BEFORE THE

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

January 15, 1969

REGULAR HEARING

IN THE MATTER OF:

Application of Charles B. Read for an exception to Order No. R-3221, as amended, Lea County, New Mexico, and, Application of Ernest A. Hanson for an exception to Order No. R-3221, as amended, Lea County, New Mexico.

Case Nos. 4021, 4022 Consolidated

BEFORE: A. L. Porter, Jr., Secretary-Director
Alex J. Armijo, Land Commissioner
Governor David F. Cargo, Chairman
George Hatch, Counsel

TRANSCRIPT OF HEARING

MR. PORTER: Case 4021.

MR. HATCH: Case 4021, application of Charles B. Read for an exception to Order No. R-3221, as amended, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox, Santa Fe, appearing for the applicant.

In connection with the presentation of this case, we would like to consolidate it with Case 4022, in that the two properties are adjacent. We will use the same witness and the same set of exhibits for both cases, and I would like to have it consolidated for the purposes of the hearing, with separate orders to be entered by the Commission.

MR. PORTER: Are the properties located in the same pool, Mr. Kellahin?

MR. KELLAHIN: Yes, sir.

MR. PORTER: Are there any objections to Counsel's motion for a consolidation of the cases? Cases 4021 and 4022 will be consolidated for the purposes of hearing the testimony. Separate orders, of course, will be entered.

MR. KELLAHIN: We will have one witness to present, and I would like to have him sworn.

(Witness sworn.)

(Whereupon, Applicant's Exhibit Number 1, a multi-page exhibit, was marked for identification.)

HARRY F. SCHRAM

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q State your name, please.

A Harry F. Schram.

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

A I am Exploration Manager for Hanson Oil Company in Roswell, New Mexico.

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

A Yes, sir.

Q Are you a geologist?

A Yes, sir.

Q Mr. Schram, in connection with your work for Hanson Oil Company, did you also do any work for Charles B. Read in connection with Case 4021?

A Yes, sir, I made the exhibits for the case.

Q Are the two cases related?

A Yes, sir, they are, they pertain to the same field.

Q Referring to a multiple-page exhibit which has been marked as Exhibit Number 1, I direct your attention to the map

marked Exhibit Number 1 in the book. Will you identify that, please?

A This Exhibit 1 is a location map of the West Teas Pool, showing the Hanson Lease and the Read Lease, the location of the disposal pits on each of those leases, and with relation to Laguna Gatuna, the salt lake immediately to the west and the Salt Lake Field.

Q Now, what oil pool are those two leases located in?

A They are located in the West Teas Pool.

Q And the pits as shown on the exhibit are presently in use for disposal of produced water, are they not?

A Yes, they are.

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

A Exhibit Number 2 is merely a structure contour map of the West Teas Pool, which is mapped on the top of the Yates Formation.

Q The boundaries of the pool have been well delineated, have they?

A Yes.

Q Would you anticipate any further development in this area?

A No, sir, it is rather unlikely, I think.

Q Now, referring to Exhibit Number 3, would you identify that exhibit?

A Exhibit Number 3 is a gamma ray sonic log of the Hanson No. 1 Atlantic State, located 990 from the north and 1,980 from the west line of Section 18, in the West Teas Pool.

Q And Exhibit 3-A, would you identify that?

A Exhibit 3-A is a gamma ray sonic log of the Read No.1 Snyder, located 2,310 from the south and east in Section 16 of the West Teas Pool.

Q Referring to Exhibit No. 4 in the exhibit, would you identify that?

A Exhibit Number 4 is a well data sheet of every well that has been drilled in the West Teas Pool or in the immediate vicinity, and those dry holes surrounding the pool, also. And it shows the technical information of the different depths, and the treatment and initial production, and accumulated production.

Q Does that show the present status of these wells?

A Yes, it can be determined.

Q That is all of the wells in the pool, is that correct?

A Yes, sir.

Q Now, referring to what appears to be a water analysis, a series of water analyses, would you identify those, please?

A Yes, sir. Exhibit 5-A is a water analysis of the

Hanson No. 1 Atlantic State Well, showing the chemical content of that water that is being produced.

Q Is that water which will continue to be disposed of in the surface pit, if this application is granted?

A Yes, that's correct.

Q Exhibit 5-B, would you identify that?

A Exhibit 5-B is a water analysis of the water from the Read No. 1 Snyder. Apparently they had several analyses made at one time, and the Snyder is so designated on the right-hand side of the page.

Q And again, the Snyder No. 1 is one of the wells which would continue to use a surface pit?

A Yes, sir.

Q Exhibit 5-C, would you identify that exhibit?

