STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

15 July 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of CRW-SWD, Inc. for salt water disoposal, Eddy County, New Mexico. CASE 9170

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

For the Applicant: Chad Dickerson
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I N D E X

E X H I B I T S

MR. STOGNER: I'll call next Case Number 9170, which is the application of CRW-SWD, Incorporated, Eddy County, New Mexico.

Call for appearances.

MR. DICKERSON: Mr. Examiner, I'm Chad Dickerson of Artesia, New Mexico, appearing on behalf of the applicant, and I have one witness.

MR. STOGNER: Are there any other appearances in this matter?

Being none, will the witness please stand and raise your right hand?

(Witness sworn.)

MR. STOGNER: Mr. Dickerson.

RALPH WILLIAMSON,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. DICKERSON:

Q Mr. Williamson, will you state your name, your occupation, and where you reside?

A I'm Ralph Williamson, President of CRW-SWD, Incorporated. I'm a petroleum engineer by professional training and I live in Midland, Texas.

Q Mr. Williamson, you have not previously testified before this Division, have you?

A No, I have not.

Q Would you briefly for the Examiner summarize your educational and employment background as respects the petroleum industry?

A Well, I received a Bachelor's degree in petroleum engineering from Standord University in 1968. I subsequent thereto served two years in the United State Army in Military Police; received a Master's degree in petroleum engineering at the University of Texas in 1972.

Subsequent thereto I've been an independent oil producer based out of Midland, Texas, doing a lot of petroleum engineering, well drilling and completion; as an independent I did land work and a lot of simple geology. My petroleum engineering curriculum encompassed a lot of geology and basically now I'm full time drilling and production engineer and also operate CRW-SWD, Incorporated, which has a salt water disposal system in this area of Eddy County, which is Townships 26, 29 -- Township 26, Range 29, and Township 26 South, Range 30 East of Eddy County.

Q And, Mr. Williamson, are you also invol-

ved as an oil and gas producer in this area?

A Yes, I am.

Q And do you consider yourself familiar with the oil and gas operations and disposal operations conducted in this area in south Eddy County?

A Yes, I do.

Q And you are familiar, are you not, with the application, the C=108, filed on your behalf in this case?

A Yes, I am.

MR. DICKERSON: Mr. Examiner, tender Mr. Williamson as an expert petroleum engineer.

MR. STOGNER: Mr. Williamson is so qualified.

Q Mr. Williamson, we have submitted to the Division as Exhibit Number One the C-108 filed in connection with your proposed injection well. Will you briefly summarize the purpose of your application in Case 9170?

A Well, in anticipation of increased drilling in the area due to increased price of oil and general optimism in our industry, a new -- another salt water disposal well is needed in this area, and it is my desire to convert the J. C. Williamson Ross Draw Unit No. 9 from a small submarginal oil producer to a salt water injection well.

Q Okay, directing your attention to the

first page of the C-108, you're required to submit well data on your proposed injection well.

Would you turn to your Roman numeral I page of the C-108 and very briefly summarize for the Examiner the information regarding your proposed injection well?

A Well, this well was drilled by Florida Gas Exploration several years ago. They drilled to, let's see, I have it, they drilled to 14,500 feet and attempted to make a completion in various zones, in the Atoka and the Morrow and the Wolfcamp, some in the Bone Springs, none of which were particularly successful.

We, J. C. Williamson, being my father, we bought the well from Florida Gas Exploration and made a completion attempt in the Delaware formation, some 1600 feet below the proposed injection interval.

We did make a small producer there but it was just -- it's just a milker; it doesn't do much and it's really not worth keeping in its present status.

Q In your opinion the value of your proposed injection well as a disposal well exceeds that as an uneconomic producer?

A Very substantially so.

Q Okay. You have summarized on your application the casing, cementing data surrounding your injection

well. Will you summarize that program for the Examiner?

A Excuse me, what's there now?

