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

May 7, 1969

IN THE MATTER OF: Application of Curtis Hackamer for an exception to Order No. R-3221, as amended, Eddy County, New Mexico, and Application of Curtis Hackamer for an excrption to Order No. R-3221, as amended, Lea County, New Mexico.	Case No. 4126 Case No. 4127

BEFORE: DANIEL S. NUTTER, EXAMINER

TRANSCRIPT OF HEARING

MR. HATCH: Case 4126, application of Curtis Hackamer for an exception to Order No. R-3221, as amended, Eddy County, New Mexico.

MR. KELLAHIN: If the Examiner please, we would request that this case be consolidated for the purposes of testimony with Case No. 4127.

MR. NUTTER: We will also call Case 4127.

MR. HATCH: Case 4127, application of Curtis Hackamer for an exception to Order No. R-3221, as amended, Lea County, New Mexico.

MR. NUTTER: Cases 4126 and 4127 will be consolidated for the purposes of testimony.

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

(Witness sworn.)

(Whereupon, Applicant's Exhibits Numbers 1 through 8, inclusive, were marked for identification.)

J. N. SIKES

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name?

A J. N. Sikes.

Q What business are you engaged in?

A I am a consulting engineer, petroleum engineer.

Q Where are you located?

A Midland, Texas.

Q In connection with your work as a petroleum engineer, have you done any work for Curtis Hackamer?

A Yes, I have.

Q Have you done work in connection with Cases 4126 and 4127 that are presently before the Commission?

A Yes.

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

A Yes, I have.

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

MR. NUTTER: Yes, they are.

Q Mr. Sikes, briefly, what is proposed by the applicant in Cases 4126 and 4127?

A Mr. Hackamer is seeking an exception to Order No. R-3221 which prohibits the disposal of water produced in conjunction with production of oil or gas, or both, on the surface of the

ground in Lea, Chaves, and Roosevelt Counties, New Mexico, after January 1, 1969.

Q Now, referring to what has been marked as Applicant's Exhibit Number 1, would you identify that exhibit?

A It is a plat of the area in southern Eddy County, Brushy Draw Field, where Mr. Hackamer has four leases -- I believe it is five leases, a total of five, and they are marked in red, Sections 12, 13, 14, and 24, 26 South, 29 East.

Q Is this the area involved in Case 4126?

A Yes, it is.

Q Referring to what has been marked as Exhibit Number 2, would you identify that exhibit?

A It is the plat of the area surrounding the field in Lea County. The Double X Field, in which Mr. Hackamer has one lease, the Gulf-Hanagan Lease, has two wells on it, and occurs in Section 11, 24 South, 32 East.

Q On Exhibits 1 and 2, you have marked some additional information on water wells?

A Yes, I have. Going into the area, and seeking the nearest fresh water that is being produced anywhere near the wells, these are the locations of the wells I have come up with, and which we took samples of and had analyses of the fresh water.

Q And they will be presented as a later exhibit?

A Yes, sir.

Q Are these water wells, wells that you personally have located within the area?

A Yes, sir.

Q To the best of your knowledge and in relation, are those the only wells close to the two areas involved in this application?

A Yes, to the best of my knowledge, they are the nearest wells.

Q Approximately, what is the distance from your disposal pit to the nearest fresh water production in each case?

A In Eddy County, in the Brushy Draw area, the nearest water well to Mr. Hackamer's production occurs on the Ross Ranch, where they have an irrigation well, and I believe the location is in the northeast of the northeast of Section 16.

Q Would that make it approximately two miles from the Hackamer operation?

A It is approximately two miles, yes. At least, that is the location, the only one I could find that concurred fairly well with the position as I could tell from being on the ground.

Q Now, in your Lea County operation, what is the closest fresh water you found there?

A On the James Ranch, they have a windmill at their old ranch house about a mile and a half, a mile and a quarter to a mile and a half west, it appears to be now. When we were on the ground, we thought it was southwest, and in the Groundwater Report of Lea County, I notice that the windmill is supposedly due west.

Q Did you check these locations against the official report of the Groundwater Report in Lea County and Eddy County?

A Yes, I did the best I could.

Q How close is that well to the Hackamer operation?

A About a mile and a quarter away.

Q And, as far as you know, that is the closest fresh water production in that area?

A Yes, sir.

Q Referring to what has been marked as Exhibit Number 2, would you identify that exhibit?

