

CASE 3606: Application of BELL  
PETROLEUM for salt water disposal  
and a dual completion.

Case Number

3606

Application  
Transcripts.

Small Exhibits

ETC.

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
June 28, 1967

EXAMINER HEARING

IN THE MATTER OF:

Application of Bell  
Petroleum Company for  
salt water disposal and  
a dual completion, Lea  
County, New Mexico.

Case No. 3608

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 3606.

MR. HATCH: Case 3606, Application of Bell Petroleum Company for salt water disposal and a dual completion, Lea County, New Mexico.

MR. MORRIS: I'm Dick Morris of Montgomery, Federici and Andrews, Santa Fe, New Mexico, appearing on behalf of the Applicant Bell Petroleum Company. We'll have one witness, Mr. O. M. Salman, spelled S-a-l-m-a-n. I ask that he be sworn, please.

(Witness sworn.)

MR. UTZ: Are there any other appearances? You may proceed.

O. M. SALMAN

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

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Salman, will you please state your name and where you reside?

A My name is Orhan, O-r-h-a-n, Salman, S-a-l-m-a-n, I reside in Los Angeles, California.

Q By whom are you employed and in what capacity?

A I'm employed by Bell Petroleum Company and I'm Vice-President of the company.

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Q What are your duties as Vice-President with Bell Petroleum Company?

A I'm in charge of Engineering, Drilling and Exploration Department.

Q Will you relate to the Examiner your education and your experience in the petroleum industry?

A I'm a registered petroleum engineer in the State of Texas, and California. I graduated from the University of Southern California with a Master's Degree in petroleum engineering and also from Ohio State University with a Bachelor of Science Degree in mining engineering. I've been with Bell Petroleum Company for approximately twelve years in various capacities. Before then I worked with the Long Beach Oil Development Company and various other companies.

Q In what states does Bell Petroleum Company operate?

A In California, in Texas and in New Mexico.

Q What is the extent of your production and holdings in New Mexico?

A We've been accumulating acreage in New Mexico within the last few years. We have about 90,000 acres now, half of it being in State acreage and half of it in Federal acreage. Our production is -- Well, we have actually three wells producing, two in the South Button Mesa Area, and also in the North Bagley Field, Pennsylvanian well.

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Q And is that well the subject of the hearing here today?

A Yes, sir.

Q Are you familiar with the application of Bell Petroleum Company in Case 3606?

A I am, right.

MR. MORRIS: Are the witness's qualifications acceptable?

MR. UTZ: Yes, sir. They are.

Q (By Mr. Morris) What does Bell Petroleum Company seek by this application?

A We are seeking an authority to complete the well, dual complete the well in such a fashion that it can produce the Pennsylvanian production through the 5-1/2-inch casing and dispose of the water producing in conjunction with the oil and gas into the annulus space between the 8-5/8-inch casing and the 5-1/2-inch casing.

Q So, actually you are seeking approval of the Commission as to a dual completion of the well in the Pennsylvanian and as a salt water disposal well in the San Andres?

A Yes, sir. In view of the fact that the Commission requires that no water can be disposed of in open pits and this must be met prior to November 1, 1967, I believe, in this

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particular area.

Q And that has given rise to the salt water disposal feature of this well?

A That is correct.

(Whereupon, Applicant's Exhibit 1 was marked for identification.)

Q Would you refer please to what has been marked Exhibit 1 in this case, the plat of a portion of the North Bagley Field, point out what is shown on that exhibit?

A The well that we are referring to is located in the Southwest Quarter of Section 21 in Township 11 South, Range 33 East of Lea County and the well is completed in Unit K of that particular section.

Q And is this well presently completed as a producing well?

A It is producing from the Pennsylvanian formation.

Q Before you leave that exhibit, does this exhibit also show the other wells in the area within one mile from the subject well?

A It does, it shows all the adjoining wells that are completed in the Pennsylvanian formation.

Q All right. Are any of these other wells shown on this exhibit completed in the San Andres production in the immediate area?

(Whereupon, Applicant's Exhibit 2 was marked for identification.)

Q All right. Refer next to what has been marked as Exhibit 2 in the case.

A Yes, sir.

Q The diagrammatic sketch of the subject well and with some particularity, please, referring to that exhibit, state how the well is presently completed and what the mechanical installation of the well is.

A Fine, I certainly will. As you can see, the 13-3/8-inch casing was set after drilling a 17-1/2-inch hole at 388 feet and it was cemented in such a fashion that the cement was circulated. While in the drilling of the well, it was observed that the caliche formation bottomed at 18 feet from the surface, and then we went out of the Ogallala formation at about a hundred and seventy feet.

Q One hundred seventy?

A Yes.

Q Yes.

A And that after penetrating the so-called red beds at approximately, 207 feet, I believe.

Q 207 feet?

A 218 feet the casing was set and cemented and so-called, so that the water-producing horizon of the main water-

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producing, fresh water-producing horizon was completely sealed off.

Q All right.

A And of course, the 8-5/8-inch protective string was drilled down to 3845 which is approximately 40 feet into the San Andres formation, the top of the San Andres, and that was completed by cementing and the calculated top of the cement is 2235 feet. I must call your attention to the fact that there is a space that is not cemented between the 13-3/8-inch casing and the 8-5/8-inch casing and we are, of course, proposing that the water produced from the lower Pennsylvanian formation is injected into the annular space here and, of course, I'm sure the question will arise whether this water containing chloride and, of course, other dissolved solids, may be corrosive. I think certainly there will be some corrosive material in the produced water but the water is treated as it goes to the tank farms as well as occasional treatment of the formation should inhibit any corrosive characteristic that the water may have and we don't feel that even under corrosive conditions it would be of any danger to the Ogallala formation, in view of the fact that we have some 218 feet of cemented impervious red beds between the base of the Ogallala formation and the shoe of the casing. As the drilling operation continued below the shoe of the casing, the intermediate casing, we have

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observed that as the San Andres porosity zone or the Slaughter zone was entered, a seepage developed at approximately 4462, we observed that the bit fell several feet, indicating a cavity in the area. This cavity continued down to 4474. At that time total circulation was lost. However, we continued in drilling the well with water, we had a large source of water in the area, it appeared that the well was taking water at 45 barrels an hour and we were able to keep up with it and drill the well down to 7800 feet. At that time we had to mud-up, in view of the fact that it would be very expensive to continue losing mud at this particular base. We attempted to squeeze the zone. Four attempts were made. The only thing that we achieved was to reduce the rate of lost circulation to approximately 600 barrels a day. We continued in drilling the well to a total depth of 10,240 feet plus or minus the 40 feet, and ran a 5-1/2-inch casing, cemented it and ran temperature survey: temperature survey indicated the top of the cement at 7800 feet.

Q How was the well then completed?

A It was perforated initially at intervals from 3839 to 9932, was acidized and put on the code and production declined to a level that was not considered attractive. Additions to perforations were added from 9745 to 9765; again it was acidized and put on the pump and its potential was over

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200 barrels a day and some 600 barrels of water and the --  
However, the oil production declined at this time. It was  
producing about 120 barrels of oil and some 600 barrels of  
water.

MR. MORRIS: At this time, Mr. Examiner, I would  
like to offer, not as an exhibit but as an, actually it's an  
amended application, nothing that will affect the notice that  
was given in this case but merely to reflect the status of the  
present perforations in the Pennsylvanian zone after recompletion.  
I might state also at this point that a copy of that application  
and a copy of all of the exhibits that we are offering in this  
hearing have been furnished to the office of the State Engineer.  
The copy of the application was furnished to the State Engineer  
this morning.

MR. HATCH: Due to the fact, that it was only furnished  
this morning, you would have no objection to the State Engineer  
sending information to the Commission?

MR. MORRIS: No, we'd have none at all. As a matter  
of fact, we spoke with Mr. Irby when we handed him the  
application this morning and invited him to do that.

Q (By Mr. Morris) Mr. Salman?

A Yes, sir.

(Whereupon, Applicant's  
Exhibit 3 was marked  
for identification.)

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Q Referring now to what has been marked Exhibit 3 in this case, state what that is and what information is shown.

A Are you referring to the electrical log?

Q Yes.

A The electrical log or the so-called sonic log and gamma ray, too, is porosity determining pool and gamma ray, of course, is utilizing and correlating different formations with different radioactivity.

Q Have you shown the formation tops on this log?

A I have shown the formation tops with the exception of the base of the caliche which was 18 feet and the base of the Ogallala formation, which was 170 feet at the base of it, at the top of the red bed.

Q Do you have the proposed injection intervals in the San Andres shown on this log?

A Yes, sir. As you may notice on the sonic log, the porosity zone increased to a value that is very large. It is, of course, not measurable actually by the sonic log. This particular interval indicated on the exhibit --

Q Two.

A --two. However, prior to that --

Q You are referring to the interval --

A 4462 to 74.

Q All right.

A The dual induction electrical log or lateral log indicates that the porosity zone actually started at 4340 and continued through this interval and also on the sonic log you may notice that there is also porosity in the lowermost section of the San Andres formation which may also take water and on the other hand we ran a temperature survey after the well was completed and while injecting into the annular space had gravity, no pressure on the casing. It was determined that water was going into that producing interval where we lost circulation, and I also point out at this time that while we were trying to squeeze this interval it was determined that even after squeezing the formation with 1600 pounds pressure, the bit would drop out of the cement or whatever the material used in squeezing, right below this interval.

Q You referred to the temperature survey?

A Yes, sir.

Q And is that offered as --

A Evidence.

Q --evidence? I believe it's been marked as Exhibit No. 4, is that correct?

(Whereupon, Applicant's Exhibit No. 4 was marked for identification.)

A That is correct.

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Q And what is the significance of that exhibit?

A It indicates that most of the water is going into this particular horizon in the San Andres porosity zone and we don't anticipate that any other zone will take water after examining the formation as indicated by the sonic log. There seems very little porosity elsewhere, about 7800 feet. This zone was not treated when it was tested at 600 barrels a day rate and I feel if it is treated, it should take water at a much more larger rate.

Q Now, what is the source of water that you intend to dispose of in this well?

A The water that is produced in the Pennsylvanian formation. I believe we have the analysis of that.

Q You are referring to the water in this particular well?

A Yes, sir.

Q That is produced from this particular well?

A Yes, sir.

Q Do you intend to inject and dispose of water into the San Andres zone in this well, water from any other well or any other source?

A Not at this moment, that is to say, we are not planning on utilizing this well for other people's water. It may be necessary to drill another well, of course, to protect

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ourselves in that particular quarter section there and it may be necessary to dispose of that particular water into this annular space.

Q As you see it, at this time, you would intend to dispose of water produced from the Pennsylvanian formation on this lease, whether it be from this particular well or also from another well that may be drilled to the Pennsylvanian?

A That is correct, and we have no intention of disposing of any other water.

Q Do you have an analysis of the produced water to offer as an exhibit?

A Yes, sir. We have the water analysis.

(Whereupon, Applicant's Exhibit No. 5, was marked for identification.)

Q That is Exhibit 5?

A If you will notice in that exhibit, you see that the chloride content was 2600 parts per million --

MR. UTZ: 26,000.

A Pardon me, 26,000, this compares with the San Andres water in the area of 100 to 125 thousand parts per million.