Q Yes, the -- the --

A Well, we have a small well from 5853 to 69. That's 7-inch casing; it's tied back to 9 --

Q You're referring, Mr. Williamson, are you not, to Exhibit A to the C-108, which is the diagrammatic sketch of the existing wellbore?

A Yes, I am.

Q Okay. Continue.

A And we have 7-inch casing which we're producing through tied back to 9-5/8ths casing with good cement, which is set at 3429; 9-5/8ths cement is circulated to the surface and cement is inside the 13-3/8ths, which was set at 350 feet with cement circulated on it. This should provide a very adequate protection for any fresh water sands and this is an excellent set up for a salt water disposal well.

Q So all your casing strings are cemented to the surface, are they not?

A Well, your 7-inch is not. It's tied back into your 9-5/8ths; top of the cement at 3400 feet, but we do have a solid, solid column of cement behind the pipe going from the proposed injection interval all the way to the surface.

Q Okay. Exhibit B, which is also a diagrammatic sketch of this wellbore shows the situation subject to approval of this Division following conversion of this well to a disposal well, does it not?

A Yes, it does.

Q Can you summarize that briefly for us?

A We are looking at Exhibit B now?

Q Yes.

A Well, we propose to set a cast iron bridge plug at 5750 with 10 feet of cement on top; pressure test it to make sure that it holds; perforate some very massive Delaware Sands from 4420 to 60; 4480 to 4515; and 4580 to 4640; acidize these zones and run a step rate frac gradient test and then fracture treat these sands so as to facilitate salt water disposal.

After that has been done we will put coated 4-1/2 casing with an internally coated Baker LokSet style packer to isolate the -- the annulus, so we can pressure test and this will allow us to be in -- I don't know exactly what the word would be, be in -- to facilitate any State pressure test that might -- that are required from time to time on these wells.

Q That is your injection tubing, I think you stated casing, but it's for injection.

A Yes, well, it's -- it's oilfield casing

but it in this case functions as tubing.

Q Okay.

A It's inside another string of casing.

Q What is your proposed injection formation? Can you describe it for us?

A Well, the injection formations are generally described as Cherry Canyon Sands. They are very large and very widespread sands that cover this whole part of the country. They are known to be water productive and have a large volume of pore space within the sands so that any injection volumes will be diffused out into the sand and not result in any water flows or anything like this. This is a massive sand body that should receive just almost an infinite amount of water before really any presssure effects are seen outside of the immediate vicinity of the well.

Q Mr. Williamson, describe your proposed injection interval for the Examiner.

A Injection interval?

Q Yes.

A Well, I thought I just did that. It's a large, massive Delaware Sand located right below the top of the Cherry Canyon member of the Delware Sand Series and it's just -- it just stands out on the logs as being very porous and it just -- it's a type of thing that you want to inject water into.

Q What I was after, Mr. Williamson, what is your perforating schedule? How will you perforate the interval and what's the depth to those perforated intervals?

A Okay, the perforated intervals are 4420 to 60; 4480 to 4515; 4580 to 4640. These will be shot with 2 shots per foot, acidized in the customary manner to open up the zones, and after that be fraced to facilitate salt water injection.

Q And again, Exhibit B attached, the diagrammatic sketch, reflects that operation after its completion.

A Yes, uh-huh.

Q What, if you did not state in your earlier summary of the original purpose of the drilling of that Ross Draw No. 9 Well, what is the exact perforated intervals in lower zones open in that wellbore?

A Well, there's only one zone currently open, 5853 to 5969, and that's a Lower Delaware Sand series that's productive in the field but in this particular spot it just didn't, didn't do much.

Q On your summary page, which is part of your C-108, you give the depths to the various perforations which have ever been made in that well.

A Oh, yes, uh-huh.

Q Okay, what are the next overlying and un-

derlying oil and gas zones in the vicinity of this proposed injection well?

A Well, below it we have this particular zone from 5853 to 5569. There is a productive zone in the offset well, which is our Ross Draw No. 2, which is producing from 3900 feet. It is another member of the Delaware Sand series. It makes mostly gas and a little oil and a fair amount of water.

