

Case No.

4041

Application, Transcripts,
Small Exhibits, Etc.

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 5, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of Tamarack Petroleum)
Company, Inc., for salt water)
injection, Lea County, New Mexico.)

Case No. 4041

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

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MR. NUTTER: Call Case 4041.

MR. HATCH: Case 4041. Application of Tamarack Petroleum Company, Inc. for salt water injection, Lea County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin, Kellahin and Fox, Santa Fe, appearing for the applicant. We have one witness I would like to have sworn.

(Whereupon, Applicant's Exhibits 1 through 4 were marked for identification.)

(Witness sworn.)

ALBERT METCALFE

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Albert Metcalfe.

Q By whom are you employed and in what position, Mr. Metcalfe?

A Tamarack Petroleum Company as Vice-President.

Q And where are you located?

A Midland.

Q Are you a petroleum engineer?

A Yes, sir.

Q Now, have you testified before the Oil Conservation Commission and made your qualifications a matter of record?

A Yes, I have.

Q Are the witnesses' qualifications acceptable?

MR. NUTTER: Yes, they are.

Q (By Mr. Kellahin) Mr. Metcalfe, are you familiar with the application of Tamarack Petroleum Company in Case 4041?

A I am.

Q Briefly, what is proposed by Tamarack in this application?

A We are asking Commission's approval to inject produced salt water from 22 wells located in the northeast portion of the Pearl Queen field into the Queen formation in our Texaco-Moran No. 2 Well.

Q Where is that well located?

A It's located in the southeast quarter of the northeast quarter of Section 22, 19 South, Range 35 East.

Q Now, referring to what has been marked as Exhibit No. 1, would you identify that Exhibit, please?

A Which one is one?

Q This one right here.

A That's our Conservation Commission Form C108, our application to inject water into a porous formation.

Q Now, this is the subject well, is it not?

A It is.

Q What interval will you inject the water into?

A We propose to inject into the Queens Sand, into the Sands we call No. 5 and No. 7, through perforations 4954 to 58, in the No. 5 Sand, and perforations 5027 to 29, in the No. 7 Sand.

Q Now, what volumes of water will you be injecting into this well?

A We will be injecting from 500 to 700 barrels a day.

Q And this is all produced water from other leases operated by Tamarack?

A That's true.

Q It will also include water produced on this particular lease, will it not?

A Yes, sir, it will.

Q There is another well on this lease?

A That's right.

Q Now, attached to Exhibit No. 1 are some water analyses. Would you identify and discuss those, please?

A Well, these are analyses of other wells in the immediate vicinity of produced Queen Sand water.

Q Now, this is the same type of water you will be injecting into the Queen Sand?

A This is identical water that we will be injecting.

Q And it is produced from the Queen and you will inject into the Queen?

A That's correct.

Q And you have no reason to believe that it will not be compatible, is that correct?

A That's correct.

Q Now, what is the present status of the injection well, Mr. Metcalfe?

A The injection well is now off production. It hasn't produced oil in quite a while.

Q It's being prepared for injection in the event this Commission approves the application?

A That's correct.

Q Now, referring to what has been marked as Exhibit No. 2, would you identify that Exhibit, please?

A Exhibit 2 is a map of the Pearl Queen field with

area of the field around this proposed injection well, the well shown by a color code. The wells in yellow are currently Queen Sand Injection Wells in Shell Oil Company's East Pearl Queen Unit. The wells in green are Queen Sand producing wells, and well shown in red is our proposed injection well.

Q Now, your well, then, is offset by a waterflood project operated by Shell, is that correct?

A That's correct.

Q It's in the same formation? It's in the Queen?

A That's correct.

Q Now, have you considered instituting a waterflood project for the wells operated by Tamarack?

A Yes, sir. We --

Q Now, what wells are those, first?

A They are the wells shown in -- all of the wells in the northeast portion of the field outside the Shell boundary.

Q They are all operated by Tamarack?

A No, sir. Three of the wells are operated by Texaco Oil and Gas, and 19 are operated by Tamarack. There are 22 wells in this proposed unit area.

Q Now, you have considered a waterflood project,

is this correct?

A We are actively in the process of unitizing this area now.

Q Would the proposed injection well as you have shown it on the Exhibit No. 2 fall into the pattern of the injection offsetting the Tamarack properties?

A Yes, sir. It will be an injection well in the unit.

Q It would be an injection well in the unit that you are going to form?

A That's correct.

Q Now, you don't have a line agreement with Shell, do you?

A No, sir.

Q Have you discussed one with them as yet?

A I have discussed -- told Shell what we propose to do and I have talked to Shell at great lengths about their project in this area, but I have never discussed any kind of agreement with them.

Q Now, Mr. Metcalfe, you say this would be an injection well when this has been unitized. For what reason are you asking for approval of water injection in the well at this time?

A Well, we purchased these 19 wells in this area in November for the specific purpose of unitizing a waterflood in the area. We aren't able to form our unit and get our flood in before we will have to take our water out of the surface pits as ordered by the Commission, so we are asking for permission to put this one well on injection to handle the produced water until such time as we can develop our complete pattern and waterflood the area.

Q Well, actually, rather than a water disposal well, this would in reality be a part of a projected waterflood program, wouldn't it?

A That's correct.

Q In effect, sort of a pilot project?

A Yes, sir.

Q Referring to what has been marked as Exhibit No. 3, would you identify that Exhibit, please?

A Exhibit 3 is a log of the proposed injection well with the -- it's a section of the Queen Sand log showing the various Queen Sand zones and perforations in this well.

Q Now, what are the zones that you would be injecting water into this well?

A Zone 5 and zone 7.

Q Now, the other zones are not presently open in the well bore, is that correct?

A That's correct. Zone 4 has produced in this well, but has been -- the perforations have been squeezed because they were watered out from Shell's injection.

Q In other words, you did have a response in this well from the offsetting waterflood, is that correct?

A Yes. In the past, but it's now watered out.

Q Now, referring to what has been marked as Exhibit No. 4, would you identify that Exhibit?

A Exhibit 4 is a diagrammatic sketch of the proposed installation in this well.

Q Now, you will be injecting your water through tubing and under a packer, is that correct?

A That's correct.

Q Will you use an internally coated tubing?

A Yes, sir.

Q Will you fill the casing tubing annulus with an inert fluid?

A Yes, sir.

Q Will you put a pressure gauge at the surface?

A We will.

Q This also reflects the perforated interval which has been squeezed, is that right?

A Yes, sir.

Q Can you give us some information, perhaps referring to Exhibit No. 1 as well, on the cementing program on the casing in this particular well?

A Well, the well has eight and five-eighths inch surface casing, set at 192 feet with cement circulated to the surface. It has four and a half inch production casing set at 5087 feet and cemented with 150 sacks of cement. The calculated top of the cement behind the four and a half inch casing is 3567 feet. The perforations in the No. 4 zone from 4838 to 42 were squeezed with 1500 sacks of cement to 6,000 pounds.