A We are introducing a log of a well, a typical well in the field, just to show the Commission the depth of the surface beds, and I thought it might be interesting to them for some purposes. It indicates the top of the anhydrite at 250 feet in the Gulf Federal Beaty No. 1, which is in Eddy County, in the Brushy Draw Field.

Q Exhibit Number 4, would you identify that exhibit?

A Exhibit Number 4 is a log, drilling log of the Gulf-Hanagan Well in Lea County, Gulf-Hanagan No. 1, which indicates the depth of the surface formations and beds, 328 feet.

Q Is that 328 feet to the anhydrite?

A Yes, sir.

Q Now, referring to what has been marked as Exhibit Number 5, would you identify that exhibit?

A We drew some plats of the water disposal pits, and to show the Commission where they were located in relation to the well, itself, and the tank battery, and to indicate approximately the area extent of the water within the pit, and a small description of the facilities thereon.

Q The area colored in blue, is that the area within the surface pit that is covered by water?

A Approximately, yes. It looked like an outline of water in the pit.

Q You are not presently producing these wells, are you?

A No, they are shut in now.

Q They are shut in?

A Yes.

Q Does this depict the water in the pits as of a recent date?

A Yes, sir. As we were shutting the wells down, I was out there.

Q Then the next exhibit, which is Exhibit Number --

A I might add on these, that the oil production and water production for each well on each lease, is also indicated on each one of the plats on that last exhibit.

Q Now, is the maximum production of any of the wells there, what is it?

A The maximum oil production on any of these leases is 20 barrels per day.

Q And then the maximum water production?

A Maximum water is 50 gallons on the Gulf Federal.

Q Do the other wells approach that much water?

A No, sir. They range ten barrels, 22 barrels, eight barrels, and 50 barrels, and then in the Double X Field, 23 barrels per day.

Q And that is the amount of water you want to dispose of in your surface pits?

A Yes, sir.

Q Referring to the next series of exhibits, what does that show?

A That is water analysis of Mr. Hackamer's wells, of his production. The Beaty Gulf and Hanagan Federal, and then

on the next page the Gulf Federal and the Gulf Federal A are the wells in the Brushy Canyon Field. And then the Hanagan Federal is in the Double X Field, included on the first page of this exhibit.

Q And the second page of the exhibit?

A I have described that. It indicates that the chloride contents are rather high, and typical of Delaware Formation.

Q Do you have water analysis of the fresh water wells within the area?

A Yes, I do. We found a windmill approximately two and a half miles south of Mr. Hackamer's leases in the Brushy Draw Field, and just across the State line into Texas, and this first one says the Clark Windmill. That is an analysis of the water from that well.

Q That is across the State line?

A Yes. It is barely.

Q Is there oil production in there?

A Yes, sir, scattered oil production.

Q Do you know what they are doing with their water over there?

A They are doing about the same as everybody else does in New Mexico, in Texas. They are, in some cases, they are allowing water to be put into open pits. In some cases, they

are not.

Q Do you know whether they are permitting open pit disposal in Texas offsetting the Hackamer operation?

A No, sir, I do not.

Q Do you have the analysis on some more wells?

A Yes. Going to the pumper, Mr. Norton Harper was with me and called in. He said the El Paso water well is about two and a half miles west -- east, northeast from Mr. Hackamer's property, and I notice in the Groundwater publication that there is a well there. Also, on the Ross Ranch, approximately where we got the sample of the El Paso water, I don't know if it is the same or not, but we introduced this as one of the nearby sources of fresh water, at least, and the analysis of that.

And on Mr. Ross's ranch, about two miles due west of the Brushy Draw Field, he has an irrigation well, and we took a sample of water from this irrigation well, and that analysis is included, it is called Irrigation Well, George Ross Ranch.

Q Do you have other analyses there?

A Yes, sir.

Q Would you identify those?

A Just as a matter of interest, we also took a sample of water from the Pecos River, which is about another mile west

of Mr. Ross's irrigation well, and it shows just a little salty, 7,420 parts per million chlorides.

Q Is that potable water at that point?

A No, sir.

Q Was that water taken from the Pecos River at a point close to the State line?

A Yes, sir, it is in New Mexico, about two and a half or three miles north of the State line.

Q That is a point which would be downstream from Malagar, would it not?

A Yes, sir. Then on to the Lea County property in the Double X Field, on the James Ranch, which is about a mile and a quarter west of Hackamer's Gulf-Hanagan Lease, we took a sample from a windmill, which shows to be real good fresh water, and that shows -- I'm sorry, I'm skipping one. The first one, I believe, is from a water station, and I couldn't locate, get the exact location, but it is about two miles east of the Gulf-Hanagan Lease towards Jal, it is on the other side of the Jal Highway. I would guess it would be about Section 18.