There are the Upper Delaware Ramsey Sand, which is marginally productive in the area and it occurs around 3400 feet. There are scattered sands within the Delaware that produce, but there is nothing within the immediate vicinity of the proposed injection zones that -- that are known to be oil productive.

Q Now you're speaking of zones within the Delaware Group?

A Well, the Delaware Sand is a long series of sands. It starts in this area at 3400 and runs to about 7200 where you encounter the Bone Springs. It has never been officially cut up or designated into any particular thing except the Delaware. Many geologists have their own designation schedules of local areas that have certain sands that have names, but the Delaware is still an undesignated series of sands.

Q There are no known producing horizons

above the top of the Delaware?

A No.

Q In the area? How about below the base of the Delaware formation in that area?

A Well, the Bone Springs is a known producer, not in this area. The only deeper production currently developed is the Wolfcamp formation, which is producing in the Apache Corporation Ross Draw No. 8. That's at about 12,000 feet.

You have the Morrow, which is producing in the Ross Draw 10. These are -- well, they're both in Section 27. The Morrow is around 14,000 feet. These have been very nice producers for a considerable period of time but, like I say, they are substantially deeper than the proposed injection interval.

Q Okay, Mr. Williamson, let's turn to your land plat or map attached at Roman Numeral V to your C-108 and would you orient the Examiner from that map with respect to your proposed injection wells and any other wells of interest in that area?

A Is this the plat?

Q Your land plat that you're looking at, yes, sir.

A Well, we have inside the half mile circle, the area of investigation, we have four wells, one in-

cluding the Ross Draw 9. We have the Ross Draw 2, which has a TD, let's see, we have that listed.

Well, in the Ross Draw 2 is productive, I have geological data here, is not drilled to the depth of the proposed injection interval. It's total depth is approximately 3900 feet, and I believe that a well like that is not considered -- if it's not drilled to the depth of the injection interval, it's not involved in the area of investigation, is that correct?

Q Yes, sir, I think so. So there are no wells within the one-half mile radius of your proposed injection well which have actually penetrated the proposed injection zone?

A No. There are not.

Q Okay, but there are four wells which are close to the one-half mile circle?

A Well, there are actually three small -- three wells that are just outside of the circle and I have indicated there are four wells in a semicircle that are within a few hundred feet to about 1000 feet just outside the circle there.

Q And you have included information regarding those wells --

A Yes, I have.

Q -- as a part of your application simply

in case the Division is concerned with any of those wells?

A Yes, I have.

Q Directing your attention to the J. C. -- or the Penroc Well designated No. 5 --

A Yes, sir.

Q -- immediately to the north and very close to the edge of the area of review circle, Mr. Williamson, can you summarize for the Examiner the status of that well and the wellbore?

A Well, that well was drilled originally by Penroc Oil Corporation to a depth of 16,000 feet to the Devonian formation. It was unsuccessful in the Devonian and plugged back to the Morrow and then the Atoka and then the Wolfcamp. It encountered severe mechanical problems to the extent that some tubing was dropped in the hole. The well was jumped out and temporarily abandoned.

At a subsequent date D. B. Baxter reentered and sidetracked this well and drilled the well to a depth of, let's see, 9000 and -- just over 9000 feet, and made a small producer out of the Bone Springs.

The well is currently producing from the Bone Springs, it's completed in the Bone Springs. There's -- it's not making anything. It's basically just sitting there, and in conjunction with this second completion attempt, the first wellbore was plugged in accordance with BLM

regulations. The re-entry went in, 7-5/8ths casing was set at 8235 and a two stage cement job, and the top of the cement was brought to 5400 feet.

Now there is bare 7-5/8ths casing from 5400 to the surface. There is 13-3/8ths casing set at 3300 feet with circulated -- cement circulated to the top, and this appears to me to be the only real, possible problem in the area; if you had -- should have water migration towards this well, you would have nothing to really stop the water from interfering -- to getting on the casing or creating the lethal kind of problems that brine water has, moving brine water has on steel casing.

