STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
Santa Fe, New Mexico

4 February 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Producing Texas and New Mexico, Inc. for a waterflood project, Lea County, New Mexico. CASE 9072

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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I N D E X

E X H I B I T S

MR. STOGNER: Call next Case 9072.

MR. TAYLOR: The application of Texas Producing Texas and New Mexico, Incorporated for a waterflood project, Lea County, New Mexico.

MR. STOGNER: Call for appearances?

MR. PEARCE: Mr. Examiner, I am W. Perry Pearce of the law firm of Montgomery and Andrews, Santa Fe, New Mexico, appearing on behalf of Mobil Producing Texas and New Mexico, Inc. in this matter.

I have two witnesses who will need to be sworn.

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

Will the witnesses please stand to be sworn at this time?

(Witnesses sworn.)

WILLIAM E. HERMANCE,

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

DIRECT EXAMINATION

BY MR. PEARCE:

Q Thank you, sir. For the record would you please state your name and employer?

A My name is William E. Hermance. I'm employed with Mobil Producing Texas and New Mexico.

Q And, Mr. Hermance, what is your job at Mobil?

A I'm a production geologist.

Q And have you appeared before the Division and its examiners before and had your qualifications as a petroleum geologist accepted and made a matter of record?

A Yes, sir.

Q Are you familiar with the area surrounding the North Vacuum-Abo Unit in Lea County, New Mexico?

A Yes, I am.

Q And are you familiar with the application on file in this matter today?

A Yes, I am.

Q Mr. Examiner, are the witness' qualifications acceptable?

A They are.

Q All right. Mr. Hermance, tell us briefly what Mobil Producing Texas and New Mexico seeks in this

case.

A Mobil seeks permission to convert the State "N" No. 2 producing well to an injector for the injection of water for the purposes of secondary recovery from the Abo zone on the State "N" Lease, Unit D, Section 10, 17 South, 34 East. This will be in the North Vacuum-Abo Field, Lea County, New Mexico.

Q All right, Mr. Hermance, at this time I'd ask you to approach the exhibits that have been displayed on the wall already and I'd ask you to speak up a little for the benefit of the court reporter and go to the diagram at the far end of the wall and explain to the Examiner and those in attendance what that exhibit shows.

First of all, is that marked as Exhibit One?

A This is Exhibit Number One. Exhibit Number One is a plat map of the North Vacuum-Abo area. The North Vacuum-Abo Unit is outlined in hachure. The State "N" Lease is highlighted in yellow.

Two circles, one half mile in radius and one 2-mile in radius around the proposed injectin well, the State "N" No. 2, which is in the northwest corner, are indicated.

That would be Exhibit Number One.

Q And, Mr. Hermance, the State "N" 2 Lease

adjoins the North Vacuum-Abo Unit on two --

A Correct, on two --

Q -- sides?

A On two sides.

Q All right, sir, let's now look at Exhibit Number Two, if you would, please.

A Exhibit Number Two is a plat with a structure map on the top of the Abo pay interval across the North Vacuum-Abo Unit area.

Again highlighted in yellow is the North Vacuum-Abo Unit, the North Vacuum-Abo East Unit, and the State "N" Lease in yellow.

We see a gently -- a gentle anticline with structure ranging from -4500 feet subsea to -4800 feet subsea to the west of the State "N" Lease, these structures developed over a more deeply buried structure.

Q What is that more deeply buried structure?

A It's a wolf -- fault that was active through the Wolfcamp time.

Q In your review of this area have you found any faulting in the Abo in this area?

A There are no indications of faulting through the Abo or any kind of hydrologic connections to the shallower aquifers.

Q All right, sir. Let's now look, if you would, please, at what we've marked as Exhibit Number Three to this hearing.

A Exhibit Number Three is cross section A-A'. Cross section A-A' is a west to east cross section from the proposed injectioin well, the State "N" No. 2 tying to the North Vacuum-Abo Unit No. 273 at the east.