Q Mr. Metcalfe, what acreage is included in the lease upon which the well is located, the injection well?

A It's an 80-acre lease, which is the east half of the northeast quarter of Section 22, 1935.

Q And that comprises the entire lease? Is this a fee lease?

A Yes, sir.

Q Who is the owner of the surface?

A Mrs. Thelma Linam, L-i-n-a-m.

Q Have you contacted Mrs. Linam in regard to the conversion of this well for water disposal?

A I have.

Q Do you have her consent to use the well for that purpose?

A Yes, sir.

Q Are there any outstanding royalties on this well, other than the land owner royalty?

A Yes, sir.

Q Now, have you contacted a Mr. Hendrix or did Mr. Hendrix contact you in regard to the use of this well for salt water disposal?

A I contacted Mr. Hendrix.

Q Have you advised him that you are in the process of unitizing this property?

A I have.

Q And that this would be an injection well?

A Yes, sir.

Q Have you made any arrangements with Mr. Hendrix at this time as to the unitization of the tract?

A No, sir.

Q What interest does he own in this well?

A Mr. Hendrix owns ten mineral acres, which we have

under lease. His net interest in production from that lease now is a 1/64th royalty interest.

Q You have the entire working interest, is that correct?

A That's correct.

Q And his is a royalty and that's all?

A That's correct.

Q Are you proposing to unitize his interest or will he be given the opportunity to join the unit by the time you form it?

A Yes, he certainly will.

Q Have you drawn up the parameters or the basis of participation in the proposed unit as yet?

A Our parameter study is being made now by Librock, Landers, Campbell, and Calloway in Midland, and I was advised yesterday they would be completed in approximately one week.

Q Did you advise Mr. Hendrix of this?

A I took Mr. Hendrix over to Librock's office and let them -- had them show him their work.

MR. NUTTER: What date was that, please?

THE WITNESS: That was Monday of this week.

MR. NUTTER: That would have been the 2nd of

February?

THE WITNESS: Yes, sir.

MR. NUTTER: The reason I asked, we had a letter dated January 28 from him. That was after this letter was written?

THE WITNESS: Yes, sir.

MR. NUTTER: Okay. Go ahead.

Q (By Mr. Kellahin) Would the fact that you are converting this particular well to a salt water disposal or salt water injection at the present time, have any effect, in your opinion, on the ultimate recovery of oil, insofar as Mr. Hendrix is concerned?

A It will have none whatsoever. Our parameters have been cut off. The cut off date on our parameters was December the 1st, as far as any production that might affect the participation of the tract in the unit, so in my opinion, it would have no affect at all as to this tract's participation in the unit.

Q Whether you drove oil off the lease or not, would have no bearing on the ultimate recovery to Mr. Hendrix, upon the formation of the unit, is that correct?

A That's correct.

Q Now, you say there is one other operator in the

area in this that will be unitized. Who is that?

A Texaco Oil and Gas.

Q Have you contacted them in connection with your proposed unit?

A I have, and Texaco Oil and Gas are participating in the pre-unitization expenses.

Q And they are in agreement, then, on the parameters that are being prepared by Librock, is that correct?

A They are paying for their share of the work that is being done by Librock.

Q So, there is no problem insofar as that phase of the unit is concerned between you and other operators?

A None at all.

Q Were Exhibits 1 through 4 prepared by you or under your supervision?

A They were.

Q At this time, I would like to offer in evidence Exhibits 1 through 4, inclusive.

MR. NUTTER: Tamarack's Exhibits 1 through 4 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 4 were offered and admitted in evidence.)

MR. KELLAMIN: That completes the presentation of our case, Mr. Nutter. I would say in all fairness that while Mr. Metcalfe has contacted Mr. Hendrix in connection with this matter subsequent to the receipt of the letter by the Commission and explained the matter to him, we feel that his interests are fully protected. At the same time, Mr. Mickey Cline, who is presently practicing law in Midland called me and they have not withdrawn their objection to it and I believe he indicated he was going to send a telegram to the Commission in regard to this application.

MR. NUTTER: Yes, sir. The record will show that we received the letter from Mr. Hendrix on January 29; it was dated January 28. We received a telegram from Mr. Michael Cline, attorney for Mr. Hendrix, on February -- I guess we received that today. I can't read the date it was stamped in. It was received by Western Union on February 4 at 6:27 PM. I presume it was received in this office at 8:33 this morning, February 5th.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Metcalfe, normally we just read these letters into the record at the conclusion of the case, but I

would like to bring out a couple of points that he notes here in his letter of January 28 and ask you about them, so I'll read this letter into the record at this time. This is the letter from Mr. Hendrix, dated January 28, addressed to the OCC. "Please refer to Case 4041 to be heard at the Examiner Hearing on February 5, 1969. I am the owner of an undivided 1/8th mineral interest in and under the east half of the northeast quarter of Section 22, Township 19 South, Range 35 East, Lea County, New Mexico. As such, I have an economic interest in the Tamarack-Texaco-Moran Well No. 2 located in Unit H of Section 32. Based on a careful evaluation of Tamarack's proposed injection well on the operation and performance of Shell's offsetting East Peral Queen Unit, the respective perforated intervals of area wells and former operations by Earl G. Colten, it is my opinion that conversion of the No. 2 well alone and in its present condition to water disposal status will violate the correlative rights of all mineral owners under the subject lease and further will result in continued economic waste. Listed below are three reasons that my correlative rights will be violated if the NMOCC allows injection into the No. 2 well in its present condition: (1) The proposed injection having no backup

injection wells will simply push a majority of the oil and gas from subject lease to offsetting leases that are operated in part by Tamarack. While this would possibly not adversely affect Tamarack, the mineral interest owners under the lease would not receive their fair portion of the oil. This unjust situation could easily be remedied by full expansion of Shell's existing injection pattern to provide for injection wells in Unit P of Section 15 and Units D and L of Section 23, together with the subject well; (2) Shell Oil Company has provided nomenclature that identifies the various Queen formation zones. Correlative zones of porosity are open in the Shell flood that for some reason have not been perforated in the Tamarack wells; (3) it is quite possible that Tamarack no longer holds valid leases on the subject mineral interest. You will notice that no production was reported to the NMOCC during the months of June and July of 1968; possibly, the lease has expired, due to lack of production.

Due to violation of my correlative rights, I strongly oppose Tamarack's application as it now stands. However, (1) should Tamarack agree to expand the injecting pattern so as to prevent loss from the subject lease, and, (2) should they agree to perforate intervals in the No. 1

and 2 wells that are correlative with zones presently open in the Shell flood in which case a bona fide and valid waterflood would be in operation with the economic and correlative right of the mineral owners, as well as the working interest owners would be fully protected. I would certainly appreciate your consideration of my position and that of the other mineral owners when this case comes before you. Thank you very much. Please read this letter into the record, if possible." Okay. Now, Mr. Metcalfe, we will go back to this first point that he makes here, the proposed injection having no backup injection wells will simply push a majority of the oil and gas from the subject lease to offsetting leases. Now, there are injection wells to the northwest and to the southwest from your proposed well, is that correct, and also 2 locations to the south?

