STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF ENERGY DEVELOPMENT CORPORATION FOR SALTWATER DISPOSAL, SANDOVAL COUNTY, NEW MEXICO

CASE NO. 11,470

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

March 21st, 1996

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, March 21st, 1996, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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Examiner Hearing
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A P P E A R A N C E S

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By: JAMES G. BRUCE

* * *

WHEREUPON, the following proceedings were had at 8:39 a.m.:

EXAMINER CATANACH: At this time we'll call Case 11,470.

MR. CARROLL: Application of Energy Development Corporation for saltwater disposal, Sandoval County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. BRUCE: Mr. Examiner, Jim Bruce from the Hinkle law firm in Santa Fe, representing the Applicant.

I have two witnesses to be sworn.

EXAMINER CATANACH: Will the two witnesses please stand to be sworn in?

(Thereupon, the witnesses were sworn.)

BRIAN WOOD,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name for the record?

A. My name is Brian Wood. I live in Santa Fe, New Mexico.

Q. And what is your occupation?

A. I'm a consultant for Permits West, Incorporated.

Q. What kind of work does Permits West do?

A. We provide energy-related permits for companies throughout the Rocky Mountains.

Q. Have you previously testified before the Division?

A. No, I have not.

Q. Would you give an outline of your educational and employment background?

A. Yes, I have a bachelor's from the University of Virginia, a master's from the University of Wyoming. I worked for three years for the Bureau of Land Management processing energy permits, and I have been employed by Permits West for the past 11 years. I've permitted injection wells in Colorado, Utah and Wyoming.

Q. And are you familiar with the current Application?

A. Yes, I am.

Q. And was the C-108 in this Application prepared under your supervision?

A. Yes, it was.

Q. And have you been hired as a consultant, or has Permits West been hired as a consultant by Energy Development Corporation?

A. Yes, they have.

MR. BRUCE: Mr. Examiner, I tender Mr. Wood as an

expert in the permitting of injection wells.

EXAMINER CATANACH: Mr. Wood is so qualified.

Q. (By Mr. Bruce) Briefly, Mr. Wood, what does Energy Development Corporation, or EDC, seek in this case?

A. EDC seeks to convert its San Isidro Shallow Unit Well Number 7-11 to a saltwater disposal well.

Q. And they are going to dispose in the Menefee formation?

A. That is correct.

Q. And I believe that an exempt aquifer request has been made because of the quality of the water in the water injection formation?

A. That's correct. The quality of the Menefee is approximately 8500 parts per million TDS, which is less than the normal standard of 10,000 parts per million.

Q. Okay. Let's move on to your Exhibit 1. Will you identify that and describe where the proposed injection well is located?

A. Exhibit 1 is this large sheet of paper. We've marked the disposal well with an arrow. It's in Section 7. The 7-11 well is in Unit K of Section 7, Township 20 North, Range 2 West, Sandoval County.

Q. Okay, and there is a yellow outline on this map. What does that indicate?

A. The area to the left of the yellow outline is all

within the San Isidro Shallow Unit.

Q. And the operator of that unit is EDC?

A. That is correct.

Q. And then there is a green outline surrounding the 7-11 well. What does that indicate?

A. That is the area of effect that's been calculated by EDC.

Q. Okay, and that area would include the west half-east half and west half of Section 7, plus the north half-northwest quarter of Section 18. That's 20 North, 2 West; is that correct?

A. That is correct.

Q. And then the east half-east half of Section 12 in 20 North, 3 West?

A. That is correct.

Q. Okay. Once again, what is the proposed injection interval?

A. The depth of the injection interval is from 2438 feet to 2624 feet, all of which is in the Menefee formation.

Q. And have you on behalf of EDC discussed this injection proposal with the Division?

A. Yes, and we were told that because of the water quality in the injection interval, it would be classified as a Class 2 injection well under EPA regulations.