Q (By Mr. Morris) You mentioned earlier in your testimony that you planned to treat this water in some fashion after it has been produced and before it is reinjected? What

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form of treatment is that?

A We use corrosion inhibitors which have to be utilized anyway in protecting the casing as well as the tubing and other facilities that we have on the location. What we do is inject -- this well, as you may notice, was completed in such a fashion that we have a vent, one-inch tubing which vents the gas out and also it can be utilized in injecting chemicals into the formation occasionally which will be done or is done.

Q Have you given notice of this, the filing of this Application to the offset operators?

A Yes, sir. We have given it to all the operators.

Q And what response have you received from the offset operators and, here I'll ask you to refer to what's been marked as Exhibits 6-A, 6-B, 6-C, and 6-D?

(Whereupon, Applicant's Exhibits 6-A through 6-D were marked for identification.)

A We have no objection from Sunray D-X Oil Company and also from Pan American Oil Corporation. Also Mr. Hood, H. C. Hood at Midland.

Q Those three offset operators offered no objection to the application?

A No, sir.



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Q Did you receive a response to your notification to Mr. Stoltz?

A Yes, sir, we have. Mr. Stoltz and Company, actually.

Q And was that letter addressed to the Conservation Commission?

A It was, it was addressed to Mr. Nutter, Chief Engineer of the Commission.

Q What was the nature of that response?

A They feel that the injection of water into the San Andres formation may conceivably cause collapse of the casing of the adjoining wells.

Q Would you comment upon the validity of that objection?

A I think Mr. Stoltz and Company's objection may be legitimate from the standpoint that they have a well in the area which had a collapsed casing in the same section in the Northeast Quarter of this particular section, but our feeling is that the formation that caused the collapsing of that particular casing is the Abo shale in the area. My understanding is that most of the collapsed casings occur in this particular area where the Abo shale is located. My feeling is that if this formation is cemented over, probably the cost could be prevented. My feeling also is that the reason some of these casings do collapse is caused by the movement of this shale, heaving or flowing of this particular shale, due to the

fact that the water or mud utilized during the drilling of the well in time falls to the equivalent of the pressure of the San Andres formation, thereby reducing the pressure that holds the shale back, allowing it to move. Any injection or any increase in the San Andres formation pressures should actually be helpful in retaining this shale from moving.

Q In your opinion, would the injection of water into the San Andres formation as you have proposed in this application --

A Yes, sir.

Q --provide any threat to the -- of collapse of casings in any adjoining wells?

A I doubt that very much. Let me point out quickly why I do that. Our estimation of the San Andres formation pressures is about 1340 feet to a side. While these wells were being drilled, in order to control this formation, including the Abo shale an average mud weight of 9-1/2 pounds per gallon was utilized, which gives a bottom hole pressure at this particular interval they commanded and proposing that the water injection shown should be approximately 2100 to a side, and as you can see there is a considerable amount of pressure differential that we can utilize to increase the, let's assume the San Andres bottom hole pressure. That's nearly 800 pounds. The Aquifer should be enormous in size. That it would take

millions of barrels actually to even increase the San Andres Aquifer pressures on the hundreds of pounds of pressure, I would say, and also that as far as danger is concerned to the adjoining wells, most of the wells are designed, casing designed especially in Mr. Stoltz' wells, in such a fashion that he utilizes 4-1/2-inch and 11-1/2 pounds in these casings, and most of them are set at about 10,100 feet. These particular casings would have a safety factor of 1.35 and this safety factor would increase at the top of the cement, wherever the top of the cement is. Looking at his wells, he used about 350 sacks of cement, which should give those particular wells at the top of the cement at 8,000 feet which would again enhance the safety factor. As I pointed out earlier, this well was taking water with gravity, with no pressure on the casing at all, and a density which is 1.022 which calculates to a grading of .444 which would be considerably less than the grading utilized, grading created by the mud that was used in the drilling of wells, 9-1/2 pounds which is approximately a gradient of .50. If water is injected into the annular space with that gradient which is 5.0, I see no problem at all as far as the adjoining wells are concerned. And also, a safety factor that is built in is the fact that the injection well would collapse much more readily if the safe gradients were surpassed.

Q All right, sir. Has any consideration been given by

your company to the drilling of a separate San Andres disposal well in this area?

A Yes, sir. It would be costly and we feel that it would be wasteful in view of the fact that we had a well that had developed this fortunate or unfortunate porosity zone and in view of the fact that we are not sure whether this porosity zone can be found in this particular quarter section and the cost of the well probably would be around \$45,000.00.

Q In your opinion then, I take it that the drilling of a separate well would be the drilling of an unnecessary well in view of the opportunity you have to dispose of water in the San Andres zone in this well, is that correct?

A That is very correct.

Q Mr. Salman, were Exhibits 1, 2, 1 and 2 prepared by you or under your direction?

A Yes, sir, they were.

Q Was the information shown on Exhibit 3 placed on there by you or under your direction?

A Yes, sir. They were.

Q And have Exhibits 4 and 5, being the temperature survey and the water analysis, been examined by you and determined by you to be correct?

A Yes, sir. They were.

Q And were Exhibits 6-A, B, C and D, copies of letters

furnished to you by Pan American, Sunray D-X, Mr. Hood and Mr. Stoltz?

A Yes, sir.

MR. MORRIS: We offer those exhibits into evidence.

MR. UTZ: Without objection, the exhibits mentioned will be entered into the record in this case.

(Whereupon, Applicant's Exhibits 1 through 6 were offered and admitted in evidence.)

Q (By Mr. Morris) Do you have anything further, Mr. Salman, that you would like to comment upon at this time to the Examiner with respect to this application?

A Nothing more than what you mentioned earlier, that the approval of this application will, of course, prevent the shutting of producing wells in the lower Pennsylvanian Field in view of the fact of no pit order that we have. And, of course, it would also prevent the drilling of any additional new wells for disposal purposes.

MR. MORRIS: All right, sir. I think that's all we have, at this time.

CROSS EXAMINATION

BY MR. UTZ:

Q I believe you said you are going to treat this water before you reinject it?

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A It's already being treated, Mr. Utz.

Q I see. And by so treating you feel that that will protect the 8-5/8-inch casing in the area where you don't have cement behind the <sup>pipe</sup> hole?

A Yes, sir. We do. It appears that the water is not actually too corrosive. Of course, it is going to be treated, regardless.

Q Now, when you inject down the 8-5/8 ~~X~~ 5-1/2 annulus, you have open hole down to 7800 feet, is that correct?

A That is between the base of the 8-5/8-inch casing and the top of the cement, right.

Q So, you might inject water anywhere in that area?

A Examination of the electrical log indicates that the water should go into the porosity zone of the San Andres.

Q What kind of pressure did you say that you felt would be on the casing at about 4400 feet?

A If you are referring to the mud weight that I mentioned before, that would be approximately --

Q No, I'm referring to the hydrostatic head that your salt water, your injection water, plus the pressure at the surface.

A That should be -- We are not proposing that the pressure should be any more than a half a pound per foot of depth. So, it would be around 2100 pounds.

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Q All right. How much pressure do you intend to put on at the surface?

A We are not planning on putting any pressure at all.

Q In other words, you feel that the hydrostatic head will cause the formation to take water?

A It certainly should and it does.

Q Now, what is the collapsed strength or rating of the 8-5/8-inch casing used in most of these wells here? In other words, how much pressure is it supposed to take to collapse the casing?

A Well, the 8-5/8-inch casing would have no pressure on it except the external pressure exerted by the mud. There is no collapse pressure exerted on the 8-5/8-inch casing, except burst. Burst would in turn the pressure of 8-5/8-inch casing.

Q I'm sorry, I meant 5-1/2?

A 5-1/2-inch, of course, in this particular area was designed as a combination strength which was a safety factor of 1.125 for 10.3 mud weight, as you can see. The 10.3 mud weight actually is better than, ten percent better than the safety factor from 1.125 to 1.24, approximately. So, there is no danger of collapsing that particular casing, either. What I'm trying to say is that the gradient could be increased to .620 without any particular danger; and also I may point out here that all the wells in the area with the exception of

one well, and it's my understanding that that one also is going to be converted to ~~foke~~<sup>T</sup> well, ~~foke~~<sup>P</sup> casing type installation, meaning that the annular space is always under pressure. That is to say that the well produced through the completion strength of 4-1/2 or 5-1/2-inch casing, your oil and water is produced through there and that would be an additional protection because of the fact that you have a column of oil and water inside the casing, compensating external pressure that you may exert.

Q That was 10.3 pound mud that was going into this area?

A No, sir. This is the casing design of our well.

Q No, I'm talking about the previous statement you made?

A Yes, sir.

Q You said it was taking 600 barrels a day of mud?

A Yes, sir, it was.

Q You were drilling?

A Yes, sir.

Q And that was 10.3 pound mud?

A No, it was about, oh, 9.5, I would say.

Q Anyway, it is heavier than the salt water that you were going to put in there?

A That's right.

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Q So, it should take your 600 barrels a day?

A Yes, sir. Without any pressure at all. Especially if it's treated. I feel that this rate should be increased much more than what it showed on the test.

MR. UTZ: Are there any other questions of the witness?

MR. MORRIS: I have nothing else, Mr. Examiner.

MR. UTZ: The witness may be excused.

(Off the Record).

Q (By Mr. Utz) You may be able to enlighten us on the vertical limits of this well in regard to a letter written by John Runyan to you?

A Yes, sir.

Q That the well be in both the lower and the upper pool?

A Right.

Q What do you intend to do about this?

A Mr. Utz, apparently we have either a misunderstanding or our interpretation is somewhat different than Mr. Runyan's, as to where the base of the middle Pennsylvanian starts. We based ours on a paleo or paleontological report by Mr. Hollingsworth, and our feeling is that the present limits are such that it actually divides the Canyon formation and the Strawn formation, which we consider to be the lowermost Pennsylvanian formation to be productive in the area. I took

dearnley-meier routine

this up with Mr. Nutter this morning and he's going to keep this under advisement and he's going to talk to Mr. Runyan about this and I'm hoping that we can resolve it. It appears that actually these two pools are separate pools, if I may show you a contour map over here. The Texas-Pacific Collier well is located in a separate structure than where we are so it appears that it might be a good idea to study these particular problems and we certainly will be glad to abide with anything the Commission decides.

Q At any rate, you are certainly going to pursue the matter until the problem is solved?

A Yes, sir.

MR. HATCH: Mr. Examiner, in connection with that, Mr. Nutter advised me that he intends to take this up with Mr. Runyan I believe, tomorrow, we'll have him examine the well records of all the wells in the area.

MR. HATCH: I have a letter from the State Engineer's office, dated June the 27th. "Reference is made to the application of Bell Petroleum Company which appears on Docket Number 19-67, in Case 3606. Mr. Richard Morris handed me a copy of several Exhibits pertaining to the application this afternoon of which I have not received a copy of the application. Brief examination of the diagrammatic sketch of the Bell Petroleum Company, State K-1 well indicates that

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there is no cement behind the 8-5/8-inch casing from 388 feet to 2235 feet below the surface. It's my understanding from Mr. Morris that the injection would be down the annulus between this casing and the 5-1/2-inch casing. I respectfully call to your attention the fact that the water to be injected contains a high concentration of dissolved solids which are of a corrosive nature and that there is a possibility of the water being injected, could channel around the shoe of the 13-3/8-inch casing and find its way to the water which occurs in the Ogallala formation. In the subject township there are 2259.2 acres in irrigation and 343.5 acres of irrigation rights under development and 999 acre feet of water have been committed for secondary recovery well. S. E. Reynolds, by Frank E. Irby."

