering report did you estimate the amount of oil that could be recovered from secondary recovery or by secondary recovery methods?

A This engineering report reflects estimated secondary recovery in the amount of 1,940,000 barrels.

Q Approximately what was the cumulative primary production on this project area?

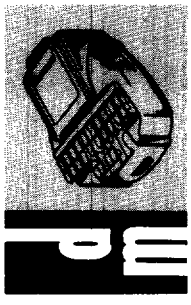
A As shown on Exhibit 3, to date--excuse me; to January 1, 1965, the cumulative production is 1,045,545.

Q Are there any electrical logs on any of these thirty-four wells?

A No, there are not.

Q Do you have any logs of any wells drilled in this same area?

A We have a typed log which is an electrical log of a



well drilled to the Obo formation which was logged back through the unitized formation. It is the Carper-Sivley Enterprise Magruder Federal Number 13 and it is located in the southeast quarter of the southeast quarter of Section 35, Township 17 South, Range 27 East.

Q That log is marked Exhibit 4, is it not, Mr. Speir?

A Yes, it is.

Q On this log have you marked the producing interval you propose to inject water into?

A The common reservoir producing interval, the Premiere zone of the Grayburg formation, is colored in red on this typed log, which is the base of the Grayburg formation.

Q Please refer to what has been marked Exhibit 5, and explain what it reflects.

A Exhibit 5 is a schematic diagram of the casing program that now exists in the proposed eighteen injection wells.

Q That is the present casing program on these wells, is it not?

A Yes, it is.

Q Is any fresh water encountered or present in this area?

A There is evidence of some fresh water throughout the area, that can be encountered--oh, from 300 to 900 feet below the surface. There also is salt water that would be encountered

down to approximately 1200 feet; however, the fresh water is not prevalent in the area; it's sort of haphazard, and the water that is encountered is not of a great quantity. A cable tool drilling a well in the area can carry the water.

Q During what period were these eighteen proposed injection wells drilled?

A There have been three distinct periods of development, so to speak. The first wells were drilled in 1926; the others were drilled in the 1948-1949 era. There may be an isolated case of some wells being drilled later than 1955.

Q How do you propose to protect these water intervals in your injection wells?

A We feel like that to economically protect us, we have designed two types of completions. The preferred type, where allowable, would be tubing set on a packer and the packer set in the shoe joint of the present casing. Second, where necessitated, would be a string of casing run and set immediately above the pay zone and cemented. We have designed these two types through the lack of information on the present wells' condition. That includes the condition of the casing and the condition of any fracture zone or what-not. We cannot at this time ascertain as to which of these two methods of completion we will need on a given well. We are requesting permission to inject down the present casings as they are, until such time

as a sufficient hydrostatic head can be maintained and additional information gathered on the condition of the wells, to determine us to select one of these two types of completion.

Q How long do you think it will take you after you commence injection, to obtain this information?

A Adequate information should be obtained from between three to six months after initial injection.

Q If--strike that. Do you contemplate that all these eighteen injection wells would be completed with the same means, or would one of them be completed with casing and injection through the casing, and one through tubing?

A We contemplate that we will throughout the life of the project use both of these types of completion--that some wells will necessitate for themselves a string of casing set; others, through economics, we would prefer to select running the tubing.

Q What factors will you consider if you determine to run casing into the wells?

A There are three factors--three predominant ones. One is a well that has a fairly lengthy open hole section between the present casing shoe and the producing formation, which would be of such a nature that injecting water across that head would tend to sluice and plug the formation. Another condition would be a fracture zone in the proximity of the

producing interval that must be plugged off. Another one would be the sad state of affairs of the present casing that is now in the well, that will be evaluated through this temporary injection procedure. One of the most common causes we can think of probably will be leaking around the shoe joint, with inadequate cementing of the original casing. Some of the casings will not--no, strike that, please.

Q Is there any evidence of delay in running the strings of casing?