Q. Okay. So we're here today to request the aquifer exemption?

A. Yes, that's correct.

Q. Okay. Let's go back to Exhibit 1 for a minute. Are there any oil or gas wells within a half mile of the 7-11 well?

A. There are no wells at all. The closest oil and gas well to the 7-11 is approximately 2700 feet north of the 7-11. The 2700 feet is the surface location of the well. It was a horizontal well, and the bottomhole location is at least another thousand feet beyond that point.

Q. And there were several horizontal wells drilled in this unit?

A. That's correct.

Q. Now, can the Menefee be used as a drinking water source, now or in the future?

A. We think not, mainly because of its depth and marginal quality.

It also -- It has not yet proven to be productive for oil and gas in our particular unit, but oil has been detected in at least five tests within the unit in the Menefee.

Q. Okay, and that material is -- or those references are made in the C-108?

A. That's correct.

Q. And is Exhibit 2 the C-108?

A. That's correct.

Q. And the pages are numbered in the upper right-hand corner for reference?

A. Correct.

Q. Now, you mentioned the Menefee is hydrocarbon-bearing also. What, the Menefee is about 2500 feet; is that correct?

A. Right, the zone we're injecting into would be about 2500 feet deep. We think it's impractical and uneconomic as an aquifer because it's that deep.

Q. Have you located any publications to support EDC's assertion that the Menefee will not be a drinking-water aquifer?

A. Yes, we've submitted Exhibit 3. It is a listing of several articles on geology and water resources in northwest New Mexico. These articles state that due to depth and poor quality, the Menefee and other Mesaverde group formations are not considered to be aquifers which are economic or suitable for human use.

Q. Okay. Where are the drinking water sources in this area? And I refer you to your Exhibit 4.

A. Exhibit 4 is a table of water wells in the area. The second page of the exhibit is a plat identifying their

location. The wells are in the San Jose and Animas formations at a depth of about 200 to 800 feet subsurface.

Q. Okay. And the first page of Exhibit 1 [*sic*] lists the wells, and are they then noted on the attached plat, or does that --

A. Yes, they're noted on the attached plat to Exhibit 4.

Q. Oh, okay. The letters on the plat indicate the well locations?

A. Correct, those are the well locations referenced back to the first page of Exhibit 4.

Q. Okay. Are any of these water wells within the proposed exempt area?

A. No, they're not. The closest well is approximately -- closest water well to the 7-11 proposed injection well is 5700 feet southeast.

Q. Are there any major community water supply wells in this area?

A. The nearest community water supply well is approximately eight miles to the northeast. It supplies the town of Cuba. That water comes from the San Jose formation and is of poor quality.

Q. And based on these articles you researched, what is the regional water flow in this area?

A. Basically downdip and to the northwest at this

location.

Q. Who was entitled to receive notice of this Application?

A. The Bureau of Land Management. They're both the surface owner and mineral owner.

Q. And that is also -- maybe not in detail but indicated on Exhibit 1; is that correct?

A. That's correct. The Exhibit 1 does not show the surface ownership, but all ownership within a minimum 4000-foot radius is federal.

Q. This was -- I don't know if this was exclusively, but it was about 99-percent federal unit, I believe?

A. I believe that's right.

Q. There might have been one or two small fee units in there?

A. Yeah.

Q. And was the Bureau of Land Management notified of this Application?

A. Yes, we sent them a registered letter, and we have received the green card back.

Q. And is your affidavit of notice with the letter and certified return receipt submitted as Exhibit 7?

A. Yes, that's correct.

Q. Were Exhibits 1 through 4 and 7 prepared by you or under your direction?

A. That's correct.

Q. And in your opinion is the granting of this Application in the interest of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: Mr. Examiner, at this time I'd move the admission of EDC's Exhibits 1 through 4 and 7.

EXAMINER CATANACH: Exhibits 1 through 4 and 7 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Wood, is Energy Development Corporation the only interest owner in the San Isidro unit?