Highlighted in yellow on this cross section, cross section and structural cross section hung at -4000 feet, is the interval that we propose to inject in and the interval that we are currently injecting in on the North Vacuum-Abo Unit.

The North Vacuum-Abo Unit Well No. 131, located one location into the unit from the State "N" Lease, will be converted sometime later in the spring. That conversion was approved by -- administratively by PMX 140, I believe.

We can see this interval delineated is the total interval from the uppermost perf to the lowermost perf and correlates quite well across and all the way onto the unit. We will be flooding the same interval on the State "N" Lease through the State "N" No. 2 that we are in the North Vacuum-Abo Unit.

Q Okay, before we discuss this any deeper, let's move to what we've marked as Exhibit Number Four,

hanging on the other wall, and if you would approach that.

A Exhibit Number Four is cross section B-B', again structural, hung on a datum of -4000 feet subsea.

This cross section moves from the State "N" No. 2 proposed injector to the southeast onto the North Vacuum-Abo Unit, where we have two injection wells, North Vacuum-Abo Unit No. 170 and North Vacuum-Abo Unit No. 173, and then two producing wells to the southeast.

Here again we will be flooding on the State "N" Lease the same zone that we are currently on the North Vacuum-Abo Unit. The zone climbs here as we climb structurally -- climb up structure.

Q Mr. Hermance, could you give us a brief geological description of the zone?

A The Abo formation is a back reef carbonate. It's largely dolomite in nature. The porosity here averages around 11 percent; very low permeability.

The next lowest producing formation in the field is the Wolfcamp. The Wolfcamp does not produce within a mile of this location.

Above the Abo in the field the next higher producing formation would be the Glorieta at about 6100 feet. That formation does not produce at this locale.

The only formation that has shown production in the area of the State "N" No. 2 is the San Andres

and that is at about 4700 feet.

Q Now I understood you to say that at least two of the wells on Exhibit Number Four are injectors. That's the 170 and the --

A That's correct, the --

Q -- 173 Wells?

A -- 170 and the 173 in the middle of the cross section.

Q And Well 131, shown on Exhibit Number Three, is already approved as an injector into this same zone, is that correct?

A Correct, that will be converted sometime later this spring.

Q All right, sir. Do you have any further geological evidence you believe is important to this case at this time?

A No, I do not.

MR. PEARCE: Mr. Examiner, I have nothing further of this witness. We'll be happy to tender him for questions or, if you would prefer to hear the engineering witness and then ask questions of either witness --

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Hermance -- I'm sorry, how do you pronounce your name, again?

A Hermance.

Q Hermance, Mr. Hermance, sorry about that, you said this was a back reef carbonate.

A Right.

Q And what did you say after that?

A It's been dolomitized. It's largely dolomite now. It's not the Abo Reef that produces elsewhere in the county. It's a much lower porosity, much tighter formation.

Q Okay, and this is the same injection interval as your Bridges State waterflood area, right?

A As the North Vacuum-Abo waterflood area.

Q North Vacuum-Abo.

A The Bridges State would be the San Andres.

Q Sorry about that. Okay, do we find the porosity tighter or more porosity up toward the NS?

A The porosity does not change greatly. You're still working with an average porosity of about 11 percent.

Q How about permeability?

A Permeability throughout the entire Abo is -- is very low.

Q So we don't -- we do not see any change up here in this north --

A No. There's no --

Q -- unit to the north.

A -- significant differences between the Abo formation on the State "N" Lease or the Abo formation on the unit itself.

MR. STOGNER: I have no further geological questions at this time; however, I may some later on.

Are there any other questions of this witness?

There being none, the witness may step down.

GLENN BANKSON,

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

DIRECT EXAMINATION

BY MR. PEARCE:

Q Thank you, sir, for the record would you please state your name and employer?

A My name is Glenn Bankson. I work for the Mobil Oil Corporation in Midland, Texas.

Q Mr. Bankson, what are your work responsibilities with Mobil in Midland?

A I'm a reservoir engineer.