A Exhibit 5-C is a water analysis of the Minerals, Incorporated No. 1 Bass Well, which is located in the Salt Lake Field in Section 18, 20 South, 33 East.

Q And Exhibit 5-D?

A Exhibit 5-D is Minerals, Incorporated No. 2 Bass, water analysis in the same field.

Q That is also in the Salt Lake Pool?

A Yes, sir.

Q And Exhibit 5-E?

A Exhibit 5-E is the No. 3 Bass.

Q In the Salt Lake Pool?

A In the Salt Lake Pool.

Q And Exhibit 5-F?

A 5-F is the Rand Montgomery No. 3 Brooks "7", water analysis in Section 7 of the Salt Lake Pool.

Q And Exhibit 5-G?

A Exhibit 5-G is the water analysis of the No. 4 Brooks "7", in Section 7 of the Salt Lake Pool.

Q And Exhibit 5-H?

A Exhibit 5-H is the water analysis of the Montgomery No. 6 Brooks "7", of the Salt Lake Pool.

Q In connection with the examination of these water analyses, do you find the water comparable in the Salt Lake and West Teas Pool?

A Yes, sir. roughly they are comparable. Well, it depends on where the water is coming from. The water salts are very, very high in parts of the Salt Lake Pool, basically higher than they are in the West Teas Field. However, it depends on whether the water is being produced from the Seven Rivers Formation or the Yates Formation.

Q As a general proposition, the water from one pool would be no more damaging than water from another, would it?

A No. In the Salt Lake Pool, the chlorides were run in some cases as high as 25,000 parts and as low as 5,000 or 6,000 parts.

Q Directing your attention to Exhibit 6-A, and in connection with that you may wish to refer to Exhibit Number 7, would you discuss the situation as to production of fresh water in the area in which these surface pits are located?

A The fresh water that is being produced in the immediate area is primarily from two formations, either the Quaternary or Triassic. Both of these formations are very, very small in the amount of fresh water that is produced, and in many cases the water is not potable, and many of them have already been abandoning the area. Of these wells that have been abandoned, that there is no record on, one was within, oh, 300 or 400 feet of our No. 1 Atlantic State, and was never used, was abandoned almost as soon as it had been drilled, I understand. The marker is all that is left, and there are no records on it.

Wells that are shown on Exhibit 6-A are a list of wells that have been drilled that we do have some record on, and we might refer to Exhibit Number 7 which shows a map of those wells.

In Section 4 of 20-33, the rancher stated here that

the water was gyppy, and the cattle would rather go someplace else to go get their water.

Q In connection with that well, and referring to Exhibit Number 7, what would the topographical situation of that well be in relation to your surface pits?

A It would be down dip toward our surface pits.

Q Your surface pits would be --

A Down dip from the water well, yes, and would be drained toward our water well.

Q Now, the well in Section 21, what is the situation as to it?

A It has been abandoned. We couldn't find out anything about that particular well except that it had been abandoned some time in the past. It was a quaternary well, and apparently had been used at one time, but it is either contaminated or there wasn't enough water to use, I suppose.

Q Then the closest fresh water that is being produced, Mr. Schram, where would that be?

A It would be up in Section 5 of 20-33, and it was a commercial well, and was used for drilling oil wells.

Q Do you know anything about the quality of the water in that well?

A No, sir, I don't.

Q There was no water analysis available on that?

A No, sir, there was not a water analysis available on that. There was one in Section 4 of 20-33.

MR. PORTER: Let me ask a question at this point. How far is that well to which you just referred from your disposal pit?

THE WITNESS: It is approximately a mile and a half northwest.

Q Again, that well would be at a higher location than your surface pit, would it not?

A Yes, sir. The surface elevation is approximately 3,550, and our surface pit would be approximately 3,540, or about ten feet higher, surfacewise.

Q Referring to Exhibit 6-B through 6-F, would you discuss those exhibits, please?

A Exhibit 6-B is a water analysis of Laguna Gatuna Playa, which is immediately to the west. The water was taken as a sample right after it had rained, and gives an indication of being supersaturated in salt, sulfate and chlorides.

Q It contains considerably more salt than any other wells --

A Yes, sir, approximately 275,000 parts per million.

Q There are some springs in Laguna Gatuna, aren't there?

A Yes, sir, on the southwest corner of Laguna Gatuna in the southwest of the northeast of Section 19, 20 South, 33 East, there are springs that flow during a rainy season. However, at the time that this particular analysis was taken, they were not flowing natural.

Q You are referring to the analysis, Exhibit 6-C?

A Yes, sir. And, this particular analysis, they dug down about three or four inches, and took the water sample right from the hole that they dug, and it was about 150,000 parts solids, or salts, sulfates, and chlorides.

Q Referring to Exhibit 6-D, would you discuss that exhibit?