Q (By Mr. Utz) Mr. Salman, didn't you testify to the fact that the base of the Ogallala was 170 feet? And the top of it would be about 18 feet?

A No, the top of it would be about 18 feet according to the electrical log and the penetration time that we had on it.

Q Well, from 170 feet to 388 feet, which is 218 feet, you say you have some impervious red beds?

A Impervious red beds. I believe that was also brought up earlier by Mr. Stoltz in his salt water disposal --

Q And the cement is circulated from 388 to the surface?

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A Yes, sir.

MR. UTZ: The witness may be excused.

(Witness excused).

MR. HATCH: And I also have a letter from Stoltz and Company that has already been discussed.

MR. UTZ: Any other statements? The case will be taken under advisement.

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I N D E X

<u>WITNESS</u>		<u>PAGE</u>
O. M. SALMAN		2
Direct Examination by Mr. Morris		19
Cross Examination by Mr. Utz		
<u>EXHIBIT</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's 1	5	19
Applicant's 2	6	19
Applicant's 3	9	19
Applicant's 4	11	19
Applicant's 5	13	
Applicant's 6-A through 6-D	14	19

dearnley-meier reporting service, inc.

STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) ss

I, JOE B. JAMESON, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 3rd day of July, 1967.

*Joe B. Jameson*  
Notary Public

My Commission Expires:  
June 25, 1971.

I do hereby certify that the foregoing is a complete report of the proceedings in the Bernalillo hearing of Case No. 3606, held on *June 28, 1967*.  
*[Signature]*, Secretary  
New Mexico Oil Conservation Commission

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS  
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GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

P. O. BOX 2088  
SANTA FE

July 10, 1967

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

Mr. Richard S. Morris  
Seth, Montgomery, Federici & Andrews  
Attorneys at Law  
Post Office Box 2307  
Santa Fe, New Mexico

Re: Case No. 3606  
Order No. R-3271  
Applicant:  
BELL PETROLEUM COMPANY

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

*A. L. Porter, Jr.*  
A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC       

Aztec OCC       

Other       

Mr. Frank Irby, State Engineer Office, Santa Fe, N.M.  
Mr. Deane H. Stoltz, Stoltz & Company, Midland, Texas

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 3606  
Order No. R-3271

APPLICATION OF BELL PETROLEUM COMPANY  
FOR SALT WATER DISPOSAL AND A DUAL  
COMPLETION, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 28, 1967,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 10th day of July, 1967, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant, Bell Petroleum Company, seeks  
authority to complete its State "K" Well No. 1, located in Unit K  
of Section 21, Township 11 South, Range 33 East, NMPM, Lea County,  
New Mexico, as a dual completion to produce oil from the North  
Bagley-Lower Pennsylvanian Pool through the 5 1/2-inch casing by  
means of a hydraulic casing pump and to dispose of produced salt  
water down the annulus between the 8 5/8-inch intermediate casing  
string and the 5 1/2-inch production casing string into the San  
Andres and other formations, with injection into the open hole  
interval between the 8 5/8-inch casing shoe at 3845 feet and the  
top of the cement at 7800 feet.

(3) That the produced salt water should be continuously  
treated prior to injection to prevent casing corrosion and coupon  
corrosion tests shall be conducted continuously on said well and  
the results thereof filed quarterly with the Commission until  
further notice from the Secretary-Director of the Commission.



-2-

CASE No. 3606  
Order No. R-3271

(4) That approval of the dual completion and salt water disposal as set out above will prevent the drilling of unnecessary wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

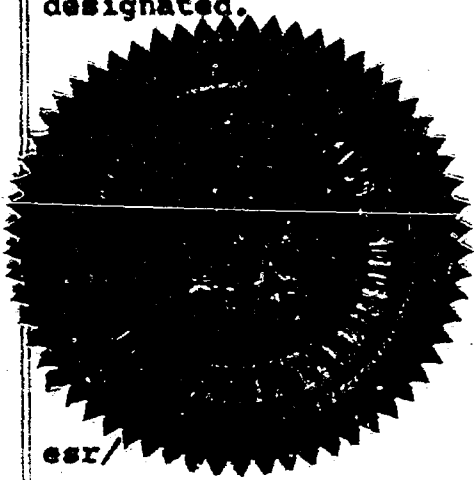
(1) That the applicant, Bell Petroleum Company, is hereby authorized to complete its State "K" Well No. 1, located in Unit K of Section 21, Township 11 South, Range 33 East, NMPM, Lea County, New Mexico, as a dual completion to produce oil from the North Bagley-Lower Pennsylvanian Pool through the 5 1/2-inch casing by means of a hydraulic casing pump and to dispose of produced salt water down the annulus between the 8 5/8-inch intermediate casing string and the 5 1/2-inch production casing string into the San Andres and other formations, with injection into the open hole interval between the 8 5/8-inch casing shoe at 3845 feet and the top of the cement at 7800 feet;

PROVIDED HOWEVER, that the produced salt water shall be continuously treated prior to injection to prevent casing corrosion, and provided further, that coupon corrosion tests shall be conducted continuously on said well and the results thereof filed quarterly with the Commission until further notice from the Secretary-Director of the Commission;

PROVIDED FURTHER, that the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*David F. Cargo*  
DAVID F. CARGO, Chairman

*Guyton B. Hays*  
GUYTON B. HAYS, Member

*A. L. Porter, Jr.*  
A. L. PORTER, Jr., Member & Secretary

esr/

Case 3686

Heard 6-28-67

Rec. 6-28-67,

1. Grant. Bell permission  
to dispose of produced SW from  
their ~~St. K~~ K-1 N-21-11S-33E, R. Bayley  
Lower Penn pool, into the Sam. Andreus  
formation by flowing it down  
between the  $18\frac{5}{8}$ " x  $5\frac{1}{2}$ " annulus.  
No surface pressure will be used.  
The SW shall be inhibited before  
injection to prevent casing  
corrosion.

Thos. D. J.

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 3386  
Order No. R-3052

*Bell Petroleum*  
APPLICATION OF ~~SUNRAY OIL~~ COMPANY  
FOR A DUAL COMPLETION AND SALT WATER  
DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 23, 1966,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 1st day of *July 1967* ~~April~~, 1966, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

*Bell Petroleum*  
(2) That the applicant, ~~Sunray Oil~~ Company, seeks autho-  
rity to complete its New Mexico State ~~"A"~~ Well No. 1, located in  
Unit ~~4~~ of Section ~~16~~, Township ~~16~~ South, Range ~~34~~ East, NMPM, Lea  
County, New Mexico, as a dual completion (conventional) to produce  
oil from the ~~Simandala-Pennsylvanian~~ Pool through the 5 1/2-inch  
casing by means of a hydraulic casing pump and to dispose of  
produced salt water down the annulus between the 8 5/8-inch inter-  
mediate casing string and the 5 1/2-inch production casing string  
into the San Andres ~~and Glorieta~~ formations, with injection into  
the open hole interval between the 8 5/8-inch casing shoe at ~~4100~~  
feet and the top of the cement at ~~3350~~ feet. *3845*

(3) That the produced salt water should be continuously  
treated prior to injection to prevent casing corrosion.

-2-

CASE No. 3386

Order No. R-3052

(4) That approval of the dual completion and salt water disposal as set out above will prevent the drilling of unnecessary wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

*Reel Petroleum*  
(1) That the applicant, ~~Sunray Oil~~ Company, is hereby authorized to complete its ~~New Mexico State~~ "No. 1," located in Unit ~~4~~ of Section ~~16~~, Township ~~16~~ South, Range ~~34~~ East, NMPM, Lea County, New Mexico, as a dual completion (conventional) to produce oil from the ~~Silurian-Pennsylvanian~~ Pool through the 5 1/2-inch casing by means of a hydraulic casing pump and to dispose of produced salt water down the annulus between the 8 5/8-inch intermediate casing string and the 5 1/2-inch production casing string into the San Andres and ~~Clarieta~~ formations, with injection into the open hole interval between the 8 5/8-inch casing shoe at ~~4100~~ feet and the top of the cement at ~~3300~~ feet;

PROVIDED HOWEVER, that the produced salt water shall be continuously treated prior to injection to prevent casing corrosion.

PROVIDED FURTHER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

GUYTON B. HAYS, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

csr/



**Petroleum Company**

SUITE 400  
700 WILSHIRE BOULEVARD  
LOS ANGELES, CALIFORNIA 90017

AM 9 25

*Set for hearing*

(213) 629-3143

*Call 3606*

*Mr. Kapteina*

*Will you take  
core of this?*

May 12, 1967

Joe D. Ramey  
Supervisor, District I  
Oil Conservation Commission  
State of New Mexico  
Post Office Box 1980  
Hobbs, New Mexico

Dear Mr. Ramey:

Attached please find an Application for Multiple Completion regarding our State "K" well No. 1 located in Section 21, T11S, R33E, as an annular water disposal well into the San Andres formation and a producing well from the Lower Pennsylvanian formation.

Please note that a temperature survey was run on 4/19/67 after running the completion string to determine the interval where the injected water was going.

Yours very truly,

BELL PETROLEUM COMPANY

*O. M. Salman*

O. M. Salman,  
Vice President

OMS/h  
Atts.