A That's correct.

Q Now, what is the average rate of injection into those wells, Mr. Metcalfe?

A I believe it's around 300 barrels a day per well.

Q About 300 barrels per day per well? And you are proposing to inject into your well from 500 to 700 barrels

a day?

A We are proposing that right now because that's the volume of produced salt water that we have to dispose of. When we have our unit expanded, we will probably cut this injection back to 300.

Q Now, the next point that he makes in his paragraph numbered 1, he says, "that this unjust situation could easily be remedied by expansion of Shell's existing pattern to provide for injection wells up there in the southeast southeast of 15, that would be that Cabot Carbin No. 2 Well, and the wells in D and 11 and L of 23." Would it be possible to put more than one well on injection at this time?

A No, sir, I think not, until we can get our unit formed.

Q Can you put two disposal wells on operation at this time? I mean, we have a problem here that this royalty owner feels that if you are going to be putting water into the Texaco-Moran No. 2, you will be driving oil off the lease. Now, if you would convert your Cabot Carbin No. 2 to disposal, then you could reduce your injection rates from 600 to 700 barrels per day per well to approximately 250 to 350 barrels per day per well,

which would be comparable with the injection rates that Shell is using on its flood, and then you would have oil being pushed off the Moran lease, as well as being pushed onto the Moran lease, it would appear.

A Yes, sir. Actually, there's no reason that well couldn't be put on injection now. We don't have our injection pattern work completed on that and I don't know that that would ultimately be an injection well in our unit, that Cabot Carbin No. 2.

Q You don't necessarily plan to expand Shell's existing water injection pattern, then?

A Well, Mr. Examiner, I think there's one thing that I should clear up. While Shell is flooding the Queen zone and we are flooding the Queen zone, Shell's water injection, if you would refer to the log, is in zones 1 through 4, which are the only Queen Sand zones productive in Shell's unit. Now, zones 1, 2 and 3 are not productive anywhere in our unit area.

Q Zone 4 was productive at one time, but that's the one you have squeezed in the well, is that correct?

A That's correct. It's watered out now and squeezed. Now, zone 4 is productive in 3 wells in our unit area -- in 4 wells, excuse me. It's productive in

our Union State 1 and 2 in Section 15.

Q Okay. That has zone 4?

A Yes, sir. It's productive in our Texaco-Moran No. 2, which is our proposed injection well.

Q It was productive?

A It was at one time and it's presently producing in our Gulf State No. 1 in Section 23.

Q That's the one in L of 23?

A It's in the northwest of the southwest of 23.

Q And those are the only 4 wells that have open in them any of the 4 zones that Shell is flooding?

A That is correct.

Q And Shell is not flooding zones 5, 6 or 7 in any of their wells?

A No, sir.

Q And your flood will be limited to 5, 6 or 7 in all of your wells, with the possible exception that you may be flooding zone 4 in the two Union State Wells and the Gulf State Well, or do you know?

A We will probably have one -- flood inject into the 4 Sand in 1 well, which will be the Union State No. 2 in Section 15 and we'll inject into the 5 and 7 Sands, and the 6 Sand, where at present in all of the wells, so my

point is that while we can put injection wells to backup this into the 5 and 7 Sands to offset Shell's injection, actually we wouldn't be offsetting anything because they are not injecting into those zones.

Q So, when Mr. Hendrix makes the statement that this well wouldn't have any backup injection wells, it's really true that it won't have any backup on the east or on the west because there's no injection?

A It will have on the east when we expand our flood because --

Q Well, he means for the time being it won't have any backup?

A Right. But, it has no injection into these zones that we propose on the west now.

Q That's what I mean.

A That's correct.

Q There is no backup on the west at the present time and Shell's not injecting into it and there isn't any on the east because you are not going into it yet?

A And, there never will be.

Q On the west?

A On the west because this zone has never produced over there in those wells.

Q Is this because of the structural situation of the pool, Mr. Metcalfe?

A It's lithology. The zone is -- present could be correlated, but it's just too tight to produce in some areas.

Q So, you can almost say in effect, this is a separate pool that's outside of the Shell unit?

A With the exception of the four wells that we have mentioned that are in the four sand, that's correct.

Q Maybe we have answered all of his other questions: I don't know. Point No. 2, he talks about the nomenclature identifying these various floods. He says, "for some reason they have not been perforated in the Tamarack wells." I believe you just answered that and said they were so tight they wouldn't produce.

A It's been perforated in every well that it had a chance to produce in our wells, that's correct, and it did produce for a number of years in this proposed injection well, which is on his lease, but it's now watered out.

Q We won't go into Point No. 3 about the validity of the lease. Now, he agrees to not disavow should you agree to expand the existing pattern to prevent loss from the subject lease. Now, did you actually have a reply

to the reason that you couldn't put, say, a well in D or the No. 2 up in Section 15 in B there on disposal?

A No, sir, we can't. If that would be a requirement for the approval of injection into this well, we could. There's no reason why we can't.

Q Then, his No. 2, if you agree to perforate the intervals in the No. 1 and 2 wells that Shell is flooding -- well, you have already answered the question, as far as the zone 4 in the No. 2, and evidently zone 4 was not present in producing condition in the No. 1 or it would have been perforated at one time?

A That's correct.

Q And the No. 2 well, now, it did have a response from the flood?

A It did, yes.

Q That must have been in the fourth sand, then?

A Yes, sir.

Q And it finally watered out?

A Yes, sir. That was several years ago.

MR. MUTTER: Are there any other questions of Mr. Metcalfe?

MR. HATCH: I think perhaps the telegram should be read into the record, as well.

MR. MUTTER: I think so.

THE WITNESS: Mr. Examiner, I might make the point that I think that Mr. Pendrix or that the mineral owners in this tract probably are -- have a better chance to benefit from this because we will be flooding the 5 and 7 zones, which are presently open in the offset well to the north on their lease, and which should be the first well to respond to injection into this No. 2 well, so we are of the opinion that they will actually benefit from it and certainly they will benefit from it when we can ultimately expand our unit, which our present plans, it looks like now we should have it in by the end of the summer, I would say July or August.

MR. NUTTER: The entire flood, or will you start --

THE WITNESS: The entire flood. We will put it all in at once. We have had preliminary conferences with the State Land office and with the other operator and anticipate no longer than, oh, five month's delay in getting it in.

MR. NUTTER: I see. At this time, I will read this telegram into the record also, in case some other question comes up in the telegram. "It is respectfully

requested that the following be made a part of the record in Docket 4-60, Case No. 4041. Mr. John H. Hendrix, a mineral interest owner under the east half of northeast of Section 22, Township 10 South, Range 35 East, Lea County, New Mexico, objects to the granting of Tamarack Petroleum's application for the use of well No. 2, Unit # for the disposal of water from adjoining lands and other leases in the area for the following reasons: (1) the disposal of salt water in the productive Queen formation utilizing one well without backup or a regular waterflood pattern and in the large volumes anticipated will result in the watering out of the productive interval under this tract, thereby incurring waste and denying Mr. Hendrix his fair share of the oil in place in violation of his correlative rights; (2) the granting of this application will permit applicant to bring off-lease water into the premises for disposal purposes, thereby sanctioning an unauthorized use of mineral estate, infringing Mr. Hendrix property rights." From Michael Cline, attorney for protestant, John H. Hendrix.