Q And that is the well -- that would make it approximately or exactly 2810 feet from your proposed injection well --

A Yes.

Q -- slightly more than one-half mile away.

A That is correct.

Q Okay. What's the status of ownership in your attempts to acquire an interest in that well, Mr. Williamson?

A This well is currently owned by the Bill J. Graham Estate and we as producrs have a large override and back-in in the well to the extent that it's noncommercial for the current owners and we are currently

attempting to repurchase the lease and with the intention of making this into a Lower Delaware producer.

Q Before I leave the land plat, Mr. Williamson, I notice that your proposed injection well lies immediately north of the Texas/New Mexico state line, does it not?

A Yes, it does.

Q And the notice which we'll subsequently show to the Division included notice to the operators of these Texas leases --

A Yes, it did.

Q -- shown on that map?

A Right.

Q Let's turn briefly out of order, Mr. Williamson, to Exhibit Number Three and tell the Examiner what that map depicts?

A Exhibit Three is a geological map drawn on the uppermost of the injection sands. There is very little geological variation between the sands involved and it basically shows that the geological relationship in the area, among the current wells drilled, how the proposed injection sands lie in this area.

Basically it's showing that the dip is to the east; the contours run basically north and south, and it is my feeling that any injection water will preferentially

go down dip, which would be presumably to the -- or principally to the east.

The Ross Draw 5 is approximately at the same subsea depth level as the Ross Draw 9. It is about 4 feet higher geologically but for all intents and purposes it's flat geologically.

Q Hypothetically, Mr. Williamson, in view of the lack of cement behind the casing in that well, in the -- across the proposed injection interval, you recognize, do you not, that in the event, although you do not anticipate any problems with that wellbore, that in the event that any problems did come to exist, that this Division would require you to take remedial measures of some type?

A Yes. That -- that -- in the eventuality that you did see a waterflow between streams or if we had a completion over there and all of a sudden we were making a little oil and all of a sudden we started making quite a bit of water, which would indicate a hole in the casing, that would be the time that remedial action would be taken and it would be obvious immediately what had happened, that your water had --had gone, in conjunction with the injection, had gone that way or part of it had gone that way, and that it had eaten up the casing or created a waterflow there.

Q Mr. Williamson, what is your proposed average daily injection rate of water into this well?

A Our proposed average daily injection rate is 5000 barrels a day.

Q And what is your anticipated maximum injection rate?

A The proposed maximum is 7500 barrels per day.

Q And this is an open type system, is it not?

A Yes, sir.

Q What injection pressures do you anticipate?

A Well, we will make every effort to keep the injection pressures as low as we can, but given the depths, we feel like that 750 pounds will -- will get into the formation and our maximum will be 884 pounds.

Q And at any rate you recognize that this Division's rules limit the pressure, absent future tests, to just .2 psi per vertical foot of depth?

A Yes. Yes, I do.

Q Do you anticipate no problems living within that --

A Well, we have two more wells in the area that have the same limitations and we have been able to inject substantial amounts of water at those pressures, so I do plan to run the fracture gradient test on the well but we should be able to live very easily with these pressures.

Q What are the sources of the water to be injected in this well?

A They will be from various formations but 90 to 95 to 98 percent of the water will be coming fromm other Delaware Sand members in the area.

Q You have attached water analyses for the proposed -- or samples of the injection water?

A Yes, I have.

Q Is there any problems revealed by those water analyses, in your opinion?

A Well, this is a really very clean brine water. It has no sulphur. It really is, as brine waters go, a very -- a very benign brine water.

It is brine water but there's no obnoxious chemicals or anything in there that's really going to create a problem any more than brine water would normally create.

Q You anticipate no problem of compatibility with fluids in the injection interval?

A No, I do not.

Q Can you summarize for us the situation regarding underground drinking water, potable fresh water in the area of your proposed injection well?