DOCKET MAILED

Date *6/15/67*

NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
APPLICATION FOR MULTIPLE COMPLETION

67 JUN 2 4 25 AM '67

Form 1-167  
5-1-67

X

Case 3606

Operator <b>Bell Petroleum Company</b>		Lease <b>May 12, 1967</b>	
Address <b>P. O. Box 1538 - Midland, Texas 79701</b>		State <b>1-K</b>	
Location of Well <b>K</b>	Section <b>21</b>	Township <b>11-S</b>	Range <b>33-E</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES \_\_\_\_\_ NO X
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_ ; Operator Lease, and Well No.: \_\_\_\_\_

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	San Andres		Lower Pennsylvanian
b. Top and Bottom of Pay Section (Perforations)	4462-4474'		9839-9932'
c. Type of production (Oil or Gas)	None		Oil
d. Method of Production (Flowing or Artificial Life)	Water Injection		Pumping

4. The following are attached. (Please check YES or NO)

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

**Pan American Petroleum Corporation - P. O. Box 1410 - Fort Worth, Texas - Neil Whitmore**

**Stoltz & Company - P. O. Box 1714 - Midland, Texas 79701**

**Sunray Oil Company - 11th Floor Wilco Building - Midland, Texas 79701 - Ed Pierce**

**H. C. Hood - 522 First State Bank Building - Midland, Texas 79701**

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO \_\_\_\_\_. If answer is yes, give date of such notification **May 12, 1967**

CERTIFICATE: I, the undersigned, state that I am the **Vice-Pres. of Production** of the **Bell Petroleum Company** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

*D. M. Salinas*  
Signature

\*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

NEW MEXICO OIL CONSERVATION COMMISSION  
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

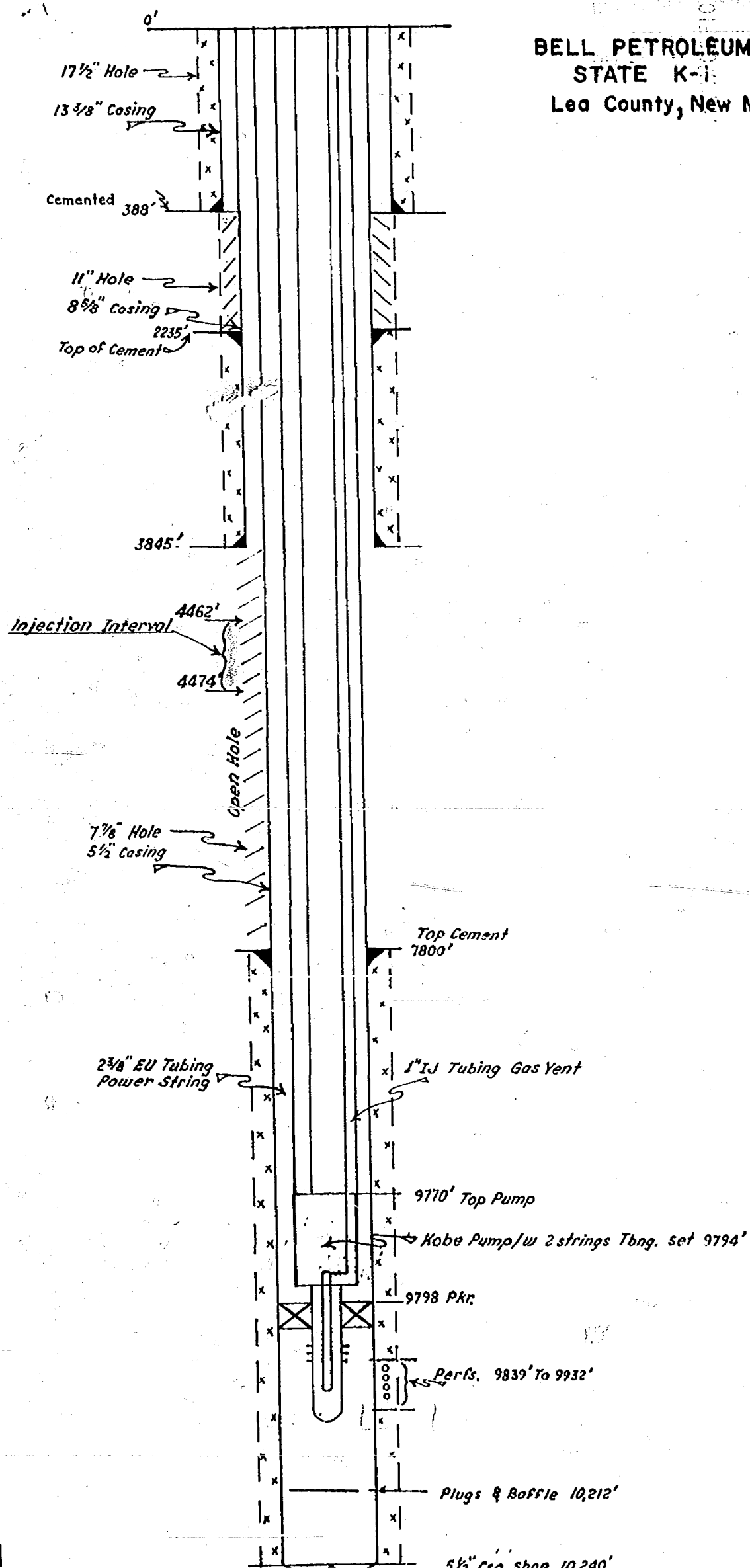
Case 3606

OPERATOR <b>Bell Petroleum Company</b>		ADDRESS <b>P. O. Box 15387 - Midland, Texas 79701</b>			
LEASE NAME <b>State</b>	WELL NO. <b>1-K</b>	FIELD <b>North Bagley, Lower Penn.</b>	COUNTY <b>Lea</b>		
LOCATION UNIT LETTER <b>K</b> ; WELL IS LOCATED <b>1980</b> FEET FROM THE <b>South</b> LINE AND <b>1980</b> FEET FROM THE <b>West</b> LINE, SECTION <b>21</b> TOWNSHIP <b>11-S</b> RANGE <b>33-E</b> NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	<b>13-3/8"</b>	<b>388'</b>	<b>400</b>	<b>Circulated</b>	
INTERMEDIATE	<b>8-5/8"</b>	<b>3845'</b>	<b>350</b>	<b>2235'</b>	<b>Calculated</b>
LONG STRING	<b>5-1/2"</b>	<b>10,240'</b>	<b>332 sx of Incon</b>	<b>7800'</b>	<b>Temp. Survey</b>
TUBING	<b>2-3/8"</b>	<b>9,850'</b>	NAME, MODEL AND DEPTH OF TUBING PACKER <b>Baker, Model "R" (OG) 9798'</b>		
NAME OF PROPOSED INJECTION FORMATION <b>San Andres</b>		TOP OF FORMATION <b>3780'</b>		BOTTOM OF FORMATION <b>5112'</b>	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? <b>Annulus</b>		PERFORATIONS ON OPEN HOLE <b>Open Hole</b>		PROPOSED INTERVAL(S) OF INJECTION <b>4462-4474'</b>	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? <b>No</b>		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? <b>Completed as oil well in Lower Penn.</b>		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? <b>Yes</b>	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR ISOLATE EACH <b>9839-40-49-63-64-71-82-9912-13-26-29-32'</b>					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA <b>350'</b>		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA <b>8700'</b>		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA <b>10,200'</b>	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) <b>600</b>	MINIMUM <b>200</b>	MAXIMUM <b>1000</b>	OPEN OR CLOSED TYPE SYSTEM <b>Closed</b>	IS INJECTION TO BE BY GRAVITY OR PRESSURE? <b>Gravity</b>	APPROX. PRESSURE (PSI) <b>Yes</b>
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - <b>Yes</b>			WATER TO BE DISPOSED OF <b>Formation</b>		
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) <b>Clarence E. Dallas - Star Route - Caprock, New Mexico (leased from State for grazing).</b>					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
<b>Pan American Petroleum Corporation - P. O. Box 1410 - Fort Worth, Texas</b>					
<b>Stoltz &amp; Company - P. O. Box 1714 - Midland, Texas 79701</b>					
<b>Sunray DX Oil Company - 11th Floor Wilco Building - Midland, Texas 79701</b>					
<b>H. C. Hood - 522 First State Bank Building - Midland, Texas 79701</b>					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER <b>No</b>		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL <b>Yes</b>	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 1-B)		PLAT OF AREA <b>Yes</b>		ELECTRICAL LOG <b>Yes</b>	
				THE NEW MEXICO STATE ENGINEER <b>Yes</b>	
				DIAGRAMMATIC SKETCH OF WELL <b>Yes</b>	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

O. M. Salzman  
(Signature)Vice-Pres. Production  
(Title)May 12, 1967  
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.



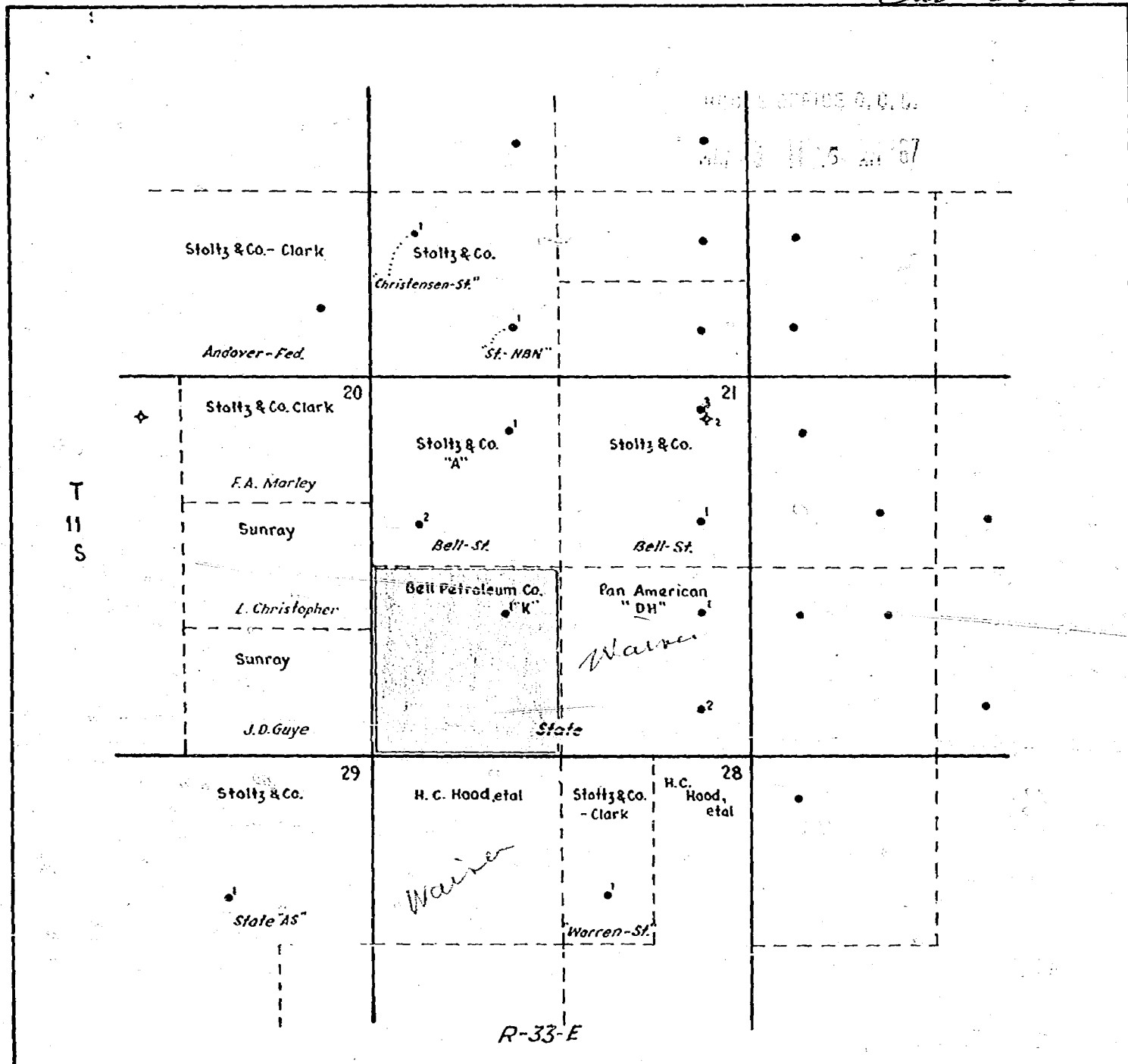
BELL PETROLEUM COMPANY  
STATE K-1  
Lea County, New Mexico

JUN 25 1965

Cap 3606



Case 3406



BELL PETROLEUM COMPANY  
BAGLEY NORTH AREA  
LEA CO., NEW MEXICO

LEASE PLAT  
STATE "K" #1  
T-11-S, R-33-E  
1980' FS & W Ls. of Sec. 21

May 15, 1967

*Case 3606*

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

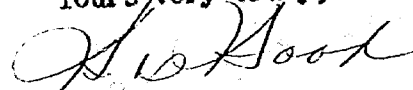
Re: Application for Salt Water  
Disposal and Multiple Completion  
of Bell Petroleum Company's  
State #1-K, North Bagley, Lower  
Penn. Field, Section 21-11S-33E,  
Lea County, New Mexico.