MR. BRUCE: Mr. Examiner, I can answer that. They are not the only working interest owner. They are the operator designated by the Division.

There are -- I could provide you from a listing from a title opinion. There are a number of working interest owners. EDC -- and I can verify that with one of the EDC people -- is the majority working interest owner in the unit.

EXAMINER CATANACH: Okay. Mr. Bruce, your next witness will be a --

MR. BRUCE: He's an engineer.

EXAMINER CATANACH: He will be able to testify on

the technical issues of the case?

MR. BRUCE: Yes.

EXAMINER CATANACH: Okay.

Q. (By Examiner Catanach) Mr. Wood, did you get any response from the BLM as to your request?

A. We spoke with Pat Hester and Robert Kent who both work in their oil and gas minerals section, and basically they were interested but, you know, neither endorsed nor opposed the project.

Q. Were you responsible for filling out the Form C-108, Mr. Wood?

A. That's correct.

Q. Was this well originally drilled as a producing well?

A. Yes, it was originally drilled into the Mancos, subsequently plugged back, and then a test was made of the Menefee and the test was unsuccessful.

Q. How deep was this well drilled?

A. I believe it was 4500 feet, but let me verify that. Original total depth was 4762. It was plugged back to 4620.

Q. And it was tested in the Mancos and tested nonproductive? If you can't answer that, that's fine.

A. Yeah, I prefer not to.

Q. Within this unit, the production originates from

the Mancos formation?

A. Right, it was designed to be set up as the Mancos production, and it's in the Rio Puerco-Mancos Pool.

Q. What is the source of the water to be injected in the well?

A. It will be from other producing Mancos oil wells in the same unit.

Q. From the Mancos formation?

A. Right.

Q. Under Part VII on page 2, the water analysis that you have listed, are all those from Mancos pools?

A. Just to clarify the 7-3, 5-15 and 12-10 are all producing from the Mancos formation. The analyses listed under the 7-11 are all of the Menefee formation.

Q. Okay.

A. So in essence, that's the receiving waters; the 7-3, 5-15 and 12-10 are the waters that will be injected.

Q. Mr. Wood, as far as you know, is there any Menefee production in this area?

A. The closest I'm aware of, where there's actually been a pool designated for the Menefee, is -- I believe it's the Red Mesa field, approximately 50 miles west.

Q. Fifty?

A. Five-zero, yeah, that's correct. To the best of my knowledge, there's no Menefee production within the

boundaries of the unit itself. Like I say, we have found oil in five different wells that were drilled into the Menefee or through the Menefee in the unit, but none actually produce from the Menefee.

Q. You say you did find oil. Do you have anything to substantiate that?

A. Just the completion reports.

Q. It wasn't present in commercial quantities? Is that --

A. That's correct.

Q. Do you know if that was found in the same interval that you plan to inject into?

A. Offhand, no, I do not. I mean, it is the Menefee interval. But as far as measured from sea level or ground level, I'm not sure if it's the exact same interval. But it is within the Menefee.

We can provide that information, though, because it is -- we do have the tops for where it was tested.

Q. I think that would be helpful processing this thing, if you could supply that.

A. Yes, we can.

Q. Mr. Wood, I think you testified that it was -- the Menefee, in your opinion, wouldn't be utilized as a freshwater drinking aquifer because of its depth and the quality of the water?

A. Right. It's a marginal quality. For instance, as I testified earlier, you know, oil has been found in it. Also, the analyses that we did on the Menefee formation water, we found that the TDS exceeds drinking water standards by over 17 times, it exceeds the drinking water standards for chlorides by four to 15 times, it exceeds the drinking water standards for iron by three times, and it exceeds the drinking water standards for barium by 17 times.

Q. Do you know if this formation outcrops anywhere or if it's used anywhere else as a drinking water source?

A. It does outcrop along the southern rim of the Basin. It is used for water sources. I don't believe it is used as a community water source, more commonly just as spring seeps, shallow water wells for, I would imagine, mainly Navajo families, because it outcrops mainly on the Navajo part of the reservation. But it is used as a water source elsewhere in the Basin, but that would be updip from our well and many dozens of miles away.