Mr. Kellahin, do you have anything to say regarding this correspondence and this discussion?

MR. KELLAHAN: No. The only thing I think he

does make an inference there that as a mineral owner he has certain rights as to whether they can or cannot inject water into the producing formation. I don't feel that other than the question or protection of correlative rights that the question, the right to inject as such, the ownership is what I am referring to, has any bearing on this particular case. I think it's pretty well established at least in the State of New Mexico that the surface owner is the one you deal with in regard to salt water disposal. Now, that's not to say that Mr. Hendrix doesn't have some rights; he certainly does, and they should be at the courthouse and not before the Commission, except for the fact that the Commission is enjoined with the duty of protecting correlative rights in all of its orders and this is a factor to be considered, but since the witness has testified as Mr. Hendrix requested that a full-scale flood be instituted for purpose of protecting the entire area, well, we are going to do this and the witness has testified by late summer it will be in.

MR. NOTTER: The thing that concerns me, here, and Mr. Hendrix may have a point, is that the large volumes that are going to be going into this. You've got 2 sands here. You've got 5 and 7 and you are going to have up

to 700 barrels a day going into those two sands for a period of five months, and Mr. Hendrix's attorney may have a point where he says that the large volumes anticipated will result in watering out of the productive interval under this tract. That's his fear, anyway.

MR. KELLAHIN: This may be true, but at the same time, the witness has testified that the basis for participation in the unit has already been arrived at that time and this particular tract would participate, whether it's watered out or not, on the basis it's already been established.

MR. NUTTER: The parameter that will be used for participation is based on primary production prior to this date?

THE WITNESS: Yes, sir. Our parameters now are tabulated and the production that is being considered has already been cut off.

Q (By Mr. Nutter) What was the cutoff date on it?

A December the 1st.

Q I see.

MR. HATCH: Let me ask something.

MR. KELLAHIN: So, if we assume the unit will go into operation, I think Mr. Hendrix is fully protected.

Now, if some hitch developed and he didn't get the unit formed and the waterflood in operation, that would be another matter, of course.

MR. HATCH: If Mr. Hendrix doesn't choose to join the unit, what?

THE WITNESS: Mr. Hendrix has such a small mineral interest that we would be able to qualify that tract for participation in the unit without him and just set his production aside.

MR. NUTTER: Now, you mentioned that he had a 1/64th royalty interest?

THE WITNESS: He owns one-eighth of one-eighth royalty, which is a 1/64th interest.

Q (By Mr. Nutter) Well, he says I am the owner of an undivided one-eighth mineral interest, so he's technically wrong; he's got one-eighth of one-eighth royalty?

A He owns one-eighth of the minerals, but we have his minerals under lease.

Q He had ten mineral acres under the 80?

A That's correct.

Q You've got the working interest under lease?

A Yes, sir.

Q So, he's got the royalty under ten mineral acres in this 80 or one-eighth of one-eighth --

A Yes, sir.

Q -- or one net 64th of the 80-acre tract?

A That's correct.

Q Well, it's not only, Mr. Kellahin, that I am concerned about Mr. Hendrix's interest here, I am just wondering if possibly injection of these large volumes into the one well during a five or six month period might throw the thing completely out of kilter and get it out of balance so that balance couldn't be restored. It would seem more reasonable to have 2 wells on injection and disposal, dividing this up.

MR. KELLAHIN: Let's go off the record.

(Whereupon, an off the record discussion was held.)

MR. NUTTER: Mr. Metcalfe, in the interest of not throwing a potential waterflood completely out of balance while the area is being unitized and flood authorized and put into effect, would it be agreeable with Tamarack if the Commission order approving the use of the Texaco-Moran Well No. 2 for salt water disposal, limited to disposal at the volumes proposed being 500 to 700 barrels per day through a 60-day period, during which time

Tamarack could make a study and determine which of another well in its proposed waterflood could be placed on water disposal in order that the rates of disposal into any one well could be kept at a lesser volume than the proposed 5 to 700 barrels per day?

THE WITNESS: Yes, sir, that would be agreeable. We would agree to do that.

Q (By Mr. Nutter) And, you could in a 60-day period determine the use of another well which would be suitable and which would ultimately be a water injection well on your pattern?

A Yes, sir, we could.

MR. NUTTER: Are there any further questions of Mr. Metcalfe? He may be excused. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: No, I don't have.

MR. NUTTER: Does anyone have anything they wish to offer in Case 4041? If there's nothing further in Case 4041, we will take the case under advisement. We will recess the hearing until 1:30.

I N D E X

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, GLENDA BURKS, Court Reporter 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.

Linda B. B.
COURT REPORTER

I do hereby certify that the above is a true and correct copy of the original as the same appears in the records of the Department of the Interior.

2/5 4041
69

[Signature]

Non-Markovian and non-stationary



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

February 11, 1969

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 4041
Order No. R-3674
Applicant:
Tamarack Petroleum Company

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
State Engineer

Other Mr. John H. Hendrix

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 13, 1959

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Dear Mr. Kellahin:

Reference is made to Commission Order No. R-3674, recently entered in Case No. 4041, authorizing Tamarack Petroleum Company, Inc., to utilize its Taxaco Moran Well No. 2 located in Unit H of Section 22, Township 19 South, Range 35 East, Pearl-Queen Pool, Lea County, New Mexico, for salt water disposal.

You will note that the order limits the disposal of more than 350 barrels per day into said well to a maximum of 60 days.

It is our understanding that at the present time Tamarack plans to dispose of approximately 700 barrels per day into this well, but that they will soon decide on another well which, like the subject well, will ultimately fit into the proposed waterflood injection pattern; and that they will, upon receipt of approval from this Commission dispose of approximately one-half of the produced water into this second well within the next 60 days.

Please advise when this second well has been selected, and we will be happy to set it for hearing on our soonest available examiner docket.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/DSM/lr

cc: Oil Conservation Commission - Hobbs, New Mexico

Mr. John Hendrix - Midland, Texas

State Engineer Office - Santa Fe, New Mexico

**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. 4041
Order No. R-3674**

**APPLICATION OF TAMARACK PETROLEUM
COMPANY, INC., FOR SALT WATER INJEC-
TION, LEA COUNTY, NEW MEXICO.**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 5, 1969, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 11th day of February, 1969, 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, Tamarack Petroleum Company, Inc., is the owner and operator of the Texaco Moran Well No. 2, located in Unit B of Section 22, Township 19 South, Range 35 East, NMPM, Pearl-Queen Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to inject produced salt water into the Queen formation, with injection into the perforated interval from approximately 4954 feet to 5029 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 4880 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(5) That disposal of more than 350 barrels of salt water per day into said well should be limited to a maximum of 60 days.