Attention: Mr. D. S. Nutter, Chief Engineer

Gentlemen:

We have been notified of Bell Petroleum Company's pending application for the annular disposal of salt water in their State #1-K in Lea County, New Mexico. As one of the offset operators, we have no objection to the proposed method of disposal and recommend your approval of this application.

Yours very truly,



H. C. Hood  
502 First State Bank Bldg.  
Midland, Texas 79701

cc: Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

X

SUNRAY DX OIL COMPANY  
1101 Wilco Building  
Midland, Texas  
79701

May 15, 1967

*Page 3606*

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

RE: Application for Salt Water  
Disposal & Multiple Completion  
of Bell Petroleum Company's  
State #1-K, North Bagley, Lower  
Perm. Field, Section 21-11S-33E,  
Lea County, New Mexico.

Attention: Mr. D. S. Mutter, Chief Engineer

Gentlemen:

Sunray DX Oil Company has been notified of Bell Petroleum Company's pending application for the annular disposal of Salt Water in their State #1-K in Lea County, New Mexico. As one of the offset operators, we have no objection to the proposed disposal method and recommend your approval of this application.

Yours very truly,

SUNRAY DX OIL COMPANY

*E. J. Pierce*  
Ed Pierce

*5/16/67*

cc: Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

May 15, 1967

*Case 3606*

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Re: Application for Salt Water  
Disposal & Multiple Completion  
of Bell Petroleum Company's  
State #1-K, North Bagley, Lower  
Penn. Field, Section 21-11S-33E,  
Lea County, New Mexico.

Attention: Mr. D. S. Nutter, Chief Engineer

Gentlemen:

Pan American Petroleum Corporation has been notified of Bell Petroleum Company's pending application for the annular disposal of salt water in their State #1-K in Lea County, New Mexico. As one of the offset operators, we have no objection to the proposed disposal method and recommend your approval of same.

Yours very truly,

PAN AMERICAN PETROLEUM CORP.

*Neil Whitmore*  
Neil Whitmore *ghf*

cc: Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240



**Bell Petroleum Company**

P. O. BOX 1538  
214 FIRST SAVINGS BUILDING  
MIDLAND, TEXAS 79701

HOME OFFICE  
SUITE 400  
700 WILSHIRE BOULEVARD  
LOS ANGELES, CALIFORNIA 90017  
(213) 629-3143

May 15, 1967

(915) MUTUAL 3-4269  
(915) MUTUAL 3-4250

*Case 3606*

Mr. H. C. Hood  
522 First State Bank Building  
Midland, Texas 79701

Stoltz & Company  
P. O. Box 1714  
Midland, Texas 79701

Pan American Petroleum Corporation  
P. O. Box 1410  
Fort Worth, Texas 76100  
Attn: Mr. Neil Whitmore

Sunray DX Oil Company  
11th Floor Wilco Building  
Midland, Texas 79701  
Attn: Mr. Ed Pierce

Re: Bell Petroleum Company's  
State #1-K, North Bagley, Lower  
Penn. Field, Lea County, New  
Mexico.

Gentlemen:

In connection with the above captioned well, we enclose herewith copies of Form C-107 "Application for Multiple Completion", Form C-108 "Application to Dispose of Salt Water by Injection into a Porous Formation", Diagrammatic Sketch of proposed disposal, Location Plat and Waiver Letter of Consent.

The captioned well potentialed for 212 barrels of oil and 238 barrels of water. Our proposed method of disposal is to inject the water back into the well, down through the annulus into the open hole beginning at 3845' and ending at 7800'.

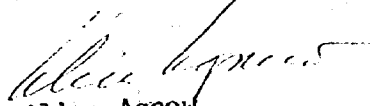
Page 2

If the foregoing proposal meets with your approval, would you please execute three copies of the enclosed Waiver Letter and return same to this office at your earliest convenience?

If you have any questions, please so advise.

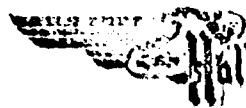
Yours very truly,

BELL PETROLEUM COMPANY

  
Alice Agnew  
Production Department

/aa

Enclosures



Halliburton COMPANY  
DUNCAN, OKLAHOMA

Case 3606

MEASURING LINE

## TEMPERATURE SURVEY

COMPANY Bell P.C.T. Company  
WELL NO. #1-21 STATE K  
POOL \_\_\_\_\_  
STATE New Mexico COUNTY Lea  
SECTION \_\_\_\_\_

COMPANY Bell P.C.T. Co.  
FILE \_\_\_\_\_  
WELL #1-21 STATE K  
POOL \_\_\_\_\_  
COUNTY Lea STATE N.M.

LOG MEASURED FROM Rotary Table  
DRILLING MEASURED FROM 1' \_\_\_\_\_  
PERMANENT DATUM \_\_\_\_\_

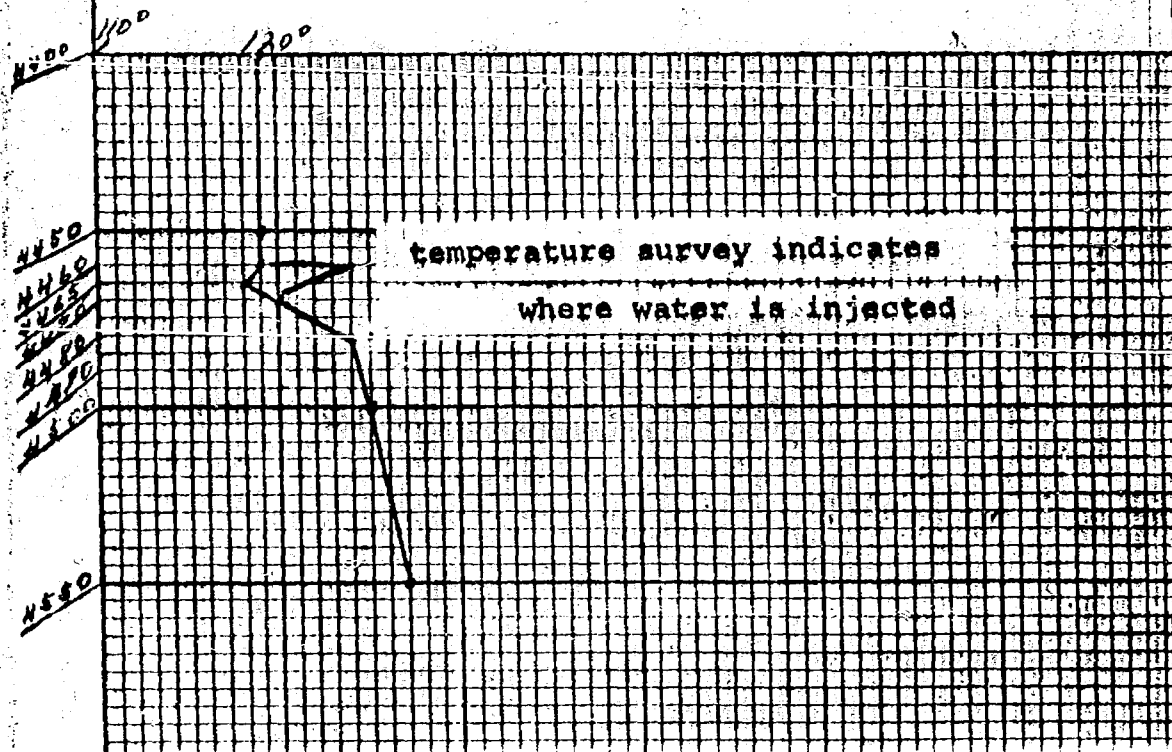
DATE OF CEMENTING \_\_\_\_\_ TIME \_\_\_\_\_  
DATE OF SURVEY 4-9-27 TIME 2:30 PM  
AMOUNT OF CEMENT \_\_\_\_\_ TYPE \_\_\_\_\_  
AMOUNT OF ADMIX \_\_\_\_\_ TYPE \_\_\_\_\_

CASING SIZE	CASING DEPTH	DIAM. OF HOLE	DEPTH
FROM _____ TO _____	FROM _____ TO _____	FROM _____ TO _____	FROM _____ TO _____

SURVEY BEGINS AT \_\_\_\_\_ FEET. ENDS AT \_\_\_\_\_ FEET.  
APPROX. CALCULATED FILL-UP OF \_\_\_\_\_ FT. BASED ON PERFECT HOLE AND ON AN AVERAGE OF \_\_\_\_\_ CU. FT. PER SACK OF SET CEMENT  
APPROX. TOP CEMENT \_\_\_\_\_ FEET. MAX. TEMP. \_\_\_\_\_ FEET.  
RECORDED BY \_\_\_\_\_ WITNESSED \_\_\_\_\_

REMARKS OR OTHER DATA

TEMPERATURE IN DEGREES FAHRENHEIT



RECEIVED  
APR 17 1927

RECEIVED  
APR 13 1927

L.A. OFFICE  
MILWAUKEE



HALLIBURTON COMPANY  
DUNCAN, OKLAHOMA

Case 3606

MEASURING LINE

# TEMPERATURE SURVEY

COMPANY Bell Petroleum Company  
WELL NO. #1-21 STATE K  
POOL \_\_\_\_\_  
STATE New Mexico COUNTY Lea  
SECTION \_\_\_\_\_

COMPANY Bell Pet. Co.  
FILE \_\_\_\_\_  
WELL #1-21 STATE K  
POOL \_\_\_\_\_  
COUNTY Lea STATE N.M.