A The groundwater situation in this area is very sparse. There are two inactive fresh water wells in

the area, none within the half mile area of investigation, and none which are currently producing.

This water is very good, potable water. There's not much of it. Neither one of the wells will put out more than 10 gallons a minute when they were producing and they haven't produced in quite a period of time, and since they are not currently active, I was not able to get a sample of this water, but I do know for a fact that it is good potable water.

Q Okay. Mr. Williamson, you have examined all available geologic and engineering data and from that examination have you found any evidence of open faults or any other hydrologic connection between your disposal zone and any underground sources of fresh water in that area?

A No, I haven't. There are none, to my knowledge.

Q And given the casing and cementing program in your injection wellbore, you anticipate no problems of migration of the disposed water?

A No, I do not.

Q Mr. Williamson, briefly I'll hand you what we have marked Exhibit Number Two and ask you to very briefly summarize for the Examiner what that exhibit is.

A Well, as required by the Commission, we have noted -- notified all of the offset operators and the

surface owners, which in this case is the Bureau of Land Management.

We have the return receipt from all of these notifications and we have received no comments or protests, to my knowledge, from any of the offset operators and the Bureau of Land Management has not said anything about what negative comment -- has made no negative comments about what we propose to do.

Q And the appropriate logging test data on this well, to the extent that you've not specifically described it here today, is on file with the Division and Xeroxed copies are attached to the C-108, are they not?

A Yes, they are.

Q Mr. Williamson, in your opinion would the granting of this application be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

A Yes, I think it would be.

MR. DICKERSON: Mr. Examiner, at this time I'll hand you Exhibit Number Two and I'll move admission of the applicant's Exhibits One, Two, and Three.

MR. STOGNER: Exhibits One, Two, and Three will be admitted into evidence at this time.

MR. DICKERSON: And I have no further questions of Mr. Williamson.

CROSS EXAMINATION

BY MR. STOGNER:

Q In reviewing Exhibit Number Two, let me see, you show Apache Corporation. Are they the lessees in Section 28?

A Well, no, not in 28. They have part of Section 27.

J. C. Williamson, that's my father, is the operator of the Ross Draw Unit, which encompasses this whole area in 22, 27, 26, 34, 35, part of -- well, it's not 23, part of 33.

He is the operator of record for these Apache wells and they operate under designation of operator for -- under his permit there.

Q So that Ross Draw Unit is that border that is in a light dashed line that extends down, encompasses Sections 22, 27, 26, 34, and 35, and half of Section 33, is that correct?

A Yes, sir, that's correct.

MR. DICKERSON: On the land plat, Mr. Examiner, you'll see that Apache Corporation shown in the north half of Section 27.

MR. STOGNER: And it appears that all these notices were delivered in the early part of

June, is that correct?

MR. DICKERSON: Yes, contemporaneously with the filing of this application, Mr. Examiner, and the return receipts show dates of actual receipt shortly after that date.

Q I have a few questions about the Delaware interval in this certain well.

Let's look at the Cherry Canyon, what's known as the Cherry Canyon portion of the Delaware.

In your particular well, do you know the vertical extent of that particular formation?

A Well, the injection sands, if you looked at -- and I have quite a few of the logs here, those sands are -- cover basically -- they're all over the Delaware Basin. These are very prominent, large, highly porous, water bearing sands that just go everywhere.

Q So are you saying that there's really not an impermeable layer between the Cherry Canyon and another interval below it?

A No, there are shales and lime layers substantially above it and below it there are other water bearing sands but the Delaware is characterized by porous sands and shale intervals that also go substantially all over the whole basin, so that these are very definitely isolated from other potentially productive sands.

Q Can I look at your log on No. 1 and figure out what interval the Cherry Canyon does cover?

A The log on No. 1, which well do you need?

Q Yeah, your Ross Draw No. 9.

A Well, I have it here.

MR. DICKERSON: This is Xeroxed, Mr. Examiner.