Q. Do you have a estimate on how far away that might be?

A. I would say 20 to 30 miles, minimum.

Q. Toward what direction?

A. Towards the southwest predominantly. We do have a map available showing exactly where the surface of the

Menefee formation is. We have not introduced it as an exhibit, but we can supply that. Or if you think it's helpful, I have it with me today, if you would care to look at that.

Q. It might be beneficial to have a copy of that map.

A. Okay.

Q. Just if we could get a copy of it.

A. All right, sure.

Q. You're looking at volumes of 100-to-1000-barrels-of-water-a-day range?

A. We expect in the short term, based on the wells we have out there in the current production pattern, approximately 100 barrels, maybe no more than 150 for the short term.

If we were to do more drilling out there, ultimately it might be as much as 1000 barrels a day. But for the foreseeable future it would be 100 to 150 barrels of water per day.

Q. Do you know for what time period you might utilize this well?

A. We're projecting 15 years.

EXAMINER CATANACH: That's all the questions I have of the witness at this time, Mr. Bruce.

MR. BRUCE: Call Mr. Tibbs to the stand.

MARION TIBBS,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name for the record?

A. My name is Marion Tibbs. I'm a reservoir engineer for Energy Development Company in Houston.

Q. Have you previously testified before the Division?

A. Yes, I have.

Q. And were your credentials as an expert petroleum engineer accepted as a matter of record?

A. Yes, they were.

Q. And are you familiar with the engineering matters pertaining to this proposed well and to this San Isidro unit?

A. Yes, sir, I am.

Q. And your area of responsibility at EDC includes northwest New Mexico?

A. Yes, uh-huh.

MR. BRUCE: Mr. Examiner, I tender Mr. Tibbs as an expert engineer.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Bruce) looking at Exhibit 1, Mr. Tibbs,

we've already described the area affected. What was this based on, or how did you -- what area did you calculate that may be affected by --

A. We prepared a cross-section through the area, and it appeared to us that the Menefee --

Q. That's Exhibit 6?

A. Yes, I believe that's correct.

Q. Okay.

A. 6, yes. And it appeared to us that the Menefee that we're interested in disposing into is pretty well continuous across that area of approximately 640 acres around the proposed well. Actually, it goes a little bit further, but basically about 640 acres around the well is what we thought would be a --

Q. And so this green outline on Exhibit 1 basically incorporates an approximate radius of a mile, or a half a mile --

A. Right.

Q. -- around the well?

A. That's right, that's correct.

Q. Okay. And we'll get into your calculations in a minute.

Along with Exhibit 6, you've got Exhibit 5, and what does Exhibit 5 represent?

A. I don't seem to have that. Oh, okay. Exhibit 5

is a set of calculations that I prepared, assuming some of the parameters that might be involved, like the porosity and water saturation and --

Q. Why don't you go down those and explain where you got them, and then --

A. Okay, porosity and water saturation -- The porosity I obtained from the well log in Well Number 7-11. The water saturation I estimated. It varies through the area from calculated values of 60 percent to 100 percent.

The reservoir pressure I estimated is sort of a maximum pressure, and it's probably not that high. The temperature was estimated from well logs. The thickness I estimated from this cross-section as just an average thickness. The average permeability I obtained from some published data that was in the *Reservoir Engineering Handbook* and appeared to be about 5 to 10 millidarcies.

I estimated we'd be injecting about 150 barrels a day. Actually, it's a little less than that right now. Over a 15-year period that would amount to around 800,000 barrels, over the 640 acres, which would contain some 50 million barrels of water.

So the amount of water that we would be putting into this 640-acre area would be pretty small and would affect it a fairly small amount, compared to the total amount of water that's already in place there.