LOG MEASURED FROM Rotary Table  
DRILLING MEASURED FROM 11 11  
PERMANENT DATUM \_\_\_\_\_

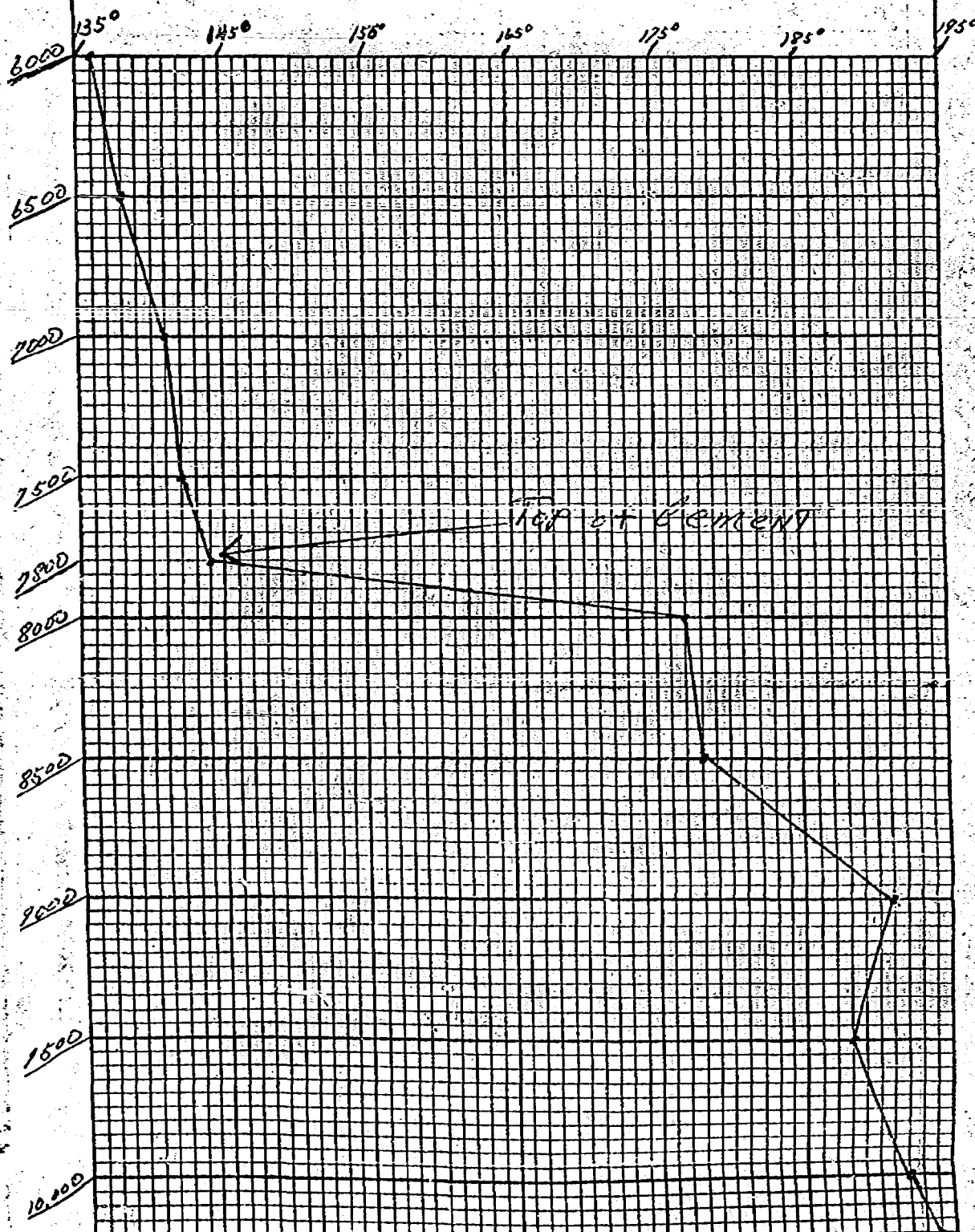
DATE OF CEMENTING 4-4-67 TIME \_\_\_\_\_  
DATE OF SURVEY 4-9-67 TIME 2:30 - 4:00 PM  
AMOUNT OF CEMENT 332 TYPE INCOY  
AMOUNT OF ADMIX 270 TYPE B.C.H.  
84 SALT PER SK 3 1/4 1% C.F.R.-2

CASING SIZE 5 1/2 FROM 0 TO 10,240 DIAM. OF HOLE 7 7/8 FROM 0 TO 10,240  
FROM \_\_\_\_\_ TO \_\_\_\_\_ FROM \_\_\_\_\_ TO \_\_\_\_\_

SURVEY BEGINS AT 6000' FEET. ENDS AT 10,210 FEET.  
APPROX. CALCULATED FILLUP OF 3467 FT. BASED ON PERFECT HOLE AND ON AN AVERAGE OF  
1.81 CU. FT. PER SACK OF SET CEMENT  
APPROX. TOP CEMENT 7800 FEET. MAX. TEMP. 194° FEET.  
RECORDED BY B.J. Rolfs WITNESSED \_\_\_\_\_

REMARKS OR OTHER DATA

TEMPERATURE IN DEGREES FAHRENHEIT





**Chemical Process**  
POLYMERIZATION, INC.

distributed by  
**PERMIAN MUD SERVICE, INC.**

REPORT FOR \_\_\_\_\_ Date Sampled \_\_\_\_\_  
cc \_\_\_\_\_ Date Reported 5-2-57  
cc \_\_\_\_\_ Field, Lease, or Well State K #1  
cc \_\_\_\_\_ County Lea State New Mexico  
COMPANY Pell Petroleum Company Formation \_\_\_\_\_  
ADDRESS \_\_\_\_\_ Depth \_\_\_\_\_  
SERVICE ENGINEER Mr. Clarence Lindsay Submitted By Mr. W. Taylor

## CHEMICAL ANALYSIS (As Parts Per Million)

Chloride (Cl)	25,000	Hydrogen Sulfide (H <sub>2</sub> S)	6000	pH - Beckman <input checked="" type="checkbox"/> Strip <input type="checkbox"/>	6.75
Sodium Chloride (NaCl)		Sulfate (SO <sub>4</sub> )	200	"P" Alkalinity (ml)	
Iron (Fe)	42	Phosphate (PO <sub>4</sub> )		"M" Alkalinity (ml)	
Total Hardness (CaCO <sub>3</sub> )		Sodium & Potassium (Na & K)		Bicarbonate (HCO <sub>3</sub> )	85 1/2
Calcium (CaCO <sub>3</sub> )	2,000	Specific Gravity	1.022	Carbonate (CO <sub>3</sub> )	0
Magnesium (CaCO <sub>3</sub> )	403	Density (lb./gall.)		Hydroxide (OH)	

**REMARKS AND RECOMMENDATIONS**

Midland Office

Reported By: SA [redacted] Date: 10/2/77 Title: Chord at

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	5
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*Stoltz & Company*

BOX 1714 - RM. 226 CENTRAL BLDG.

915 MU 2-7936 - MIDLAND, TEXAS 79701

DEANE H. STOLTZ

JACK E. BROWN

CYRIL WAGNER JR.

May 24, 1967

Re: Application for Salt Water  
Disposal and Multiple Completion  
of Bell Petroleum's State #1-K,  
North Bagley, Lower Penn Field,  
Section 21-11S-33E, Lea County,  
New Mexico.

*Case 3606*

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico

Attn: Mr. D. S. Nutter  
Chief Engineer

Gentlemen:

We have been notified of Bell Petroleum Company's pending application for the annular disposal of salt water in their State #1-K in Lea County, New Mexico, in the interval from 3845' to 7800'.

This is to advise you that as an offset operator in the North Bagley Field, we would strenuously object to a disposal project of this kind due to the fact that it would pressure up in the San Andres formation, which conceivably could collapse the casing of adjoining wells.

Very truly yours,

STOLTZ & COMPANY

By *Deane H. Stoltz*

DHS:wt

cc: Bell Petroleum Company  
Suite 400  
700 Wilshire Boulevard  
Los Angeles, California 90017

Attn: Mr. Ralph Tingle

DOCKET MAILED

Date *6/15/67*

MAIN OFFICE 000

'67 MAY 26 AM 8 20



STATE OF NEW MEXICO  
STATE ENGINEER OFFICE  
SANTA FE

S. E. REYNOLDS  
STATE ENGINEER

June 27, 1967

ADDRESS CORRESPONDENCE TO:  
STATE CAPITOL  
SANTA FE, NEW MEXICO 87501

Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
Santa Fe, New Mexico

Dear Mr. Porter:

Reference is made to the application of Bell Petroleum Company which appears on Docket #19-67 as Case 3606.

Mr. Richard Morris handed me copies of several exhibits pertaining to the application this afternoon, but I have not received a copy of the application. Brief examination of the diagrammatic sketch of the Bell Petroleum Company State K-1 well indicates that there is no cement behind the 8 5/8" casing from 388' to 2235' below land surface. It is my understanding, from Mr. Morris, that the injection will be down the annulus between this casing and the 5 1/2" casing. I respectfully call to your attention the fact that the water to be injected contains a high concentration of dissolved solids which are of a corrosive nature, and that there is a possibility of a leak occurring in the zone referred to above, and the possibility that the water being injected could channel around the shoe of the 13 3/8" casing and find its way into the water which occurs in the Ogallala formation.

In the subject township there are 2259.2 acres being irrigated, 343.5 acres have irrigation rights under development, and 999 acre feet of water have been permitted for secondary recovery of oil.

FEI/ma  
cc-Richard Morris  
F. H. Hennighausen

Yours truly,

S. E. Reynolds  
State Engineer

By: *Frank E. Irby*  
Frank E. Irby  
Chief  
Water Rights Div.



**Petroleum Company**

P. O. BOX 1538  
214 FIRST SAVINGS BUILDING  
MIDLAND, TEXAS 79701

HOME OFFICE  
SUITE 400  
700 WILSHIRE BOULEVARD  
LOS ANGELES, CALIFORNIA 90017  
(213) 629-3143

May 19, 1967

(915) MUTUAL 3-4269  
(915) MUTUAL 3-4260

New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

*Core 3606*

Re: Bell Petroleum Company's  
State "K" #1, North Bagley,  
Lower Penn. Field, Section 21,  
T-11-S, R-33-E, Lea County,  
New Mexico.

Attention: Mr. D. S. Nutter  
Chief Engineer

Gentlemen:

We hereby submit, for your approval, Form C-107 "Application for Multiple Completion" on the above captioned well, as a producing oilwell from the Lower Pennsylvanian formation and as an annular salt water disposal well into the San Andres formation.

Also submitted herewith and pertinent to the above application are:

1. Form C-108 "Application to Dispose of Salt Water by Injection into a Porous Formation."
2. Diagrammatic Sketch of proposed Multiple Completion.
3. Location plat.
4. Waiver Letters of Consent.
5. Evidence of notification to offset operators.
6. Electrical log of well.
7. Temperature Surveys.
8. Water Analysis Report.


If the aforementioned application does not qualify for administrative approval, we hereby request a hearing date be set at the earliest date possible.

Page 2  
New Mexico OCC  
5/19/67

If further data is required, please so advise.

Yours very truly,

BELL PETROLEUM COMPANY

  
Alice Agnew  
Production Department

/aa  
cc: Oil Conservation Commission - Hobbs

Enclosures

NEW MEXICO OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
APPLICATION FOR MULTIPLE COMPLETION

Form C-107  
5-1-61

Operator <b>Bell Petroleum Company</b>		County <b>Lea</b>	Date <b>June 28, 1967</b>
Address <b>P.O.Box 1538, Midland, Texas 79701</b>		Lease <b>State</b>	Well No. <b>1-K</b>
Location of Well <b>K</b>	Unit <b>21</b>	Section <b>11S</b>	Range <b>33-E</b>

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES \_\_\_\_\_ NO X
2. If answer is yes, identify one such instance: Order No. \_\_\_\_\_; Operator Lease, and Well No.: \_\_\_\_\_

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	<b>San Andres</b>		<b>Lower Pennsylvanian</b>
b. Top and Bottom of Pay Section (Perforations)	<b>4462-4474'</b>		<b>9745-9932'</b>
c. Type of production (Oil or Gas)	<b>None</b>		<b>Oil</b>
d. Method of Production (Flowing or Artificial Lift)	<b>Water Injection</b>		<b>Pumping</b>

4. The following are attached. (Please check YES or NO)

- |                                     |                          |   |
|-------------------------------------|--------------------------|---|
| Yes                                 | No                       |   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)   |

5. List all offset operators to the lease on which this well is located together with their correct mailing address.
- Pan American Petroleum Corporation- P.O.Box 1410, Fort Worth, Texas, Neil Whitmore**
- Stoltz & Company, P.O.Box 1714, Midland, Texas 79701**
- Sunray DX Oil Company, 11th Floor Wilco Bldg., Midland, Texas, 79701, Ed Pierce**
- H. C. Hood, 522 First State Bank Building, Midland, Texas 79701**

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO \_\_\_\_\_. If answer is yes, give date of such notification **June 28, 1967**.