MR. STOGNER: Yes, it's the one on the cover of Exhibit Number One.

MR. DICKERSON: Mr. Williamson, I think what the Examiner -- can you pick the top of the Cherry Canyon from that log and direct the Examiner --

A Yes, it would be there, as normally picked, it would be at 4365. It's the shale member there and this is one of the generally recognized geological markers in the -- within the Delaware Sand series.

This -- that particular marker is prominent and you can go for thirty miles out there and that particular marker will be there.

Q How about the base of the Cherry Canyon?

A That is a much more indefinite place. Geologist, some will argue it goes all the way to the -- to the top of the Bone Springs. Generally in this area we cut the Cherry Canyon off, there is a series of -- of shale members right below 5100 feet, about 5150 on this log, and that

particular interval is -- is what is generally considered the Cherry Canyon but the bottom part is -- is much more indefinite. These sands, these shale members carry through the basin but there is no, to my knowledge, no official designation of the base of the Cherry Canyon.

Q Okay. Now when I look down at your present producing interval --

A Uh-huh.

Q -- which extends what, 5850 to about 5970?

A Uh-huh.

Q What member of the Delaware is that producing from?

A Well, we call that the Getty Zone for want of another -- another name. It's producing from some Getty, now Texaco, Wells some seven miles to the -- to the west. That's where the name came from but we have currently several wells producing from this zone in the immediate area of this Ross Draw 9, these being the Ross Draw 14, the Ross Draw 12.

Q Where are these wells located?

A Ross Draw 12 is located in Section 33 just outside that half mile circle and the well data is included on our -- on the C-108.

The Ross Draw 14 is also included in the

data -- I don't remember if 14 is, I'd have to look.

15 is included. 14 has recently been re-completed in that zone. I do have the well data from the 14 with me, if it's --

Q Well, that really won't be necessary at this time.

What I am interested, though, Mr. Williamson, is is there any known fracture or anything that would allow this injection water to permeate, come down into your -- this Getty interval, this producing Getty interval?

A Well, we have no evidence of faulting in the Delaware. There -- it's just sand members that are separated by shale, in some places lime zones above and below, that carry for several miles, and we -- we just have no evidence that there's any -- the continuity between the zones is substantial, and we have never seen -- there's no -- not like the Devonian or some of these deeper zones where there are faults where water can permeate along the fault line. They're just -- that's just not what you have in the Delaware.

Q Okay. Let's refer now to the land plat of your Exhibit Number One. Now the way I understand it, the Well No. 2, which is immediately north of your Well No. 9 --

A Yes.

Q -- TD'ed at 3900.

A Yes, uh-huh.

Q And the other two wells due north of there, the No. 1, which is assume is presently producing, only drilled down to what depth?

A 3400. Those are Upper Delaware, both of those. One's a dry hole, one's a little, weak gas well producing at 3400.

Q Now that's Well No. 3, I assume that's the Ross Draw Unit Well No. 3.

A Yes, uh-huh.

Q It showed to be plugged and abandoned.

A Uh-huh.

Q And that TD'ed at 3610, is that correct?

A Yes, uh-huh.

Q Okay, if I swing over from Well No. 9 and go due west of there, I show a Well No. 12, which is right on the line.

A Yes, uh-huh.

Q Do you know what the TD on that well is?

A Yes. That is included in this submittal and the total depth of that well was 6800.

Q Now this well shows to be right on the line. Do you know if in fact it's more than a half mile or less than a half mile?

A I ran it out and it figures out it's less than 100 feet outside that circle.

Q So it is further than a half mile.

A Yes.

Q Just for the record, do you have the casing and the cement records on that well?

A Yes. It's in the -- submitted in the C-108. I was the drilling engineer on that well and we have 5-1/2 casing set at 6800, a DV tool at 5290, and circulated cement -- didn't circulate the cement but we tied the cement back into the intermediate casing as the BLM requires, so that you have a solid column of cement from the centralized pipe throughout this whole interval so that the injection interval, if the water did go that way, would not affect the pipe. That cement would protect it.