A Yes, there is. Through economics we prefer tubing and packer. Therefore we would like to have this privilege of obtaining the necessary information to our own satisfaction that we are not--or rather I might say that we are injecting into our primary target, and not losing water to a fracture zone or some other place. Therefore, we would not desire to run tubing and packer at this particular time in any well. We would rather wait and find out if we do need casing.

Q Could you obtain a better cement job on any casing run after you had obtained a hydrostatic head?

A Yes, sir, that is the primary reason, among others, that we are asking for this. We feel like if we fill the void space the well will maintain a hydrostatic head and we can more efficiently and more assuredly place a satisfactory cement job on any casing we may run.

Q On those wells in which you would run casing, what grade of casing do you contemplate?

A Through API standards we would select a grade of casing that would adequately protect us and maintain the pressure ratings we will use to inject. It will be new casing--either new or a Grade A used which would be susceptible of like performance of a new casing.

Q Would you, before commencing injection down any of this new casing, propose to test it?

A Yes, sir, it would be tested.

Q To what pressure?

A To 2,000 pounds.

Q If during this initial period of injection you determined that it was economical and would protect the fresh water areas to run tubing, explain what kind of tubing you would run and whether you would use a packer, and where it would be set.

A If we use tubing we would set it on a packer with the packer set in the shoe joint of the present casing. The tubing selected also would be adequate to give us a long life, economical injection string, to adequately protect ourselves as well as any fresh water zones that exist; also so we can efficiently inject into a primary target.

Q At the completion of this three- to six-months period

do you propose to advise the Commission and the State Engineer's Office of the exact method of injection--the permanent method of injection, down each well covered by your application?

A Yes, sir, I would file a casing program on each well --a completion program.

Q Let me refer back to the casing. If you ran casing in the wells, how would you cement them?

A Any additional casing string that would be run--adequate cement would be used to tie that string of casing back up into the present casing string. This would be a new string that is run on the inside. We would not pull the existing casing--just run new string on inside and cement it back up into the present casing.

Q At what pressure do you propose to inject water into these wells?

A The anticipated maximum injection pressure throughout the life of the flood will be 1200 pounds per square inch.

Q What volume of water do you anticipate being able to inject?

A At this pressure the average well injection rate is 250 barrels per day.

Q What is proposed to be the source of your water for this program?

A We are purchasing water from Caprock Water Company.

Q Do you know from which of their wells they will secure water for this program?

A I am not completely informed as to their exact programs. I am assuming at the present time that this water will be supplied out of their Red Lake water system.

Q Do you know what kind of water that is, out of the Red Lake?

A Through the experience of using this water, it's-- I don't have a complete mineral analysis; I'm not sure it's potable water. It does have the presence of oxygen for some reason; it's a shallow aquifer. It does require treatment because of the fact of this presence of oxygen, to control bacteria and corrosion.

Q Do you propose to treat the water with such treatment as is necessary to control bacteria and corrosion?

A Yes, sir; in sound engineering practice it's mandatory that bacteria and corrosion are controlled.

Q Does your project propose to re-inject water that has been recovered from these wells?

A Yes, all produced water will be re-injected.

Q Is the allowable you are requesting from the Commission the standard allowable set by Rule 701?

A Yes, it is.

Q In your opinion, will this waterflood project

prevent waste and protect correlative rights?

A Yes.

Q Will oil be recovered that cannot otherwise be recovered from these wells?

A Yes, the secondary recovery by water injection will allow recovery of oil that otherwise would not be recovered.

Q What do you estimate would be the life of your project?

A Fourteen years.

Q Were these exhibits prepared by you or under your direction?

A They were prepared by me.

MR. LOSEE: We offer into evidence Exhibits 1 through 5.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record of this case. Are there any questions of the witness?

CROSS-EXAMINATION

BY MR. IRBY:

Q Yes, sir. Mr. Speir, these remarks you made concerning the method of completion of these wells for injection purposes--is that a part of the application? I mean, is that included in the application or the exhibits?

A The method of completion?

Q Yes, sir. In other words, you stated two methods

you propose to use, and that's something I couldn't find in the material Mr. Losee handed me.