-2-

CASE No. 4041

Order No. R-3674

(6) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Tamarack Petroleum Company, Inc., is hereby authorized to utilize its Texaco Moran Well No. 2, located in Unit H of Section 22, Township 19 South, Range 35 East, NMPM, Pearl-Queen Pool, Lea County, New Mexico, to inject produced salt water into the Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4880 feet, with injection into the perforated interval from approximately 4954 feet to 5029 feet;

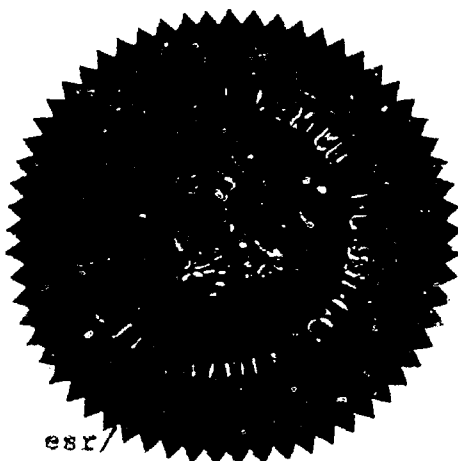
PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer;

PROVIDED FURTHER, that disposal of more than 350 barrels of salt water per day into said well shall be limited to a maximum of 60 days.

(2) That the applicant shall submit monthly reports of its injection operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) 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, Chairman

ALEX J. ARMISTO, Member

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



OFFICE PHONE MU 4-8861
RESIDENCE PHONE MU 4-6818

JOHN H. HENDRIX
OIL PRODUCER
316 CENTRAL BUILDING
MIDLAND, TEXAS 79701
January 28, 1969

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

Re: Docket No. 4-69
Case 4041
Tamarack Petroleum Co., Inc.

Attention: Mr. Daniel S. Nutter, Examiner

Gentlemen:

Please refer to Case 4041 to be heard at the Examiner Hearing on February 5, 1969. I am the owner of an undivided 1/8 mineral interest in and under the E/2 of the NE/4 of Section 22, T19S, R35E, Lea County, New Mexico. As such I have an economic interest in the Tamarack Texaco Moran Well No. 2, located in Unit H of Section 32. Based on a careful evaluation of Tamarack's proposed injection well, on the operation and performance of Shell's offsetting East Pearl Queen Unit, the respective perforated intervals of area wells and former operations by Earl G. Colton, it is my opinion that conversion of the No. 2 Well, alone and in its present condition, to water disposal status will violate the correlative rights of all mineral owners under the subject lease and further will result in continued economic waste. Listed below are three reasons that my correlative rights will be violated if the NMOCC allows injection into the No. 2 Well in its present condition.

1. The proposed injection, having no back-up injection wells, will simply push a majority of the oil and gas from subject lease to offsetting leases that are operated, in part, by Tamarack, while this would possibly not adversely affect Tamarack, the mineral interest owners under the lease would not receive their fair portion of the oil. This unjust situation could easily be remedied by full expansion of Shell's existing injection pattern to provide for injection wells in Unit P of Section 15 and Units D and L of Section 23 together with the subject well.
2. Shell Oil Company has provided nomenclature that identifies the various Queen formation zones. Correlative zones of porosity are open in the Shell flood that for some reason have not been perforated in the Tamarack wells.

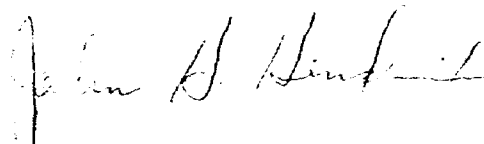
Page No. 2
New Mexico Oil Conservation Commission
January 28, 1969

3. It is quite possible that Tamarack no longer holds valid leases on the subject mineral interest. You will notice that no production was reported to the NMOC during the months of June and July of 1968. Possibly the lease has expired due to lack of production.

Due to violation of my correlative rights I strongly oppose Tamarack's application as it now stands. However, (1) Should Tamarack agree to expand the injecting pattern so as to prevent loss from the subject lease and (2) should they agree to perforate intervals in the No. 1 and No. 2 wells that are correlative with zones presently open in the Shell flood in which case a bona fide and valid waterflood would be in operation, with the economic and correlative right of the mineral owner as well as the working interest owners would be fully protected.

I would certainly appreciate your consideration of my position and that of the other mineral owners when this case comes before you. Thank you very much. Please read this letter into the record if possible.

Very truly yours,



John H. Hendrix

JHH/kw

cc: W. J. Moran Estate
1200 Oil & Gas Bldg.
Wichita Falls, Texas

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM

W. P. MARSHALL
CHAIRMAN OF THE BOARD

R. W. MCFALL
PRESIDENT

SYMBOLS

DL = Day Letter
NL = Night Letter
LT = International Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination.

LA 143 NSB697

NS MDA117 LONG NL PD=MIDLAND TEX 4#
NEW MEXICO OIL CONSERVATION COMMISSION DLR BEFORE 8:30AM=
ATTN DANIEL S NUTTER STATE LAND OFFICE BLDG SANTA
FE NMEX=

IT IS RESPECTFULLY REQUESTED THAT THE FOLLOWING BE MADE
A PART OF THE RECORD IN DOCKET NO. 4-69, CASE NO. 4041:
MR. JOHN H HENDRIX A MINERAL INTEREST OWNER UNDER THE
E/2 NE/4 OF SECTION 22, T19S, R35E, LEA COUNTY, NEW
MEXICO OBJECTS TO THE GRANTING OF TAMARACK PETROLEUM'S
APPLICATION FOR THE USE OF WELL NO. 2, UNIT H, FOR THE
DISPOSAL OF WATER FROM ADJOINING LEASES AND OTHER LEASES
IN THE AREA FOR THE FOLLOWING REASONS: (1) THE DISPOSAL

CLASS OF SERVICE

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CHAIRMAN OF THE BOARD

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1949 FEB 4 PM 6 27

[OF SALT WATER IN THE PRODUCTIVE QUEEN FORMATION UTILIZING ONE WELL WITHOUT BACKUP, OR A REGULAR WATERFLOOD PATTERN, AND IN THE LARGE VOLUMES ANTICIPATED WILL RESULT IN THE WATERING OUT OF THE PRODUCTIVE INTERVAL UNDER THIS TRACT, THEREBY INCURRING WASTE AND DENYING MR. HENDRIX HIS FAIR SHARE OF THE OIL IN PLACE IN VIOLATION OF HIS CORRELATIVE RIGHTS. (?)