Q. Now, down below you have some figures, and -- I mean, you say area affected is really only 7.5 acres. Is that --

A. Well, that would be if it all just went in and stayed at one place and didn't move out. But actually, it's going to dissipate, the pressure is going to dissipate over some area, and so over the 640 acres, that would represent about one and a half percent of the --

Q. So there would be a change in the water standard or TDS or whatever of about 1.5 percent?

A. There could be that much, yeah.

Q. Maximum?

A. Right. It would be graded, of course. It would be more of a change nearer the wellbore and less of a change further out. But basically that would be about average.

Q. Okay. So almost a negligible --

A. A very small change, right, in pressure and in water quality.

Q. Now, let's move on to the Form C-108, the Exhibit 2. Let's start out with a few things.

Now, pages 1 and 5 contain data on the 7-11 well; is that correct?

A. Yes.

Q. And gives the schematic of the well.

Is that well -- What is the current status of that well?

A. It's shut in. It had been tested in the Menefee and was nonproductive of oil and gas and has been shut in since several years, four or five years.

Q. Okay. Now, the San Isidro unit was formed basically to drill Mancos wells?

A. That's correct.

Q. Including several horizontal?

A. Right, right.

Q. When was the last well drilled in this?

A. It's been a couple of years since we've drilled a well out there.

Q. Okay. Regarding the Menefee, there is some data on page 3, I believe, of the C-108 listing wells in which oil was found in the Menefee; is that correct?

A. Yes.

Q. And some of the other zones in the Mesaverde group also have oil in and gas in them, and that's referenced on that page also; is that correct?

A. That's correct, uh-huh.

Q. Getting back to the 7-11 well, is it properly cased and cemented to prevent migration of fluids to any other zone?

A. Yes.

Q. Okay. You mentioned the figure, a maximum of 150 barrels of water per day. You said it was more like 100 barrels. Do you anticipate any large increase in that number?

A. No, I don't. There's not a lot of water in the Mancos, and we have, you know, said it could get as high as 1000 barrels, but I think that's probably way high. I doubt it would ever get over 150 or 200 barrels.

Q. There would have to be a substantial amount of drilling?

A. Oh, yeah, and the Mancos just doesn't make that much water, it's not a high water producing zone.

Q. And is all the water that will be injected coming from unit wells?

A. Yes, that's right, from unit wells.

Q. And at page 2 of the C-108, there is water data. Are analyses of the various well water contained at pages 7 through 13 of the C-108?

A. Uh-huh, I see, yeah.

Q. Based on these figures, do you anticipate any compatibility problem between the injection water and the formation water?

A. No, we don't.

Q. They're relatively --

A. Relatively the same. You know, essentially the

same type water.

Q. Okay. And what will be the initial injection pressure?

A. Well, we would maintain a .2 p.s.i. per foot, and that would be probably around 480 pounds for this particular zone, which should be plenty adequate for the volume that we're talking about.

Q. Okay. You had put 700 p.s.i. in the Application, but you will adhere to the Division's --

A. Well -- Right, and if we had to we'd go to a step-rate test or something to justify a higher pressure. But I really don't think it would be necessary right now.

Q. Okay. Now, you've already introduced your Exhibit 6, the cross-section. I don't know if you have any other issues to point out on there, but is the Menefee sealed out from other zones? Are there impermeable barriers there?

A. Yes, there's a -- it's mounted above -- both above and below, the Mancos shale is below it, and the Cliffhouse, the -- or -- There's also a shale marker just above the Menefee datum, and so...

Q. So you don't anticipate that any injected water would move to another zone?

A. No, sir, I wouldn't think -- No.

Q. Will you be injecting into the total Menefee

interval?

A. We would go into the interval shown in red and yellow on the map here, so it won't be the total Menefee. Basically what's shown there in red is what was perforated for the production tests, and that's what we would anticipate using.

Q. Were Exhibits 5 and 6 prepared by you or under your direction or compiled from company records?

A. Company records, yes.

Q. Okay. And in your opinion is the granting of this Application in the interests of conservation and the prevention of waste?