MR. LOSEE: It's in the application.

MR. IRBY: I don't have that.

WITNESS: May I loan you mine? Section 7 or 8, somewhere there.

MR. UTZ: I think we can spare him a copy of the application out of the file.

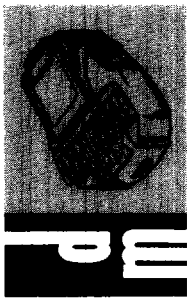
WITNESS: Section 6.

MR. IRBY: Mr. Losee, maybe you need this back to answer questions? -- Pardon me; Mr. Speir.

WITNESS: No, sir, I have that committed to memory.

Q (MR. IRBY) These two methods you set out--this is a little new to me, and if you would just go through that briefly again, how you intend to do this recasing and use of tubing--I'm not aware of the meaning of this injection to obtain information.

A Let me add this, Mr. Irby--that the reason we're short of information is, there are very few people presently on the wells that drilled the wells, and through the years adequate well file records have not been passed on, and also some of these wells were drilled in a period of casing shortage and we're not just assuming that we have good casings; we really are proceeding on the premise that all of the wells



will need more than a normal amount of repair. Now, there was a dual purpose in asking for this temporary injection procedure, and primarily, through sound economics, it does follow good engineering practice that if a well can be circulated with water or with some type of fluid, you can obtain a fairly decent cement job. If you cannot obtain that circulation your risks are high in obtaining good cement, and that is the primary thing--to cement the casing in place. Therefore we want to fill the voids with our injection. We are going to do this anyway, so we start with injection and fill it so we can circulate it. This will be several thousand barrels of water, to fill the present void, and then we can circulate. Also, as we find out and we know more about our present casing, we wouldn't want to run any more if the open hole area is shorted or sluicing or thieving, and I am talking primarily of thieving into the barren zone or non-productive or fracture area below our water zone. Also I know of practices that took place in 1948 and 1949--it's doubtful that the shoe joint itself or the present cement around the present casing won't leak, and we must set new casing. Therefore we couldn't set the tubing on a packer in this shoe joint because it would leak around the shoe. But it's preferable--we would like to set tubing on a packer, it's more economical, we prefer that, and if it must be replaced, if corrosion got out of control or we

sprung a leak it's fairly easy to replace tubing--it doesn't necessitate a close watch. And also if we pick up corrosion in our produced water, which some places we do--it's non-compatible with the makeup water--it will accellerate corrosion, we can plastic-coat this tubing string and that will give us adequate protection.

Q As I understand, you had two methods by which you propose to complete the wells after this test project is completed in three to six months--one of these was that in some instances you would run new casing and cement back up into the old casing; and I'm assuming the new casing would come all the way to the surface?

A Yes, sir.

Q And the other would be to in some cases--you would inject down the casing, is this right; or where you put in your new casing?

A Yes, sir.

Q And in the other case you would be where you would use tubing and packer. Is this a case where you find the hole casing and the setting in good condition, and you put this down at the bottom--you don't intend to run new casing and tubing both?

A That's right. If the well condition is such, and the present casing is adequate and there is no shoe leak, we

would run the tubing and set the packer close to the bottom of the casing.

Q Basically, the way I have stated my understanding is the way you propose to complete them?

A Yes, sir, that is correct.

Q I'm going to have to have some consultation with my staff, Mr. Speir, before I know clearly what is going to happen on this test, and I would like to have a few days, if it isn't a serious inconvenience to you, to go over this material with my staff, and then either contact you for additional information or make my conclusions known to the Commission. Now, you haven't talked about how emergent your problem may be, whether you have to get to work tomorrow or ten days from now, and what I'm really saying is that--well, I'm asking if it would be a serious inconvenience for me to have a few days to go over this with the men in my department before I give a final answer to the Commission.

A Mr. Irby, I want to be sure you're completely satisfied on this. As you know, the normal oil field practice is to hurry up; everybody's behind. I might say this is a typical case; we're trying to pursue it double-time, but I would be most happy for you to take whatever time you need to convince yourself, and I would make myself available to you for any additional information. I would like--we're running at dead-

lines all the time.