THE GRANTING OF THIS APPLICATION WILL PERMIT APPLICANT TO BRING "OF-LEASE" WATER INTO THE PREMISES FOR THE DISPOSAL PURPOSES, THEREBY SANCTINING AN UNUATHORIZED USE OF THE MINERAL ESTATE, INFRINGING MR. HENDRIX'S PROPERTY RIGHTS=

[MICHAEL L KLEIN ATTORNEY FOR PROTESTANT JOHN H HENDRIX=

WU1201(12-45)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM

W. P. MARSHALL
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1969 FEB 4 PM 6 27

4-69 404 E/2 NE/4 22 T19S R35E 2 (1) (2) •

WU1201(12-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 5 1969

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner,
or Elvis A. Utz, Alternate Examiner:

CASE 4036: Application of Mobil Oil Corporation for a dual completion, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its C. L. O'Brien Well No. 1 located in Unit A of Section 7 Township 8 South, Range 30 East, Chaves County, New Mexico, to produce oil from an undesignated Pennsylvanian oil pool and the Lightcap (Devonian) Pool through parallel strings of tubing.

CASE 3975 (Reopened):

In the matter of Case No. 3975 being reopened pursuant to the provisions of Order No. R-3618, which order established 80-acre spacing units for the East Bluit-San Andres Pool, Roosevelt County, New Mexico, for a period of approximately two months. All interested parties may appear and present evidence as to whether the subject area is indeed a separate common source of supply or an extension of the Bluit-San Andres Gas Pool.

CASE 4010: (Continued from December 27, 1968 and January 8, 1969 Examiner Hearings)

Application of John H. Trigg for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formations through his Empire "J" Federal Well No. 1 located in Unit F of Section 1, Township 18 South, Range 26 East, Red Lake Grayburg-San Andres Pool, Eddy County, New Mexico.

CASE 4037: Application of Anadarko Production Company for several waterflood projects and waterflood buffer zones, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute several waterflood projects by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Etz Federal Well No. 3 and its sister Well No. 14 located, respectively, in Sections 19 and 20 of Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the S/2 SW/4 of said Section 19, the N/2 SE/4 of said Section 19, and the N/2 SE/4 of said Section 20 as waterflood buffer zones with capacity allowances.

CASE 4038: Application of Kennedy Oil Company for a waterflood project and waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Carper Federal Well No. 2 located in Unit K of Section 19, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the N/2 SW/4 of said Section 19 as a waterflood buffer zone with capacity allowable.

CASE 4039: The application of the Oil Conservation Commission upon its own motion for an order granting an exception to the ninth paragraph of Chapter II, Section 2 of Order No. R-333-F to permit shutting in gas wells for the required shut-in test at some period during the 1969 test season other than immediately following the 7-day deliverability flow test; further to permit measuring the shut-in test pressure during the 8th to 15th day of shut-in of the well rather than on the 8th day as presently required. The above exceptions would be for the 1969 annual deliverability test season only and would be applicable to all wells in San Juan, Rio Arriba, McKinley and Sandoval Counties, New Mexico, subject to the testing requirements of Chapter II of Order No. R-333-F.

CASE 4023: (Continued and readvertised from the January 15, 1969 Regular Hearing)

Application of Ernest A. Hanson for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 1724 feet to 1736 feet in his Welch Federal Well No. 2 located 1650 feet from the North line and 2310 feet from the West line of Section 22, Township 19 South, Range 28 East, East Millman Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 4040: Application of Cities Service Oil Company for the institution of gas prorationing in the Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the limitation of gas production from the Buffalo Valley-Pennsylvanian Gas Pool in Chaves County, New Mexico, to reasonable market demand and to the capacity of gas transportation facilities, and that the subject pool be governed by the general rules and regulations for the prorated gas pools of Southeastern New Mexico insofar as said general rules and regulations are not inconsistent with the special rules and regulations governing the subject pool. Further, the applicant proposes that the allowable production from the pool be allocated among the wells in the pool on a 100% surface acreage basis.

CASE 4041: Application of Tamarack Petroleum Company, Inc. for salt water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject produced salt water into the Queen formation in the perforated interval from 4955 feet to 5030 feet in its Texaco Moran Well No. 2, located in Unit H of Section 22, Township 19 South, Range 35 East, Pearl Queen Pool, Lea County, New Mexico.

CASE 4042: Application of El Paso Natural Gas Company for an amendment to Order No. R-2948, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2948, which order established a number of non-standard gas proration units in the Basin-Dakota Gas Pool, Rio Arriba County, New Mexico. Applicant proposes to change the acreage dedication comprising units 12 and 13 of Township 28 North, Range 6 West and Units 16 and 17 of Township 28 North, Range 7 West to comprise the following:

TOWNSHIP 28 NORTH, RANGE 6 WEST

Unit	Acres	Description
12	320	Section 33: N/2
13	330.71	Section 33: S/2

TOWNSHIP 28 NORTH, RANGE 7 WEST

Unit	Acres	Description
16	320	Section 35: N/2
17	312.40	Section 35: S/2

CASE 4017: (Continued from the January 8, 1969 Examiner Hearing)
Application of Corinne Grace for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled in the SE/4 of said Section 8. Also to be considered will be the costs of drilling said well, a charge for the risk involved a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4043: Application of David Barker for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled 1980 feet from the North line and 2105 feet from the East line of said Section 8. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well. Case No. 4043 will be consolidated for purposes of hearing with Case No. 4017 which is the application of Corinne Grace for compulsory pooling of the same section.

CASE 4044: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of two existing non-standard gas proration units into one 481-acre unit comprising the E/2 and E/2 W/2 of Section 3, Township 20 South, Range 36 East, Edmont Gas Pool, Lea County, New Mexico, to be dedicated to its Reed A-3 Wells Nos. 2 and 3 located in Units H and I, respectively of said Section 3, to be effective as of January 1, 1967. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

CASE 4045: Application of H & S Oil Company for an amendment to Order No. R-3357, as amended by Order No. R-3357-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3357, as amended by Order No. R-3357-A, which order authorized the H & S West Anasazi Unit Waterflood Project. Applicant proposes to substitute the Roach Drilling Company-Leonard Well No. 18 located in Unit D of Section 17 as a water injection well in said project in lieu of the Cities Service-Mell Well No. 17 located in Unit M of Section 8, both in Township 18 South, Range 28 East, Anasazi Pool, Eddy County, New Mexico.

CASE 4030: (Continued from the January 22, 1969 Examiner Hearing)

Application of Arlys Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the perforated and open-hole interval from approximately 3554 feet to 3775 feet in its Dr. L. Lynn A-28 Well No. 3 located 2410 feet from the South line and 1650 feet from the East line of Section 18, Township 17 South, Range 36 East, Jalmat Yaras-Salt Water Pool, Lea County, New Mexico.

ir/

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 5 1969

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM.
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

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CASE 3975 (Reopened):

In the matter of Case No. 3975 being reopened pursuant to the provisions of Order No. R-3618, which order established 80-acre spacing units for the East Bluitt-San Andres Pool, Roosevelt County, New Mexico, for a period of approximately two months. All interested parties may appear and present evidence as to whether the subject area is indeed a separate common source of supply or an extension of the Bluitt-San Andres Gas Pool.