Q Did you refer to that as a water station?

A It is a windmill, and they sell fresh water there. They have tanks.

Q There is a windmill there?

A And it shows fresh water, as does the James Ranch windmill, which is on the opposite side of our lease, about a mile and a quarter or a mile and a half.

Q Is that all the water analysis you have?

A That is all I have, yes. We just tried to get the nearest fresh water.

Q According to the analysis of the water that you have presented to the Examiner, all of the windmills and wells in the area produce fresh water, isn't that correct?

A Yes, except we saw fresh water in some cases such as the irrigation well. And some of the other water, it is only fit for stock. It is not fit for human consumption.

Q Would that be typical of the water in this area?

A Yes.

Q How long have wells been producing on the Hackamer property?

A Seven to eight years.

Q Have you been making surface disposal of water during that seven or eight-year period?

A Yes, we have.

Q Does that indicate that there has been any contamination of fresh water supplies as a result of the surface disposal of your surface waters?

A No, sir.

Q In your opinion, will any contamination of fresh water supplies occur if there is continued use of surface pits for water disposal?

A I don't think so, no.

Q What is the productive history of these wells?

A Oil production?

Q Yes. Since they have been producing seven or eight years, is the reservoir substantially depleted?

A Yes, sir, the wells are nearing economic limit. The Gulf Federal A Lease has two and a half barrels a day, the Beaty Gulf Lease makes 20 barrels of oil a day, the Hanson Federal Lease makes two barrels, and the Gulf Federal Lease makes 18 barrels a day. The Hanagan Federal Lease and the Double X Lease make 14 barrels a day from two wells.

Q Have you considered the possibility of drilling a disposal wells in this area?

A I think it has been discussed, but it wouldn't be economical.

Q Would the production you presently have pay for such a disposal system?

A No, sir, it would not.

Q Have you considered trucking the water to a disposal

point?

A We are in a very remote spot, and trucking water, we estimate, would run some fifty cents to fifty-five cents a barrel to truck it out.

Q Would that be economically feasible, with the production you have there?

A No, sir.

Q Then, in the event you are not permitted to continue surface disposal of the water, what would occur?

A There will have to be some wells to be plugged. Perhaps the best wells could be produced for a little while longer, but surely three or four of the wells would have to be plugged immediately.

Q There are other operators in the area here, are there not?

A No, sir, not in this field.

Q Are you the only operator?

A Yes.

Q You are the only one in this field that has a water problem?

A Yes, sir, in the Brushy Draw Field.

Q Are there not other pools producing within the vicinity of the Brushy Draw Field?

A Not that I am familiar with.

Q You don't know whether there are any other water problems in that area?

A Yes, I think everyone has a water problem. There have been several hearings, and I think the outcome was that the Commission approved an open pit disposal for, I think, Ralph Lowe, or someone up north, about six or seven, or eight miles, sometime back. I don't know more about it, but I did hear that.

Q In your opinion, as an engineer, will the continued disposal of water in surface pits cause any damage to anybody's rights, either oil or water?

A I think in certain cases, it could, yes. And I don't believe in this case that --

Q I am talking about this case.

A I don't think so.

Q You do not feel it would cause any damage. Is the fact that the water from the wells in the area is still fresh any indication that no damage has occurred?

A Yes, sir.

Q In your opinion?

A Yes, as fresh as they were originally.

Q Were Exhibits 1 through 8 prepared by you or under

your supervision?

A Yes, they were.

MR. KELLAHIN: I would like to offer in evidence Exhibits 1 through 8.

MR. NUTTER: Applicant's Exhibits 1 through 8 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Numbers 1 through 8, inclusive, were admitted in evidence.)

Q (By Mr. Kellahin) Mr. Sikes, in reference to the Double X Pool, do you know whether the other operators in that area are having any problem with water disposal?

A Yes, sir, they are. I talked to Mr. Carnes with Tenneco in Midland, and he informed me that they have been trucking water out of the field, but it is not economic, and they are joining with Charles B. Read, who also has wells in that area, and their plans are presently to put all those wells up for sale, all except one of Tenneco's wells that doesn't make enough water.

Q In other words, they are going to give their problem to someone else?

A Yes, sir.

MR. KELLAHIN: That is all I have.

MR. NUTTER: Are there any questions of this witness?