MR. IRBY: In view of your statement, I'll try to straighten things out at my office, and find my copy of this application, and I'll get on it immediately if I have to do it at night, and contact you, if necessary, and get my conclusions to the Examiner at the earliest possible date.

MR. UTZ: Mr. Irby, is there anything else you need, assuming you cannot find your copies--anything else you need that we can furnish you out of the files at this time?

MR. IRBY: I assume this set of exhibits is the one to be turned in to the Committee?

MR. LOSEE: No, that's yours.

MR. IRBY: Then I do have a copy of the application from your file. I don't know of anything else I need.

MR. UTZ: Mr. Speir, you spoke of circulating water on this test. What do you mean by that?

A I meant circulation as would be established after running new casing, just prior to the cementing job.

Q Oh, I see. You weren't thinking of injecting on this trial test long enough to run water through the formation and circulate through a producing well?

A Oh no, sir. The circulation is down and out through the well bore.

Q By using this temporary test, how will you determine

whether or not the casing is leaking around the shoe?

A General experience in the area, Mr. Examiner, is that after a given number of barrels are injected into these formations in southeastern Eddy County, they will require pressure to inject. There can be some calculation actually as to the void space that is there by using cumulative oil recovery from this particular well as one indication, plus its associated dissolved gas, will give an indication of about how many barrels need to be injected. The percent of that will offer a resistance that will require pressure, and if you have not established this surface pressure within this normal volume that's being injected, that's going to warrant some investigation where the water is going, rather than to the primary target. Some of these would--excuse me just a minute; I saw Mr. Irby mark down a telephone number, and may I give you a new number--it's 7462404.

MR. IRBY: Thank you.

WITNESS: Water or waterflood--I'm sure everybody in the waterflood business would testify to this--is expensive; you just can't afford to lose it. Therefore it in itself will prompt some expenditures to find out where it may be going. There are several normal procedures you must follow to ascertain that loss that you have determined from the fact that you're not getting adequate surface pressure. Of course the normal tracer surface or spinner surface--

MR. UTZ: The only quick way you could find out would be to set a formation packer and pressure up?

A You could do that immediately, but my thoughts on that is that you would--that's a hazardous operation; you wouldn't do it only as a last resort. You wouldn't want to fill up on the back side of that formation packer and then try to pull it...it's risky business, and the pressure in the back side--it may or may not hold, and actually maybe the packer is leaking--that is, if you have a complete void below it.

Q Is it your intent to test the casing before the test period injection?

A The present casing?

Q Yes.

A I had not wished to--no.

Q In other words, your proposal is to hook up to the wells in the present condition as shown on Exhibit 5, and start injecting?

A Yes, sir, and let the period of injection serve as a test to the casing condition.

Q What period is it you're asking for?

A We have estimated the period to be from three to six months, that this normal surface pressure would be maintained.

Q How many thousand barrels of water do you expect you would inject in that length of time?

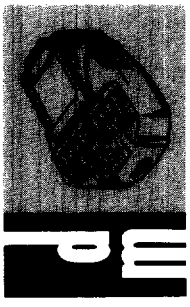
A Well, let's run through a little calculations. Let's figure it on just one well.

Q The total, or one well?

A Well, let's use one well. If we find it's going to average 250 barrels per day, we might say this experimental period will be 400 barrels per day injection rate. At 180 days at number 72, if we have all the zeros on it--

Q 72,000 barrels per well? If the casing isn't in good shape is there a possibility that injecting that much water would have already done substantial damage if it goes in the wrong place, into a fresh water zone or oil producing zone? It could lose a lot of water if it went in the wrong zone.