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CASE 4037: Application of Anadarko Production Company for several waterflood projects and waterflood buffer zones, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute several waterflood projects by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Etz Federal Well No. 3 and its Grier Well No. 14 located, respectively, in Sections 19 and 20 of Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the S/2 SW/4 of said Section 19, the N/2 SE/4 of said Section 19 and the N/2 SE/4 of said Section 20 as waterflood buffer zones with capacity allowables.

CASE 4038: Application of Kennedy Oil Company for a waterflood project and waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Carper Federal Well No. 2 located in Unit K of Section 19, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the N/2 SW/4 of said Section 19 as a waterflood buffer zone with capacity allowable.

CASE 4039: The application of the Oil Conservation Commission upon its own motion for an order granting an exception to the ninth paragraph of Chapter II, Section 2 of Order No. R-333-F to permit shutting in gas wells for the required shut-in test at some period during the 1969 test season other than immediately following the 7-day deliverability flow test; further to permit measuring the shut-in test pressure during the 8th to 15th day of shut-in of the well rather than on the 8th day as presently required. The above exceptions would be for the 1969 annual deliverability test season only and would be applicable to all wells in San Juan, Rio Arriba, McKinley and Sandoval Counties, New Mexico, subject to the testing requirements of Chapter II of Order No. R-333-F.

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Application of Ernest A. Hanson for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 1724 feet to 1736 feet in his Welch Federal Well No. 2 located 1650 feet from the North line and 2310 feet from the West line of Section 22, Township 19 South, Range 28 East, East Millman Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 4040: Application of Cities Service Oil Company for the institution of gas prorationing in the Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the limitation of gas production from the Buffalo Valley-Pennsylvanian Gas Pool in Chaves County, New Mexico, to reasonable market demand and to the capacity of gas transportation facilities, and that the subject pool be governed by the general rules and regulations for the prorated gas pools of Southeastern New Mexico insofar as said general rules and regulations are not inconsistent with the special rules and regulations governing the subject pool. Further, the applicant proposes that the allowable production from the pool be allocated among the wells in the pool on a 100% surface acreage basis.

CASE 4041: Application of Partrack Petroleum Company, Inc. for salt water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject produced salt water into the Queen formation in the perforated interval from 4955 feet to 5030 feet in its Texaco Moran Well No. 2, located in Unit H of Section 12, Township 19 South, Range 35 East, Pearl Queen Pool, Lea County, New Mexico.

CASE 4042: Application of El Paso Natural Gas Company for an amendment to Order No. R-2948, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2948, which order established a number of non-standard gas proration units in the Basin-Dakota Gas Pool, Rio Arriba County, New Mexico. Applicant proposes to change the acreage dedication comprising units 12 and 13 of Township 28 North, Range 6 West and Units 16 and 17 of Township 28 North, Range 7 West to comprise the following:

<u>TOWNSHIP 28 NORTH, RANGE 6 WEST</u>		
Unit	Acres	Description
12	320	Section 33: N/2
13	330.71	Section 33: S/2

<u>TOWNSHIP 28 NORTH, RANGE 7 WEST</u>		
Unit	Acres	Description
16	320	Section 35: N/2
17	327.40	Section 35: S/2

CASE 4017: [Continued from the January 8, 1969 Examiner Hearing]
Application of Fortuna Gas for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled in the SE/4 of said Section 8. Also to be considered will be the costs of drilling said well, a charge for the risk involved a provision for the allocation of shut-in well costs, and the establishment of a reasonable expectation of said well.

CASE 4043: Application of David Fasken for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled 1980 feet from the North line and 2105 feet from the East line of said Section 8. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well. Case No. 4043 will be consolidated for purposes of hearing with Case No. 4017 which is the application of Corinne Grace for compulsory pooling of the same section.

CASE 4044: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of two existing non-standard gas proration units into one 481-acre unit comprising the E/2 and E/2 W/2 of Section 3, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Reed A-3 Wells Nos. 2 and 3 located in Units H and I, respectively of said Section 3, to be effective as of January 1, 1967. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

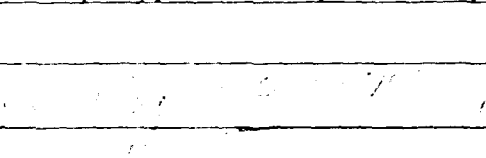
CASE 4045: Application of H & S Oil Company for an amendment to Order No. R-3357, as amended by Order No. R-3357-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3357, as amended by Order No. R-3357-A, which order authorized the H & S West Artesia Unit Waterflood Project. Applicant proposes to substitute the Roach Drilling Company-Leonard Well No. 18 located in Unit D of Section 17 as a water injection well in said project in lieu of the Cities Service-Mell Well No. 17 located in Unit M of Section 8, both in Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 4030: (Continued from the January 22, 1969 Examiner Hearing)

Application of Argus Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the perforated and open-hole interval from approximately 3554 feet to 3775 feet in its L. T. Lynn A-28 Well No. 3 located 2410 feet from the South line and 1650 feet from the East line of Section 28, Township 22 South, Range 36 East, Jalmat Yates-Seven Rivers Pool, Lea County, New Mexico.

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

Applicant Tamarack Petroleum Company, Inc.		Address 910 Building of the Southwest, Midland, Texas	
Trade Name Texaco-Moran	Well No. 2	Field Pearl Queen	County Lea
Location UNIT LETTER <u>11</u> WELL IS LOCATED <u>1650</u> FEET FROM THE <u>North</u> LINE AND <u>660</u> FEET FROM THE <u>East</u> LINE, SECTION <u>22</u> TOWNSHIP <u>19S</u> RANGE <u>35E</u> MPM. <u>Lea</u>			

CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8-5/8	192	100	Circulated	--
INTERMEDIATE	None				
LONG STRING	4-1/2	5087	150	3567	Calculated
TUBING	2-3/8	4880	NAME, MODEL AND DEPTH OF TUBING PACKER Halliburton R-4 packer at 4880'		
NAME OF PROPOSED INJECTION FORMATION Queen Sand			TOP OF FORMATION 4517'		BOTTOM OF FORMATION 5087'
IS INJECTION THROUGH TUBING, CASING OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations		PROPOSED INTERVAL(S) OF INJECTION 4954-58' and 5027-29'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Production		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 4838-42' squeezed with 1500 sx.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 120'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA None	
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) 500	MINIMUM 700	MAXIMUM	OPEN OR CLOSED TYPE SYSTEM Closed	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 1500
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 Yes		NATURAL WATER IN DISPOSAL ZONE Yes
ARE WATER ANALYSES ATTACHED? Yes					
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Linam Estate, Box 743, Hobbs, New Mexico 88240					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Shell Oil Company, Box 1509, Midland, Texas 79701					
<div style="text-align: center;">  </div>					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	
		Yes		Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-D)?		PLAY OF AREA		ELECTRICAL LOG	
		Yes		Yes	
				THE NEW MEXICO STATE ENGINEER	
				No	
				Yes	

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

(Signature) Vice-President	(Date) January 30, 1969
<p>NOTE: Should a review 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.</p>	