A. Yes, I think so.

MR. BRUCE: Mr. Examiner, I would move the admission of EDC's Exhibits 5 and 6.

EXAMINER CATANACH: Exhibits 5 and 6 will be admitted as evidence.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Tibbs, in the Number 7 well, 7-11 well, you've got five separate intervals that -- or six separate intervals that -- five separate intervals it appears you're going to be injecting into?

A. Yes.

Q. Are those all separate from each other, or are

they in communication?

A. It appears from the cross-section here that perhaps the bottom three are in communication at some point. The top three -- Yeah, there are six, I believe. The top three are separate, and the bottom -- well, the bottom -- In the very bottom set, there are three sets of perforations. Two sets, though, are in one interval. So I'd say the bottom two or the bottom three sets of perforations are in communication at some point from the well.

Q. Do you know what intervals were tested or what intervals contained oil in the wells you tested?

A. Basically the ones perforated there. We didn't do this test; the previous operator did. And we were a partner in the well at that time, but we declined to participate in the test because we didn't think it would be productive.

But basically what they did was select the intervals that they thought, based on log calculations and mud log shows and geological information that they had that it would be productive. So that was their assessment.

And we looked at it and we just thought it would be wet, so we didn't participate in the tests. But it was subsequently proved to be just water-productive.

Q. Do you know how they tested those intervals?

A. They just perforated and swab-tested, as far as I know.

Q. Does your company have access to that test data?

A. I haven't seen any of the data, no.

We were told -- Like I say, we did buy the wells later on, but I didn't find any detailed information on it, other than that they just -- they weren't productive, they didn't make any oil.

But log calculations in there, of course, depending on what you use for a value of R_w, you can calculate some water saturations as low as 60 percent. But obviously, if it were that low it would have produced, I think.

Q. Well, how does EDC know that some of those zones were oil-bearing or contained oil?

A. Only by the shows that were there when the well was drilled. And I don't have those tops, but they are available, where those intervals -- where the shows were encountered.

Q. Was that on the mud log or something?

A. I am sure it would have been mud log, yeah.

Q. Is that available to your company?

A. It is. I don't have it here, but I'm pretty sure that we have a mud log on it.

Q. The direction of flow regionally in this area is

to the southwest? Is that your understanding?

A. That's my understanding, yes.

Q. Okay. Towards the outcrop?

A. That's right, yeah. That's my understanding, yeah.

Q. Have you done any calculations to indicate that this -- whether or not this injected fluid may in fact migrate over a certain period of time towards the outcrop?

A. No, the only calculations I did was for the 640 acres, and we assumed that over the life of this thing it would only affect that area about one and a half percent, so it wouldn't be a lot further than that, which is about a square mile or so.

Q. Is it possible, though, that the fluid could migrate?

A. It would seem to me that the amount of the -- that the volume of the fluid that we're talking about would be so diluted by the time it migrated that far that it would be indistinguishable from the other reservoir fluids.

In other words, the amount of water that we're going to be injecting, in my opinion, would be so small compared to the amount of water that's already there that even as it did migrate -- yes, it would be affecting, but it would also be dissipating out, so that it would be virtually indistinguishable at that point.

Q. What you've calculated then, is, in the short term the injected water will be confined to an area smaller than 640 acres?

A. That's right, we think so.

Q. The current water supply in this area is from depths of 200 to 800 feet; is that your understanding?

A. Yes, sir.

Q. And you believe that it would be uneconomic at this time to drill to a depth of 2600 to recover this water?

A. I would think so, yes, sir.

Q. Is it your opinion that if indeed this source was used as a drinking water source, this Menefee water, it would have to be treated or considerably improved?

A. Considerably improved, yes, sir, treated and improved, yes. In addition to drilling a well for it, you would have to treat the water and make it more potable.