Q Have you previously testified before the Division or one of its examiners?

A Yes, I have.

Q And are you familiar with the application before the examiner today?

A Yes, I am.

Q All right, sir.

MR. PEARCE: Mr. Examiner, are the witness' qualifications acceptable as a petroleum engineer?

MR. STOGNER: Mr. Bankson is so qualified, yes.

Q Mr. Bankson, at this time I'd ask you to look at what we have marked as Exhibit Number Five to this proceeding and describe that to the examiner and those in attendance at the hearing.

A Exhibit Number Five is two land plats that I've prepared to kind of help show just what it is we have in mind on this little project.

The first one shows the wells in the area

of the State "N" leases as -- as they were when the area was developed on 80-acre -- well, 80 acres per well spacing. It shows that there was four injection, active injection wells, No. 172 and 166, 202, and 228. They were part of the original North Vacuum-Abo Flood and that flood was started in 1973.

If you look at the second plat, it shows that on the North Vacuum-Abo Unit we've been -- we've had for the last -- since 1982, an infill drilling program and that infill drilling program, as part of the infill drilling program we reduced the per well acreage to 40 acres and we also enhanced the -- the water injection pattern by converting another 38 wells.

If you look at the plat, the second plat, you can see that we're talking about converting on the North Vacuum-Abo Unit Wells No. 131, 201, and 229. These will be -- the 229 has already been converted and the other, 131 and 229 will be converted shortly, within the next couple months.

Now, what we propose to do, and we've already gone out on the State "N" Lease and drilled No. 3 and 4, it is our plan to go ahead and convert the State "N" No. 2 and thereby form this little pattern that -- that I have marked on this plat here, and that -- anyhow, just kind of initiate a secondary recovery operation on the State "N"

Lease.

Q Mr. Bankson, do you believe that the proposed secondary recovery operation on the State "N" Lease will prevent waste of hydrocarbon and protect correlative rights of the interest owners on that lease?

A I do.

Q At this time I want to look in a little more detail at the application.

I'd ask you refer to what we've marked as Exhibit Number Six.

MR. PEARCE: Mr. Examiner, that's a copy of the cover letter ot the Division with the C-108 and attachments.

Q Would you please, Mr. Bankson, look at the first schematic in that package, which I think is five or six pages in and possibly more, and tell the Examiner and those in attendance what that schematic represents?

A The schematic that we're referring to here is the schematic of the well that we propose to convert on the State "N" Leases, the No. 2 Well.

The schematic shows that we have surface pipe set to 250 feet; an intermediate string set to 3072 feet; and the production string down to total depth of 8970.

The perforations are shown. The perforations are from 8714 to 62.

We have the cement shown here, the top of the cement as originally shown on this diagram. The surface string has been circulated to the surface.

The intermediate string has cement up to 425 feet, and the production string has cement up to 1800 feet.

Q Mr. Bankson, at this time I'd like to refer you to what we marked as Exhibit Number One, which is the first land plat hanging on the wall. I notice there are four yellow highlighted wells running in an approximate line from northwest to southeast. Could you tell us what those highlighted wells are?

A If I may, let me just go over here.

Q Please.

A These four highlighted wells here represent the location of the waters upply wells that we use on the North Vacuum-Abo Field. They are -- the water comes from the Ogalalla. It's a fresh water formation and these waters -- it goes in three stations over here in the North Vacuum-Abo and we also supply water to the East Unit from this -- these supply wells here.

What we propose to do is we left a connection on the distribution line up in this area right here. We propose to run a line across here to the No. 2 Well and have this little waterflood project here supply fresh water.

MR. STOGNER: Okay, when you

say "here", could you please describe that? You're going to have the water supply running up to where?

A All right, the water supply -- the water supply system, the distribution system comes from a station that's located right here, that reaches all the new wells in --

MR. STOGNER: In what section are you referring?

A We're talking about the part of it that is going to feed the State "N" Leases up here in Section 10, and what we've done is left provisions on our distribution system that we can tie into on the Vacuum-Abo distribution system and supply this fresh water over to our State "N" Leases.