A We feel we will get this evidence before this volume of water is injected. I know the damage that you refer to. I believe credit would be exercised against us as a unit, more so than any other place. I have grave doubts that we could create any damage, so to speak, any place except just a loss of ineffective water. Now, we are cognizant of the fact that we are in a water basin. We respect the State Engineer and his jurisdiction over the shallow water, and we don't want to operate in a manner that will damage this fresh water. We realize very greatly the value of fresh water to the State of New Mexico, and we as part of it don't want to hinder that in any way.



Q Is there a number of these wells with the casing set substantially higher in the pay zone that you showed in red on some exhibit here--Exhibit 4? In other words, as I understand, Exhibit 4 is the area in which you want to inject water?

A Yes, sir.

Q Is there a number of these wells completed with open hole and casing set substantially higher in that zone?

A There are a number of the wells that are set in the neighborhood of 300 feet above that zone. I don't believe there are any set higher than that, or I would say more than 300 feet above that. There are some of these wells that have casing set through the zone now, and it would be the second or maybe the third string of casing that is now set and perforated through to our primary target. Quickly glancing through this, I see a few wells that are set in this 300-foot range above the zone. Some are set immediately above the zone, but we have doubts as to the condition of the casing, and this is why we are saying we must investigate this casing condition, must not assume that it is adequate and that we can inject as it is. We want more information and we're asking that you grant permission that we obtain the information in this manner.

Q On each well, can you determine the top of the zone in which you intend to inject--the depth?

A I think that we failed to submit or draw attention to one figure in the engineering report. It would be Figure

2, which is the structure map on top of the main pay zone.

Q That figure by each well is the top of your injection zone?

A Yes, sir, it is. Now, this figure is not accepted as geologically correct; it is only the figure that was taken from the reports as filed with the Commission or with the U.S. G.S. in the case of the Federal wells.

Q Do you have any other information that is more correct?

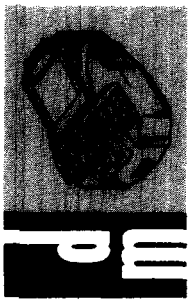
A This is the best we had. Now, some wells did offer more accurate information as to that particular well, but we felt like if we used real spotty information in the area as representative of the area total, we would get a distorted picture. We feel that this gives us a good picture of the area, even though we are not truly correct as to the true top; but it is accurate enough.

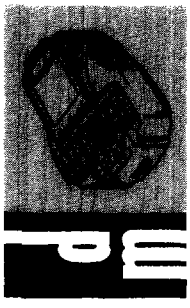
Q Are these contours based on subsea?

A Yes, sir, they are.

Q Then in order to determine the relation between these tops and the casing, we would have to have the elevation of the well?

A Yes, sir. Exhibit 3--5; excuse me, is this schematic diagram of casing programs, giving the top in surface depth measurement of the pay zone.





Q I see--oh yes. We can determine from your Exhibit 5 how high the casing is set above the pay zone?

A Yes.

Q Now, on your Exhibit 3 you have listed production over a certain period of time, in addition to Figure 6 in your Exhibit 2. As I interpret these figures, these are on a lease basis?

A Yes, they are.

Q Can you state or do you have any information to show us as to what the range of daily production is in all wells included in Exhibit 3? In other words, what is the low and what is the high for daily production?

A I don't have that figure with me; however, the low is zero. Some of the wells are temporarily abandoned, waiting for the project to be kicked off. The maximum I believe would be--I just don't know, I haven't taken great stock in each individual well's production but it has been--I look at the lease average; they're going into a common tank battery and this is an old depleted area and I know the average of any lease is quite low. I could pull a figure out of my hat, but it might be misleading, and I would hesitate to do so.

Q Could you give us an idea or furnish information as to what you think the well average is, along the number of the wells listed on this lease, and you can just write that figure

on the exhibit and send it back to us, or hand it to us before you leave town...if you know how many wells are on the lease.

A I can give you a lease well average now. I know the number of wells on each of these leases.

Q Well, that would be partially satisfactory. I think you understand what I'm after--I'd like to know what the capacity is of the larger wells on this lease, in order for us to make a determination whether this is an area to be waterflooded or whether it's still in primary.

A Well, let me add this...