CERTIFICATE: I, the undersigned, state that I am the Vice President of the Bell Petroleum Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

O. M. Salman  
Signature

\*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Bell Petroleum Company		ADDRESS P.O. Box 1538, Midland, Texas 79701	
LEASE NAME State	WELL NO. 1-K	FIELD North Bagley, Lower Penn.	COUNTY Lea
LOCATION UNIT LETTER <u>K</u> ; WELL IS LOCATED <u>1980</u> FEET FROM THE <u>South</u> LINE AND <u>1980</u> FEET FROM THE <u>West</u> LINE, SECTION <u>21</u> TOWNSHIP <u>11S</u> RANGE <u>33E</u> NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	13-3/8"	388'	400
INTERMEDIATE	8-5/8"	3845'	350
LONG STRING	5-1/2"	10,240'	332 sx of Incor.
TUBING	2-3/8"	9,850'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker, Model "R" (OG) 9798'
NAME OF PROPOSED INJECTION FORMATION San Andres		TOP OF FORMATION 3780'	BOTTOM OF FORMATION 5112'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Annulus		PERFORATIONS OR OPEN HOLE? Open Hole	PROPOSED INTERVAL(S) OF INJECTION 4462-4474'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Completed as oil well in Lower Penn.	
HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes			
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 9745-56, 9839-40-49-63-64-71-82-9912-13-26-29-32'			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 350'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 8700'	
DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 10,200'			
ANTICIPATED DAILY INJECTION VOLUME (BBL/S.) 600	MINIMUM 200	MAXIMUM 1000	OPEN OR CLOSED TYPE SYSTEM Closed
IS INJECTION TO BE BY GRAVITY OR PRESSURE? Gravity		APPROX. PRESSURE (PSI) 	
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes		WATER TO BE DISPOSED OF Formation	
NATURAL WATER IN DISPOSAL ZONE		ARE WATER ANALYSES ATTACHED? Yes	
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Clarence E. Dallas, Star Route, Caprock, NM (leased from State for grazing).			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Pan American Petroleum Corporation, P.O. Box 1410, Fort Worth, Texas Stoltz & Company, P.O. Box 1714, Midland, Texas 79701 Sunray DX Oil Company - 11th Floor Wilco Bldg., Midland, Texas 79701 H. C. Hood, 522 First State Bank Bldg., Midland, Texas 79701			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? No		SURFACE OWNER No	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)? Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
PLAT OF AREA Yes		ELECTRICAL LOG Yes	
		THE NEW MEXICO STATE ENGINEER Yes	
		DIAGRAMMATIC SKETCH OF WELL Yes	

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

O. Salman  
O.M. Salman (Signature)

Vice President  
(Title)

June 28, 1967  
(Date)

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well, not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.



# CONTINENTAL OIL COMPANY

P. O. Box 460  
HOBBS, NEW MEXICO 88240

1001 NORTH TURNER  
TELEPHONE 393-4141

PRODUCTION DEPARTMENT  
HOBBS DIVISION  
L. P. THOMPSON  
Division Manager  
G. C. JAMIESON  
Assistant Division Manager

May 10, 1968

Mr. Jim Hughes  
Union Oil Company  
P. O. Box 671  
Midland, Texas 79701

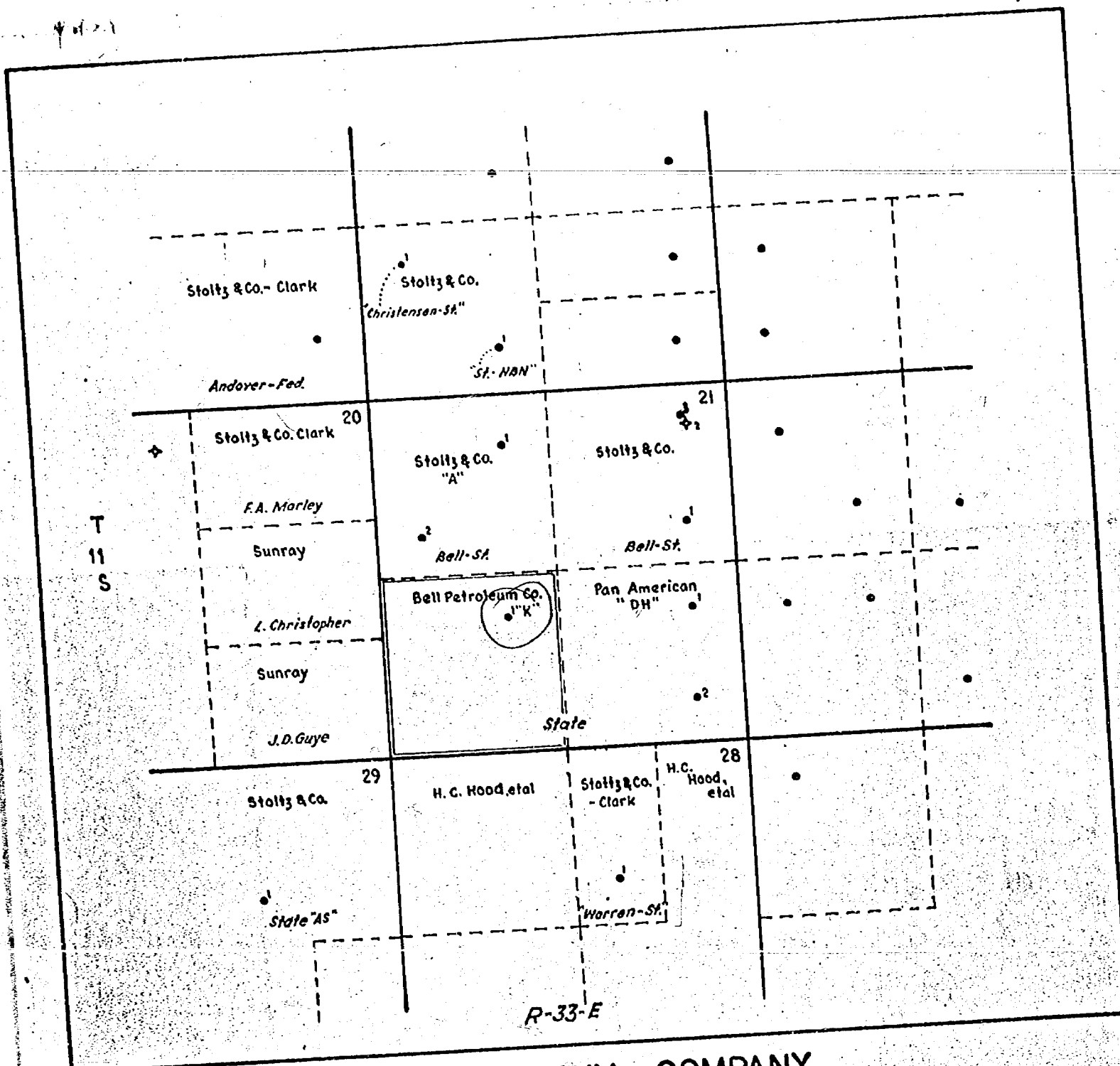
Dear Mr. Hughes:

This confirms the telephone conversation of this date stating that Continental Oil Company does not object to the conversion of the Trigg Federal Lea "J" Well No. 2-14, 660 feet from the south and east lines of Section 14, T-18S, R-35E, to salt water disposal in the Devonian formation.

Yours very truly,

GCJ-CL



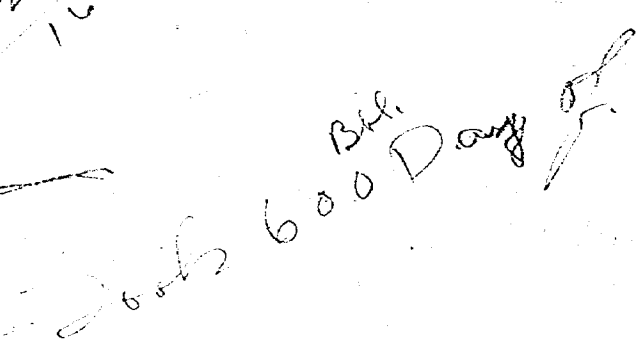


BELL PETROLEUM COMPANY  
BAGLEY NORTH AREA  
LEA CO., NEW MEXICO

LEASE PLAT  
STATE "K" #1  
T-11-S, R-33-E  
1980' FS & W Ls. of Sec. 21

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
3606 EXHIBIT NO. 1  
CASE NO. 3606

BELL PET  
STATE  
Lea Coun



7. 06. 73

10-240  
7600  
2400



HALLIBURTON COMPANY  
DUNCAN, OKLAHOMA

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 4  
CASE NO. 3606

MEASURING LINE

## TEMPERATURE SURVEY

COMPANY Bell Petroleum Company  
WELL NO. #1-21 STATE K  
POOL  
STATE New Mexico COUNTY Lea  
SECTION

COMPANY Bell Petroleum Co.  
FILE  
WELL #1-21 STATE K  
POOL  
COUNTY Lea STATE N.M.