MR. DICKERSON: That well is on Roman Numeral page IV, Mr. Examiner, if you haven't found it.

MR. STOGNER: And it's paragraph number two?

MR. DICKERSON: Yes, sir.

MR. STOGNER: J. C. Williamson Ross Unit No. 12.

Okay.

Q Now if I look at your schematic of your

proposed well completion --

A Uh-huh.

Q What packer depth do you plan to use?

A Approximately 4, 4000 feet.

Q Now normally we require 100 foot between your packer setting and your upper perforations. Do you see any abnormality in this?

A Do you want it within 100 feet?

Q Well, normally we do, but do you see any problems to having this set up 400 feet higher than your upper perf?

A Well, I was not aware of that requirement and the 4000 feet is -- I wanted it in the immediate proximity of the perforations. They can be put down within 100 feet very easily. That would not be a problem.

Q If this was approved, though, with 400 foot from your packer setting to your perforated interval, do you see any problem?

A I would see no problem particularly at all.

Q Okay. Would you classify this well as a commercial operation? Will you be injecting somebody else's water into this zone?

A Yes, it will be a commercial operation. The bulk of it will be our own associated water with my

father, myself, and our partners, but the CRW-SWD Stateline System does take in currently some 3000 barrels a day from other producers and this will be combined into the pool of water and I have currently two other salt water injection wells and it all goes in there and it will be spread out among these -- these up dip, the two existing wells and this proposed new well.

Q Okay, what kind of security or what kind of operations do you have out there on this well of who actually injects or puts -- hooks their trucks up to inject into this well?

Will it be your personnel, just any of the drivers that come in to dispose?

A Well, I have an organization there and I have full time supervision of my truck deliveries and the pipeline deliveries, somebody that we have a headquarters set up about a mile west of where our main facility is, he's there all the time. The trucking currently is not a very large portion of our volume but we go to a great, lot of trouble to limit any deliveries of anything that's undesireable, such as vacuum truckloads that have just drilling mud or anything like this. The trucking companies that do deliver to this system are very reputable and we just have not had any problem with anything that's being delivered in there that's obnoxious or -- and we're very

cautious about that because one load of drilling mud would just devastate one of these -- one of these salt water disposal wells, but we have a very large facility and capabilities of cleaning up anything that comes in there.

It's a -- it's a very nice system and I'm very proud of it. It does a nice job. I've had it thirteen, this is fourteen months now, and it's had no problems handling the water so far coming in.

Q When you say your facilities, is this a currently licensed operation? Is a breakout system or what actually are you referring to when you say facilities?

A Well, we have a saltwater pipeline system that has some fifteen miles of gathering lines and then we have 6000 barrels of storage, a couple skimmer tanks; we put chemical into the water to clean it up. We very carefully get all the -- what little oil comes in out of it. Any kind of paraffin or grime or grit is -- is removed from the water as best we can. We've been very successful with this and the water that's being put down in the ground is just basically pure brine water.

Q Is this a system that you have in operation? Is that operated under any particular OCD rules and regs or is that even required?

A We have two approved OCD applications that I did not make. They were done through my predecessor

in interest, Stateline, Limited. I don't have the numbers. I didn't know I would need that. I can submit that. We have two approved salt water disposal wells and we have all of the necessary BLM permits, surface use, and pipeline permits and work very closely with the BLM down there in Carlsbad in conjunction with the surface part of this.

Q If you could get back with me as soon as possible what those two order numbers are, those Division order numbers, --

A Uh-huh.

Q -- I would appreciate it and I'll make that a part of the record in this case.

Now, and all -- 100 percent of the water to be injected into this well comes from that facility, is that correct?

A Yes. This -- this particular well will have a pipeline leading to the well and this will be just a straight injection well. There will be no surface facilities, special surface facilities associated with this well.

Q Okay. Now when you say that this treating plant that you have uses chemicals, what particular chemicals?