Q. In your opinion, it couldn't be used in its present form for drinking water?

A. No, sir.

Q. Could it be used for other purposes, cattle or anything, as far as you're --

A. I don't -- No, sir, I don't believe it would.

Q. Are there going to be any more wells drilled in the unit, Mr. Tibbs?

A. I don't know at this time. We're looking at this right now, and I certainly would like to drill some more, but we don't have any immediate plans.

Q. You said that this interval is effectively isolated by a shale interval from the Cliffhouse; is that correct?

A. I notice there's a -- there is a shale interval just above the Menefee datum there, which is, I assume, in the Cliffhouse. And I would say that was -- that would keep it from going up.

Q. How about the Point Lookout interval?

A. The Point Lookout, there's also a fairly good shale section between the correlation where it shows as correlation markers and the Point Lookout. There's a shale section in there that seems to be sealing.

Q. Do you know whether the Cliffhouse and Point Lookout are productive in this area?

A. Not that I know of. I'm not familiar with them producing in this area.

Q. Are they water-bearing?

A. The Point Lookout is. I'm not sure about the Cliffhouse.

But we had considered the Point Lookout as a possible disposal zone as well.

Q. What are you currently doing with your produced

water?

A. It's hauled away for disposal, and I'm not sure exactly where. I'm not involved much with the operation, but it's hauled away for disposal.

Q. Is it -- Did you guys look at the feasibility of reinjecting this into the Mancos formation?

A. Yeah, we have talked about that. One problem with the Mancos is that it's so fractured, until -- there's really not much telling where it would go. It's kind of hard to -- You could put it in one well, but it might water out your next well over or something. So we're kind of dubious about doing that, but we have thought about it.

EXAMINER CATANACH: Okay, I believe that's all I have, Mr. Bruce.

MR. BRUCE: A couple of things, Mr. Examiner. I believe the first witness testified that the direction of water flow was to the northwest --

EXAMINER CATANACH: Okay.

MR. BRUCE: -- not to the southwest.

And then I've marked as Exhibit 8 just the completion reports from the five wells mentioned in the Form C-108, which do indicate the oil and gas shows, and I would submit those as part of the record.

EXAMINER CATANACH: Mr. Bruce, if I may, if at all possible, if you guys can find the mud logs on this

well that would probably help us out here.

MR. BRUCE: Okay.

EXAMINER CATANACH: If you could supply that to us.

MR. BRUCE: Yeah, I've made a list. There were several things you requested, and we'll get those to you.

EXAMINER CATANACH: Okay. Just so you understand the process -- Well, let me go into this first.

I think that we're going to have to readvertise this case, because it wasn't advertised, in my opinion, correctly for what you guys are seeking. You are seeking a saltwater disposal well, but it is a special situation, an aquifer exemption, which is a little bit different from what the ad says. So I think that has to be readvertised. That would be, I guess, the earliest for the April 18th hearing up in Farmington.

You wouldn't necessarily have to show up for the next hearing, since you've already given all your testimony, but it might be a good idea in case anybody else shows up to oppose you to maybe have counsel there.

MR. TIBBS: Okay.

EXAMINER CATANACH: After that, the case would likely be taken under advisement, and what I would do is send a packet of everything that you've submitted, plus the transcript of this hearing, to EPA Region 6 in Dallas. We

have to get their approval before we can approve it.

MR. TIBBS: I see.

EXAMINER CATANACH: So, you know, it usually doesn't take them very long to do that. So hopefully, you know, this whole process won't take too much longer than that. So...

MR. TIBBS: Okay.

EXAMINER CATANACH: That being the case, we'll go ahead and continue this and readvertise this case for the April 18th hearing.

And Jim, you might want to get with us on the readvertisement.

MR. BRUCE: Okay, I'll draft something up.

EXAMINER CATANACH: Okay.

(Thereupon, these proceedings were concluded at 9:27 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11470, heard by me on March 21 1996.

David K. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL March 29th, 1996.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998