A 6-D is a water analysis from the water well in Section 21, 20-33, which we call the Bingham Water Wells, which is at the ranch. Two of these wells have been plugged, and the one well at the Bingham Ranch is the only one being used. It has a chloride content of 3,518 --

Q Is that well shown on Exhibit Number 7?

A Yes, sir. I beg your pardon, that Bingham Water Well is the one that has been abandoned. That is directly south, and this is a water analysis of that water, and has a chloride content of 3,518 parts per million.

Q Would that classify as potable water?

A No, sir.

Q Now, referring to Exhibit 6-E, would you discuss that exhibit?

A 6-E is a water analysis of what they call the Three Wells in Section 4, 20-33, and that particular well has been abandoned. However, this particular sample was taken out of the well, and the chloride content of that particular well was right at 13,000 parts per million, and this particular well was approximately one mile north of the disposal pits that we propose to use.

Q Now, that also ran rather high in sulfates?

A Yes, sir, it did, it ran 16,000 parts sulfate.

Q Could that be used for domestic or stock use?

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

Q Referring to Exhibit 6-F, would you identify that?

A Exhibit 6-F is an analysis of the Bass Water Wells in Section 18, 20-33. This is a well that was drilled for water use, like apparently while they were drilling the Salt Lake Field. The chloride content of that particular well is 21,000 parts, the sulfate content was 3,895 parts.

Q Mr. Schram, have you made a study of the available literature concerning the hydrology of that area?

A Yes, sir.

MR. PORTER: BEfore you get into this, did you testify, Mr. Schram, as to the analysis of your produced water as far as parts per million of chlorides?

THE WITNESS: Yes, sir. We have the analysis in here on that.

MR. PORTER: What was that figure on chlorides?

THE WITNESS: In the No. 1 Atlantic State, the Hanson No. 1 Atlantic State --

MR. PORTER: This is your --

THE WITNESS: The Hanson No. 1 Atlantic State in Section 16, the chloride content was 6,800 parts per million. The sodium potassium content was 4,540 parts per million, with 800 parts calcium, 16 parts magnesium, 2,840 parts sulfate, and 1,086 parts bicarbonate, with a very strong trace of hydrogen sulfate.

Q (By Mr. Kellahin) That is shown on Exhibit 5-A?

A Yes, sir. On Exhibit 5-B, which is the water analysis of the Read No. 1 Snyder, the chlorides were 5,500 parts.

MR. PORTER: Just give me the chlorides, Mr. Schram.

THE WITNESS: Yes, sir.

MR. PORTER: We will examine the exhibits later.

THE WITNESS: The chloride content was 5,500 parts.

Q (By Mr. Kellahin) It is the water from only these

two wells that will be disposed of in your surface pits, is that correct?

A Yes, sir.

Q That is the only wells involved in this application?

A Yes, it is.

Q That water is considerably fresher than any being produced in the area, is it not?

A Yes, sir.

Q Will you refer to Exhibit Number 7, and the study you have made of the hydrology of the area, and in general terms what is the situation of the area involved in this application as to drainage and water availability?

A This is known as the playa area, with several major drainage lakes or playas within the immediate area, Laguna Gatuna being one of the lirgest. The Mescalero Ridge, which is approximately 20 miles to the east, everything from that point over drains toward this playa area, and is all down dip toward this Laguna Gatuna playa. The Laguna Gatuna playa is also a dry lake which National Potash, I believe, is dumping approximately 3,000 barrels of brine a day into, which is a mile and a half further west of Laguna Gatuna. But basically, everything in this part of Lea County drains to this point west of Mescalero Ridge.

Q Is there any fresh water in any of these lakes?

A No, sir.

Q Other than the wells you mentioned, is there any fresh surface water available?

A No, sir, not that we could find any trace of.

Q In the event the Commission sees fit to approve this application and permits continued use of surface pits for disposal of produced water, will that cause any damage to any surface water or any underground water in this area, in your opinion?

A No, sir, not in my opinion.

Q Insofar as you can determine, is there any fresh water there to be damaged?

A No, sir, not that we could find any trace of.

Q In your opinion, would it be in the interest of conservation to permit continued use of the surface pits for salt water disposal?

A Yes, it would be.

Q Was Exhibit Number 1, containing seven numbered exhibits, prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: At this time I would like to offer in evidence Exhibit Number 1, consisting of numbered exhibits 1, 2,

3, 3-A, 4, 5-A, through 5-H, 6-A through 6-F, and Exhibit 7.

MR. PORTER: If there are no objections, the exhibit will be admitted.

(Whereupon, Applicant's Exhibit 1, a multi-page document, was admitted in evidence.)

MR. KELLAHIN: That completes the direct examination, Mr. Porter.