Q If it's on the order of nine or ten barrels, that's one consideration; if it's forty to fifty for some wells and there's quite a few of that type of wells, that would be another thing.

A Let me do this--I'll gladly send you any additional information, but on the tabular form if you take the month of December, 1962, we can readily pick out the daily production rate of this particular month. Number 1, that's twelve barrels per month or one-half barrel per day. The C&H Oil Malco Federal Number 1 well, that's 78 barrels a month or 2½ barrels per day. The Cockburn MS Barrientos Federal is two wells; that's one barrel per day. The Magruder Federal is 251 barrels for the month, or 80 barrels a day--eight barrels per day, rather; and there's seven wells on this lease so that's about a barrel

per day. That's a lease average, and I know there are some shut-in and some producing as high as four or five barrels per day on this particular lease. The maximum of that lease probably would be four or five for its best well that's completed in several zones. The next one is Russel Federal lease which has four wells and 27 barrels per month, or about ¼ barrel per day, and the State A lease is--I believe that's two wells, and the Wright State of course is shut-in in the Grayburg formation. Wright Oil Company's option of the Bedingfield lease or State D-8318 lease is 38 barrels for one month; that would be 1.2 barrels per day. The State E-1059 lease has two wells, 37 barrels or about ½ barrel per day. The State E-379 is one well, which is about 3/4 barrel per day. The Delhi II is one well; 90 barrels a month, which would be three per day. The Delaware Number 12 is shut-in. The John H. Trigg Harbolt--this is--the Wright Oil Company has purchased the John H. Trigg, as listed on Exhibit 5, in his Harbolt Federal lease--124 barrels for the month, and this has six wells on it. I believe that would be about 3/4 barrel a day. The Hill Federal lease is shut-in. The Atlantic Refining Company State lease is shut-in. The Atlantic Refining Company Turner State lease, 48 barrels per month; that would be a barrel and a half per day. Rutter & Wilbanks Magruder Estate, 59 barrels per month; there's two wells; that would be one barrel

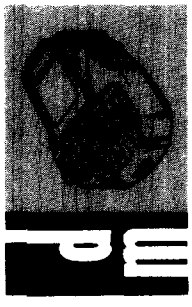
per day. The Rutter & Wilbanks Hudson State lease, 7 barrels per month; it has one well...¼ of a barrel. Hume Yates, et al Dooley State lease, 84 barrels a month; it's a four-well lease; that would be 3/4 barrel per day.

MR. UTZ: I think that information will be satisfactory, as long as we know the number of wells on the lease so we can get an idea. How do you first intend to put the wells on injection?

A I think I had made some mention of that in the report to the operators, and we still plan to develop in this same fashion. If you will refer to Table 3, this is a development schedule. They are listed in years, through five years, and under each year there is a notation of well conversion that refers to the number of wells that will be converted in that particular year.

Q Six the first year, and second and third--in other words, for three years you'll have eighteen wells?

A Now, what this report covers is the total unit area in which we are still including the three tracts that were omitted in the project, in this application, and we would modify this to the extent of the wells that would fall under this category and the wells that were outside and not joining with us, and it would be reduced by that proportion, as this report covers a total of 23 wells to be converted.



Q In other words, the temporary injection program would last over a period of three years?

A No, sir--yes, sir, so to say. We would like this temporary injection period to be applicable to every old well converted to injection, for its own three- to six-month period.

MR. UTZ: Are there any other questions of the witness? ... The witness may be excused. Are there any other statements to be made in this case? The case will be taken under advisement. The hearing is adjourned until one-thirty.

* * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ELIZABETH K. HALE, Notary Public and Court Reporter, do hereby certify that proceedings in Case Number 3212 were taken by me in shorthand and transcribed by me; that such transcription is a true and accurate record of proceedings to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, my hand and seal of office this 19th day of March, 1965.

Elizabeth K. Hale
Notary Public

My commission expires

May 23, 1968.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3212, heard by me on March 19, 1965.

Examiner
New Mexico Oil Conservation Commission