MR. STAMETS: Yes, I have some.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Sikes, in locating this Ross irrigation well, did you get an actual survey on that, or did you just eyeball it?

A I was just eyeballing it.

Q I have some information which indicates that that well is actually located in the southwest quarter, southwest quarter of Section 22, which would be on the south side of Brushy Draw, and I wonder if it is possible that that could be the actual location. Located in Section 16, the irrigation water would have to be piped across Brushy Draw in some method.

A Yes, sir, it sure could be. I found no location in looking through this Groundwater book. Evidently, they had a windmill there then, or something. I thought that was the location of their irrigation well, but on the ground it looked like it was about due west to me, but perhaps it is southwest. You know, winding around the hills, you get a little confused. We didn't survey it.

Q Did you actually drive to the well?

A Yes.

Q Is it located near the farm?

A Well, we weren't to the pit, they have a tank where the water is coming from the irrigation well, and I don't know how far the well is from the tank. We got a sample out of the earth tank.

Q Do you have any information on the structure or the type of beds in this area?

A You mean the subsurface pits?

Q Yes.

A The best I could tell, the subsurface pits are dipping in an eastward direction. I believe that is correct.

Q Do you know how deep Mr. Ross's irrigation well is?

A I was told it was 90 feet deep.

Q So that that being correct, would you expect to find the formation that he is irrigating from at a deeper depth in the area of the pool?

A Yes, I think so.

Q So there would be more vertical separation?

A Yes, sir.

Q In the area of the pool?

A I think so.

Q On your exhibit which is a log of the Gulf Federal Beaty No. 2, you show various shale anhydrite beds. In general,

are these permeable or impermeable to the vertical passage of water?

A I would say the shale beds would be probably fairly impermeable. Ordinarily, they are more clay like, and have little permeability.

Q What is the surface drainage in this area?

A That is ordinarily toward the river. In this particular case, would be down the draw toward -- to the west.

Q This is the Brushy Draw which more or less cuts right through the pool?

A Yes, sir.

Q And enters the river somewhere in Section 21?

A Yes, sir.

Q How about the subsurface drainage in the shallow gravel beds, have you done any work on that?

A No, sir, I haven't.

Q And how long did you say these wells have been producing in this area?

A Seven or eight years.

MR. STAMETS: I believe that is all the questions I have at this time.

CROSS EXAMINATION

BY MR. NUTTER:

Q We were informed that there were three or four irrigation wells that Mr. Ross had in the southwest corner of Section 22, which would down in the vicinity of this Brushy Draw?

A Yes, sir.

Q Running on down toward the river.

A He could have more than one well there. I'm sorry, I don't know. I went with our pumper, and he said we will go over to the irrigation well, and we ended up, instead of going right to the well, to the pit where the irrigation water comes into the pit. There was a drilling rig at the time, a rig drilling at the time on the location over in Section 18, 26-30, and there was a truck loading with water over there out of this pit, fresh water. So that is why we ended up at the pit. We were trying to find our way over there, and saw the truck, and got to it that way. But he said it came right out of the irrigation well.

Q What do they have on this Ross Ranch, is that a cultivated field?

A I didn't see anything growing.

Q It is an irrigation well, but you don't know what they are irrigating?

A No, sir, I don't.

Q Now, you mentioned the productivity of oil on these various leases. Would you give us a rundown, please, on the amount of oil and water for each one of the various wells?

A Yes, sir. I have it by lease, if that will be sufficient. I don't have it broken down per well.

On the Gulf Federal A Lease, two and a half barrels of oil, ten barrels of water.

Q These are per day figures?

A Per day figures. On the Beaty Gulf Lease, 20 barrels of oil, 22 barrels of water.

On the Hanson Federal Lease, two barrels of oil, 20 barrels of water.

On the Gulf Federal Lease, 18 barrels of oil, 50 barrels of water.

Then in the Double X field in Lea County, two wells, 14 barrels of oil, 23 barrels of water.

Q He has a Gulf Federal B, also?

A I think they commingle those two leases there. The Gulf Federal and the Gulf Federal B are commingled, three wells altogether.

Q So that figure of 18 and 50 would include the

Gulf Federal, then?

A Yes, it would. There are two wells on the Gulf Beaty Lease, if you make a notation there, and just one on the rest of them, except the Hanagan Federal in the Double X field.

Q And that has two wells?

A Yes, sir.

Q In my calculations, then, indicate that in the Brushy Draw, Mr. Hackamer would be producing approximately forty-two and a half barrels of oil and about 90 barrels of water a day?