A Well, the only chemical that we use is an emulsifier that traps what little oil is -- is in there and picks up paraffin and grime and grit. It floats it. It's a

flotation type chemical that brings the crud and the little bit of oil to the surface. The cleaner-cleaned up brine water goes out the bottom into the holding tanks and we pump that down into the ground.

Q Is some of this chemical, does it remain in the water?

A It's oil soluble so it stays -- it comes out with the -- in the flotation process.

Q Okay, and now is that the only chemicals that you use out there?

A Yes, uh-huh.

Q And that would be the only chemicals other than scale inhibitors and stuff like that?

A Well, we inherit the scale inhibitors and things from the producers but that's part of the normal production process that any salt water disposal system has, but all the ones that we use, and to my knowledge, all the ones that all the other operators in the area use, are all oil soluble, and they all come out and what you have is basically pure brine water that's going into the ground.

Q Okay, now your water analyses here --

A Uh-huh.

Q -- on your Exhibit Number One, are these from your plant?

A Well, now, we have several there.

Q Okay, why don't you break them out for me here a little bit in more detail?

A Okay. We have the first two or combined chemical analyses of the general type of inlet water that we get that we're putting into the ground at the present time. Now, there's two different samples taken at different times that are very similar in character. Those are the first two.

The next represent, we have a salt water gathering station about four miles west of the CRW-SWD main gathering station, and this is a sample of the water, Delaware water, that comes in there, that J. C. Williamson disposal gathering system.

We have the Ross Draw 1 is a sample of Upper Delaware water from the J. C. Williamson Ross Draw 1 is included because most of the water coming in here is Lower Delaware, not Upper, but it's very chemically compatible. It's not quite as briney but it's very chemically compatible with the waters that do come in.

And then J. C. Williamson Addie Federal No. 1 is a another -- is a -- has some zones open and it's another typical kind of Delaware water that comes in to this system.

Q Now you don't have any water analyses from water that's present in the particular producing -- I

mean interval that you're planning --

A No, I don't. This zone is not productive and there has been no time that we have ever had occasion to get a water sample. We've never made a completion attempt in that zone. It is known from samples and logs to be water-bearing and the most -- the nearest salt water disposal facility to this that I don't own is south of this about a mile, operated by H. L. Brown, injects water into the same intervals that I'm wanting to inject into.

MR. DICKERSON: And that well, Mr. Examiner, is shown on the Exhibit Number Three, located south of the Texas state line.

MR. STOGNER: Is that well shown on this map?

MR. DICKERSON: It is shown on Exhibit Number Three, not the land plat but the geological map. It's indicated by the triangle in the southeast quarter of Section 5.

Q Mr. Williamson, do you see any problem once you've perforated the particular interval that you could an analysis run of that so we can have --

A Oh, I can certainly do that. In fact, I had planned to do that as a matter of course.

Q All right, would you submit a copy of that to our District Office in Artesia and also one up here

so that will go on file?

And if there should be any problem, which I don't anticipate, but if there should be, immediate notification would be greatly desireable between you and our District Office in Artesia.

A That would be fine.

Q Okay. Is there any Texas water coming into here?

A Yes, there is some. It does come from the west end of the system. We have four wells in Texas that do -- that we do put in here.

Q Okay. Now this water, is it piped into your facility?

A Yes, we have a pipeline gathering system that principally comes in from the west.

Q Okay. Do the Texas Railroad Commission, us, or the Feds, in this case being the U. S. BLM, is there any special requirements or any special reporting that has be done when water crosses the state line?

A To my knowledge there is none.

MR. STOGNER: I have no further questions of Mr. Williamson at this time.

Is there any other questions of this witness?

MR. DICKERSON: No, Mr. Stogner.

MR. STOGNER: If not, he may be excused.

Is there anything further in Case 9170?

MR. DICKERSON: No.

MR. STOGNER: If not, this case will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9170, heard by me on 15 July 1987.

Examiner
Oil Conservation Division