MR. PORTER: Does anyone have any questions of Mr. Schram?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Schram, the well in the northwest northwest of Section 21 is shown as abandoned, and you so stated. You mentioned that there was no information available as to why the well had been abandoned. Do you know when it was abandoned?

A No, sir.

Q Do you know what the condition of the well is at the present time?

MR. PORTER: Mr. Nutter, is that in Section 21 of 20-33?

MR. NUTTER: Yes, that is the Read well on Exhibit 7.

A No, sir, this particular analysis was taken by Mr. Don Gerry, with Minerals, Incorporated at Hobbs.

And, I talked to him about this particular well, and what they did. He told me, he said the well was just sitting there today, and had been abandoned, and that they had taken a tin can on a string and gone down into the well to get the water sample.

Q The well is open at the surface?

A Apparently it is.

Q And they were able to dip a sample out of it?

A Yes, sir.

Q But the analysis is only 3,518 parts per million chlorides, which is acceptable as far as stock usage is concerned, is that right?

A Well, I'm not sure whether it is for stock usage or not.

Q Now, the well up in Section 4 was formerly a stock well?

A Yes, sir.

Q That would be the first well on your Exhibit Number 6-A, in which you stated that the rancher states the water was gyppy, and cattle would walk a greater distance to another water source. I think we heard about that well in previous hearings. That is the one that they walk four miles to get a drink, rather than get a drink out of it.

You don't have any further information on this well in Section 21?

A No, sir. There is a well which is on the same 40-acre tract, I assume, it looks within 200 or 300 feet, it had been abandoned in the field and was drilled some years ago. I found a reference to that well in this Geology and Groundwater Conditions in Southern Lea County, which doesn't give any technical information at all, except that the well had been drilled and abandoned, and they couldn't even say who the well had been drilled by.

Q That is the one that is immediately east of the West Teas Pool?

A No, sir, it is in the West Teas Pool. I have no reference to it in here, because there was no -- well, there is no information that is of any value on that particular well. It is on page 75 of the book, and it does not even state who the owner is.

Pardon me, you are right, it is to the east of the pool, and then there is another well.

Q That would be the well in Section 15 of 20-33?

A Yes, sir.

Q Shown as being 336 feet to the water level?

A Right. And we can't find any indication of that at all.

There is another one in Section 16 that has been plugged that we can find nothing except that it had been plugged.

Q However, the well that is shown on the Lea County Water Study Map in Section 15 is a triassic well, isn't it?

A It would be, yes, it would have to be at that depth.

Q Now, structurally, where is the well in Section 21 as related to the pits?

A Structurally, it would be just -- well, it would be possibly down dip. One would be down dip, and the other would be up dip. They are almost on strike.

Q You have no information as to the depth of the well, except that it's considered to be a quaternary well?

A No, sir, we have a depth of 52 feet on that.

Q Then there are some fresh water wells in the quaternary over at Halfway, and one down at the Bingham Ranch in Section 36?

A Yes, sir.

Q What is the status of the two wells shown in the northwest quarter of Section 25, in between the Bingham Ranch and Halfway?

A I understand those are presently being produced today, they were both being used for stock wells, now.

Q You don't have an analysis of the water on those?

A No, sir, I don't.

MR. NUTTER: I believe that is all.

MR. PORTER: Does anyone else have a question of Mr. Schram?

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Schram, do you know what the ranches are doing for stock water in this area?

A What little water they are producing is shown on the maps. Outside of that, they have to haul it or --

Q Are some of them getting it from a pipeline?

A Yes, sir, there are pipelines. Now, I'm not familiar with that part of it, except that I do know that some of the ranches are getting that water from those pipelines that go to the potash mines, I believe.

MR. PORTER: Mr. Schram, one of your exhibits here indicated that you had talked to at least one of the ranchers in the area, and I was going to ask you what his comments were in regard to your efforts to find fresh water in the area, and so forth.

THE WITNESS: I have not talked, personally talked to any of the ranchers, myself. However, the people that went out and actually obtained the water samples did talk to them. I have, in fact, to the west, oh, approximately ten miles,

drilled, I guess, a half a dozen wells looking for water with cable tools, and there is no water.

MR. PORTER: This was in connection with your attempts to develop some oil acreage?

THE WITNESS: This was in the development of an oil field approximately ten miles to the west.

MR. PORTER: Any further questions of the witness? You may be excused.

MR. KELLAHIN: That's all we have, Mr. Porter.

MR. PORTER: Does anyone have any further testimony to offer in the case, or any statements you would like to make? The Commission will take the case under advisement.

I N D E X

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

I, SAMUEL MORTELETTE, 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.

Samuel Mortelette
COURT REPORTER