A Yes, sir.

Q And then 14 and 23 over in the other pool?

A Yes, sir.

Q Now, with respect to the water wells that you show, that you mentioned in the Double X area, the James Ranch well would be immediately west. Do you know the depth of that well?

A I think I tied it down, looking at your books earlier in the Groundwater manuals there, and it showed a depth of 60 feet on the James Ranch.

Q Do you know the depth of the well over at the water station?

A No, sir, I could find no record of that. But it is a windmill, and I have no report of it. But it is exactly the same water, apparently, from the analysis.

Q It is probably a shallow well, then, if the analysis is somewhere --

A Yes, I would say so.

Q There are other operators in the Double X Delaware Pool. What are those operators doing with the water that they produce?

A That is Tenneco and Charles B. Read. As I said, I talked to Mr. Carnes, Jim Carnes with Tenneco, and he said that Tenneco and Mr. Read are going to make a package deal out of all their production.

Q They haven't made any arrangement for salt water disposal?

A No, sir, they have hauled their water out, and it has proved uneconomical.

MR. NUTTER: Any other questions of this witness?

MR. PORTER: I have one. In this Brushy Draw Delaware, how far is that from the state line?

THE WITNESS: Brushy Draw Delaware, about two and a half miles, Mr. Porter.

MR. PORTER: I believe you testified that you

didn't know whether Mr. Hackamer had some production over there.

THE WITNESS: He may have. I am not familiar with it.

MR. PORTER: You don't know what disposition they are making of the water right now?

THE WITNESS: No, sir. Of course, they are having hearings in the State of Texas, the same as the State of New Mexico, in this area.

MR. PORTER: And you don't know yet what the results are?

THE WITNESS: In some cases, they are excepting to the rule in the same manner.

MR. PORTER: Handling it on the individual case basis?

THE WITNESS: Yes.

MR. NUTTER: Are there any further questions?

BY MR. RAMY:

Q Mr. Sikes, on your Double X plot, there are several more wells in the area, I don't know if you are familiar with them or not, which are considerably more distance from your properties. In your outline, our indication shows there is a well in Section 3, a windmill

in Section 3, which is a shallow water well. There is also -- we have this, I believe the water section is in Section 16 of 24-33, to correct the record on that. There are also windmills in 9 and 10 of 24-33, and also a windmill in Section 33 of 24-32.

Now, these all indicated fresh water in which maximum chlorides were 312, and the minimum down to 21. Also, do you have any idea of the surface drainage in this area?

A No, sir, I do not. It is fairly flat area.

Q Would you agree it is maybe a series of ridges and ditches which seem to drain into depressions?

A Right in the vicinity of his lease there, it is fairly flat, but I know there are potholes, or what-have-you, in the vicinity. In fact, there is a dry lake bed, I think not very far from this lease, to the east, I believe.

Q Our investigation indicates that your pit is probably on the edge of a ditch, more or less, which drains both to the southeast and also to the west into depressions. One depression is where the ranchhouse windmill is.

A Yes, it is low. The ranchhouse, itself, is in a low area.

Q There is a possibility that water draining from

the pit would drain into this ditch, and possibly down into the depression?

A That is a possibility, Mr. Rany, yes.

Q There is also an indication that there is probably fresh water, some of it tied to the depressions, and others not tied to the depressions, pretty well throughout the area.

A It might be. It appears to be fairly good water. I know the windmill you refer to in Section 3, our pumper said that he got a can of water over there for drinking water, and it was all right. They got away with it, it didn't hurt anybody. The water at that water station in Section 16 was apparently good water. At least they haven't contaminated anything as yet.

MR. RAMEY: That is all I have.

THE WITNESS: We are not producing much water, only 22 barrels a day. There is not much water.

MR. NUTTER: Any further questions of the witness? You may be excused. Do you have anything further?

MR. KELLAHIN: That is all.

MR. NUTTER: Does anyone have anything to offer in Cases 4126 and 4127? If not, we will take the cases under advisement.

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STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, SAMUEL R. MORTELETTE, do hereby certify that the proceedings in the foregoing transcript were taken by me and transcribed by me and that such proceedings are a true and accurate reflection of the proceedings to the best of my knowledge, skill and belief.

IN WITNESS WHEREOF, my hand and seal of office this 16 day of May, 1969.

Samuel R. Mortelette
Court Reporter and Notary Public

My Commission Expires:

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4126-4127 heard by me on 5/7, 1969.

Examiner
New Mexico Oil Conservation Commission