LOG MEASURED FROM Rotary Table  
DRILLING MEASURED FROM  
PERMANENT DATUM

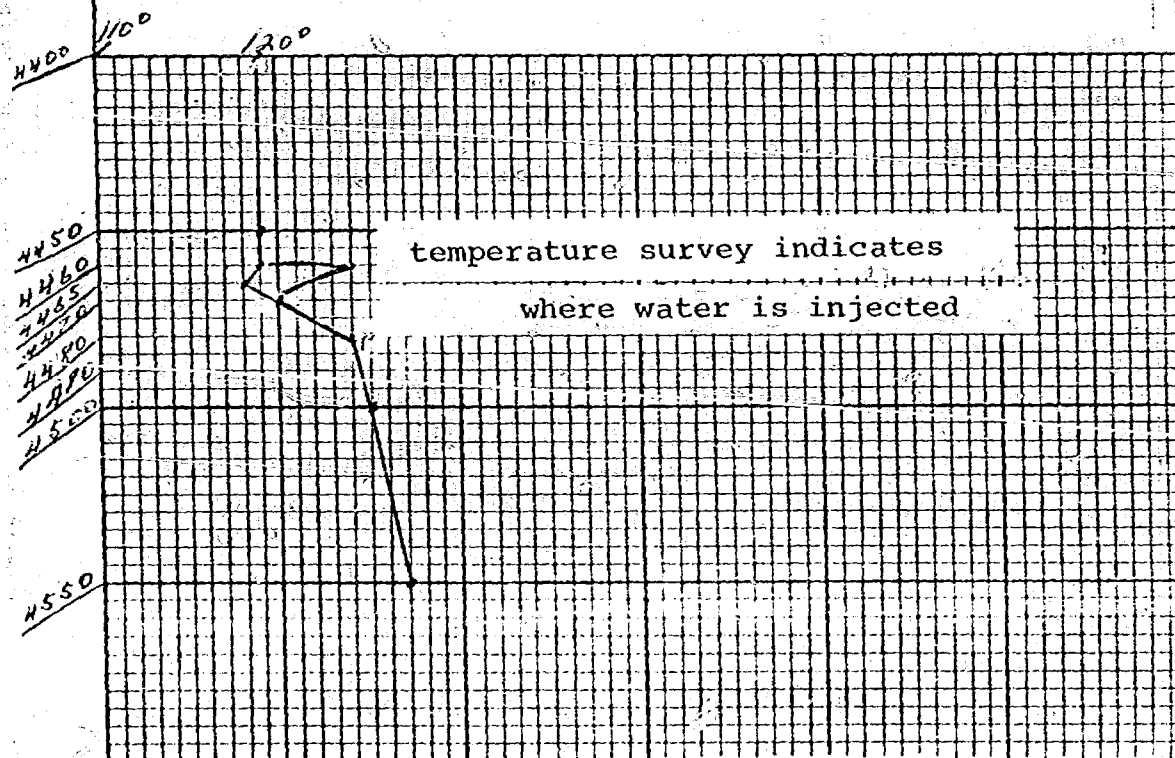
DATE OF CEMENTING  
DATE OF SURVEY 4-2-27 TIME 2:30 PM  
AMOUNT OF CEMENT  
AMOUNT OF ADMIX TYPE

CASING SIZE	CASING DEPTH	DIAM. OF HOLE	DEPTH
FROM TO	FROM TO	FROM TO	FROM TO
FROM TO	FROM TO	FROM TO	FROM TO

SURVEY BEGINS AT FEET. ENDS AT FEET.  
APPROX. CALCULATED FILL-UP OF FT. BASED ON PERFECT HOLE AND ON AN AVERAGE OF  
CU. FT. PER SACK OF SET CEMENT  
APPROX. TOP CEMENT FEET. MAX. TEMP. FEET.  
RECORDED BY WITNESSED

REMARKS OR OTHER DATA

TEMPERATURE IN DEGREES FAHRENHEIT



RECEIVED

APR 17 1927

RECEIVED

APR 13 1927

L.A. OFFICE

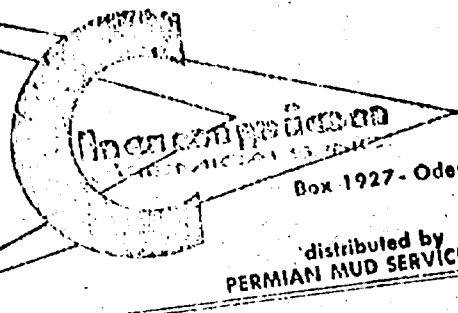
Field Office

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 5  
CASE NO. 3606

**WATER ANALYSIS REPORT**

SERVICE LABORATORY: Odessa, Texas • Ph. FE 2-4951  
RESEARCH LABORATORY: Houston, Texas • Ph. JA 3-0754  
PLANT: Midland Terminal, Texas • Ph. MU 2-3551 & FE. 2-4201



Box 1927 - Odessa, Texas

distributed by  
PERMIAN MUD SERVICE, INC.

REPORT FOR \_\_\_\_\_

cc \_\_\_\_\_

cc \_\_\_\_\_

cc \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

SERVICE ENGINEER \_\_\_\_\_

Date Received: 5-1-67  
Date Sampled: \_\_\_\_\_

Date Reported: 5-2-67

Field, Lease, or Well State K #1

County Lea State New Mexico

Formation \_\_\_\_\_

Depth \_\_\_\_\_

Submitted By Mr. Ray Taylor

**OTHER DESCRIPTION**

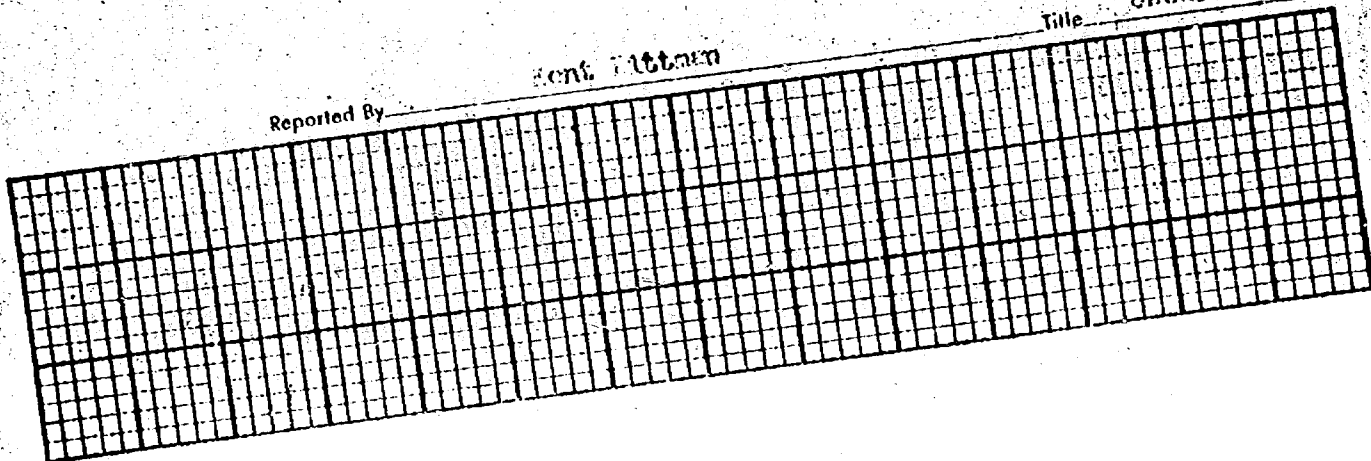
CHEMICAL ANALYSIS (As Parts Per Million)			
Chloride (Cl)	<u>20,000</u>	Hydrogen Sulfide (H <sub>2</sub> S)	<u>None</u>
Sodium Chloride (NaCl)		Sulfate (SO <sub>4</sub> )	<u>300</u>
Iron (Fe)	<u>42</u>	Phosphate (PO <sub>4</sub> )	
Total Hardness (CaCO <sub>3</sub> )		Sodium & Potassium (Na & K)	
Calcium (CaCO <sub>3</sub> )	<u>2,000</u>	Specific Gravity	<u>1.022</u>
Magnesium (CaCO <sub>3</sub> )	<u>103</u>	Density (lb./gal.)	
		pH - Beckman <input type="checkbox"/> Strip <input type="checkbox"/>	<u>6.75</u>
		"P" Alkalinity (ml)	
		"M" Alkalinity (ml)	
		Bicarbonate (HCO <sub>3</sub> )	<u>85%</u>
		Carbonate (CO <sub>3</sub> )	<u>0</u>
		Hydroxide (OH)	

**REMARKS AND RECOMMENDATIONS**

RECEIVED  
MAY 9 1967  
Midland Office

Reported By Gene Pittman

Title Chemist



SUNRAY DX OIL COMPANY  
1101 Wilco Building  
Midland, Texas  
79701

May 15, 1967

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 6-A  
CASE NO. 3606

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

RE: Application for Salt Water  
Disposal & Multiple Completion  
of Bell Petroleum Company's  
State #1-K, North Dagley, Lower  
Penn. Field, Section 21-11S-33E,  
Lea County, New Mexico.

Attention: Mr. D. S. Nutter, Chief Engineer

Gentlemen:

Sunray DX Oil Company has been notified of Bell Petroleum Company's  
pending application for the annular disposal of Salt Water in their  
State #1-K in Lea County, New Mexico. As one of the offset operators,  
we have no objection to the proposed disposal method and recommend  
your approval of this application.

Yours very truly,

SUNRAY DX OIL COMPANY

*E. J. Pierce*

Ed Pierce

5/16/67

cc: Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

BEFORE EXAMINER UTZ	
OIL CONSERVATION COMMISSION	
EXHIBIT NO.	6-B
CASE NO.	3606

May 15, 1967

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Re: Application for Salt Water  
Disposal & Multiple Completion  
of Bell Petroleum Company's  
State #1-K, North Bagley, Lower  
Penn. Field, Section 21-11S-33E,  
Lea County, New Mexico.

Attention: Mr. D. S. Nutter, Chief Engineer

Gentlemen:

Pan American Petroleum Corporation has been notified of Bell Petroleum Company's pending application for the annular disposal of salt water in their State #1-K in Lea County, New Mexico. As one of the offset operators, we have no objection to the proposed disposal method and recommend your approval of same.

Yours very truly,

PAN AMERICAN PETROLEUM CORP.

*Neil Whitmore*  
Neil Whitmore

cc: Oil Conservation Commission  
P. O. Box 1900  
Hobbs, New Mexico 88240

RECEIVED  
MAY 3 1967  
L.V. OFFICE

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 6-2  
CASE NO. 3606

May 15, 1967

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico 87501

Re: Application for Salt Water  
Disposal and Multiple Completion  
of Bell Petroleum Company's  
State #1-K, North Bagley, Lower  
Penn. Field, Section 21-11S-33E,  
Lea County, New Mexico.

Attention: Mr. D. S. Nutter, Chief Engineer

Gentlemen:

We have been notified of Bell Petroleum Company's pending application for the annular disposal of salt water in their State #1-K in Lea County, New Mexico. As one of the offset operators, we have no objection to the proposed method of disposal and recommend your approval of this application.

Yours very truly,



H. C. Hood  
522 First State Bank Bldg.  
Midland, Texas 79701

cc: Oil Conservation Commission  
P. O. Box 1980  
Hobbs, New Mexico 88240

*Stoltz & Company*  
BOX 1714 - RM. 225 CENTRAL BLDG.  
915 MU 2-7000 - MIDLAND, TEXAS 79701

DEANE H. STOLTZ  
JACK E. BROWN  
CYRIL WAGNER JR.

May 24, 1967

RECEIVED  
MAY 25 1967  
L.A. OFFICE

**BEFORE EXAMINER UTZ**  
**OIL CONSERVATION COMMISSION**

EXHIBIT NO. 6-D  
CASE NO. 3606

Re: Application for Salt Water  
Disposal and Multiple Completion  
of Bell Petroleum's State #1-K,  
North Bagley, Lower Penn Field,  
Section 21-11S-33E, Lea County,  
New Mexico.

New Mexico Oil Conservation Commission  
State Land Office Building  
Santa Fe, New Mexico

Attn: Mr. D. S. Nutter  
Chief Engineer

Gentlemen:

We have been notified of Bell Petroleum Company's pending application for the annular disposal of salt water in their State #1-K in Lea County, New Mexico, in the interval from 3845' to 7800'.

This is to advise you that as an offset operator in the North Bagley Field, we would strenuously object to a disposal project of this kind due to the fact that it would pressure up in the San Andres formation, which conceivably could collapse the casing of adjoining wells.

Very truly yours,

STOLTZ & COMPANY

By *[Signature]*

DHS:wt

cc: Bell Petroleum Company  
Suite 400  
700 Wilshire Boulevard  
Los Angeles, California 90017

Attn: Mr. Ralph Tingle