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Ball, Paul

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12

17,000 1,100

17,000 1,100

10,000 570

10,000 570

5,000 400

5,000 400

Not Determined

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20,000	1,000	100	100	100
18,000	700	100	100	100
6,000	300	100	100	100
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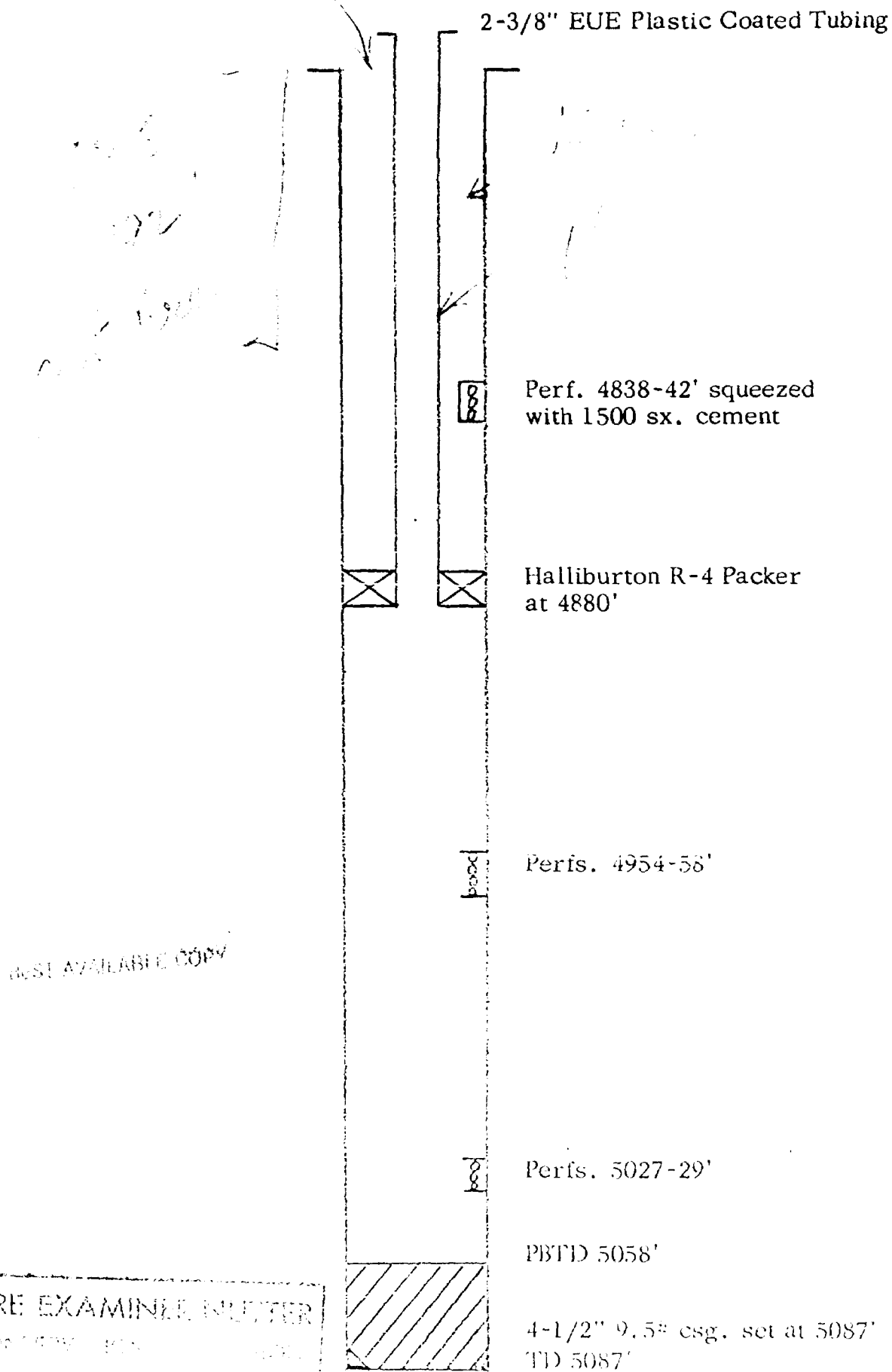
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TAMARACK PETROLEUM CO., INC.

TEXACO-MORAN No. 2

PROPOSED INJECTION WELL



BEFORE EXAMINER INITIALS

OIL COMPANY

Approved

CRS

TAMARACK PETROLEUM COMPANY, INC.



910 BANK OF THE SOUTHWEST BLDG
MIDLAND, TEXAS 79701

January 6, 1969

TELEPHONE MUTUAL 3 5474

JAN 8 12
1969 JAN 11

100-4041

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

Attention: Mr. D. S. Nutter
Chief Engineer

Gentlemen:

Please consider this an application to convert to salt water disposal our Texaco Moran Well No. 2, located in Unit H, Sec. 22, T19S, R35E, Pearl Queen Field, Lea County. Injection will be into the Queen Sand Formation through perforations from 4955' to 4960' and from 5025' to 5030'.

We are presently in the process of unitizing this area for secondary recovery and this well will be a water injection well at that time; however, we propose to use the well for salt water disposal in the meantime.

Very truly yours,

Albert G. Metcalfe
Albert G. Metcalfe

AGM:mc

100-4041

Date *1-23-69*

DRAFT

GMH/esr

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. 4041

Order No. R- R-3674

APPLICATION OF TAMARACK PETROLEUM
COMPANY, INC., FOR SALT WATER INJEC-
TION, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 5, 1969,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of February, 1969, 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, Tamarack Petroleum Company, Inc.,
is the owner and operator of the Texaco Moran Well No. 2
located in Unit H of Section 22, Township 19 South, Range
35 East, NMPM, Pearl-Queen Pool, Lea
County, New Mexico.

(3) That the applicant proposes to utilize said well to
inject
~~disposal~~ produced salt water into the Queen
formation, with injection into the perforated interval
from approximately 4954 feet to 5029 feet.
~~4955~~ ~~5030~~

(4) That the injection should be accomplished through
2 3/8-inch plastic-lined tubing installed in a packer set at

approximately 4880 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(6) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Tamarack Petroleum Company, Inc., is hereby authorized to utilize its Texaco Moran Well No. 2 located in Unit H of Section 22, Township 19 South, Range 35 East, NMPM, Pearl-Queen Pool, Lea County, New Mexico, to ~~dispose of~~ ^{inject} produced salt water into the Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4880 feet, with injection into the perforated interval from approximately 4954 ~~4955~~ feet to 5029 ~~5030~~ feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of its ~~disposal~~ ^{injection} operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

(3) 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 hereinafter designated.

→ *Provided further, that disposal of more than 350 barrels of salt water per day into said well shall be limited to a maximum of 60 days.*

(5) That disposal of more than 350 barrels of salt water per day into said well should be limited to a maximum of 60 days.

CASE 4041: Appli. of TAMARACK
PETROLEUM CO. FOR SALT WATER
INJECTION, LEA COUNTY, NEW MEXICO.