MR. STOGNER: And these four supply wells are located in Section 14.

A That's correct.

Q Okay. Mr. Bankson, approximately what depth is the bottom of the Ogalalla in this area?

A The Ogalalla is for all water supply wells around here in Section 14 the depth of the Ogalalla, the depth of the Ogalalla wells is 250 feet.

Q Okay, I notice that in the schematic of the State "N" No. 2 Well shown attached to the 108 it shows that surface casing was set at 250 feet; cement, according

to the form, was circulated on that. Did that surface casing reach the bottom of the Ogalalla and seal that formation off with cement?

A It -- we feel that it did. The 250 feet, when be drilled beyond 250 feet in our wells it leaves the aquifer, the productive aguifer part of the Ogalalla.

Q Okay. At this time, Mr Bankson, I'd like to refer to you what we have marked as Exhibit Number Seven to this proceeding, and ask you to explain to the examiner and those in attendance what that exhibit is.

A Exhibit Number Seven is the operation plan that we have put together for our field engineers to follow in the conversion of this No. 2 Well.

What it calls for is for us to go down there, go down and make extra perforations down from 8739 to 8783. It is essentially within the same area. All we're doing is going in there, digging out some more possible productive zones, and -- and adding some perforations, and then we're going to go in and we're going to set a permanent packer, the schematic on the next page here is also what I'm following, but, yeah, a permanent packer will be set at 8650 feet. That's approximately 60 feet or so above the perforations.

At that point we'll go in with the injection tubing, we'll test it to 5000 pounds, and we'll seat it

and then go through -- well, the completion will include an acid job of approximately 6000 gallons of acid.

Q All right, Mr. Bankson, once again, I think we have it on the record but let's go back. What's the source of the water we propose to inject in this well?

A It's the Ogalalla formation.

Q And the depth of the Ogalalla in this area is approximately 250 feet, is that correct?

A That's correct.

Q And the perforations on the proposed injection well will be from what depth?

A 8714 to 8783.

Q So the vertical distance between these two zones is more than 8000 feet, is that correct?

A Uh-huh, 8500 feet.

Q Have you examined the proposed injection well schematic and other schematics of wells within the half mile radius circle of the injection well?

A I have.

Q And do you have an opinion on whether or not there's adequate protection to prevent the contamination of fresh water as a result of these injection operations?

A I've looked at every one of them and every -- every one of the wells within this half mile area has at least two strings of casing going through the fresh

water formation and each one of these casings, each one of the casings has been cemented and has cementing coming up behind the casing, and just reviewing every one of them it looks to me like there is ample cement behind the casing on each of these strings to protect and keep water from going from the Abo formation up to the Ogalalla.

Q And, Mr. Bankson, why is Mobil Producing suggesting the injection of fresh water on the State "N" Lease and why does it use fresh water injection in the North Abo-Vacuum Unit?

A We have -- we have examined this several times, thinking that we could go ahead and reinject produced water. Our studies indicate that the produced water just has particulate matter in there that would continue -- that would just aggravate the low permeability and high pressure injection that we have to use there.

Our studies indicate that approximately 50 to 60 percent of the productive formation would be lost if these particulate matters were -- that are produced with the produced water were reinjected.

Q Do you have anything further at this time, Mr. Bankson?

A No, I don't.

MR. PEARCE: Mr. Examiner, at this time we do not propose to go through all the attach

ments to the C-108 which show schematics and well information on surrounding wells. As the witness had testified, Mobil producing plans to inject Ogallala fresh water into this well. There is substantial separation between the injection and the fresh water zones; however, Mr. Bankson will be happy to answer any questions that you have on this matter at this time.

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Bankson, let's first look at the casing program that still exists. If you'll run over the 8-5/8ths intermediate string, that was set at 3,072 feet with 100 sacks of cement, cement behind there, and the top of the cement was at 425, is that correct?

A That's with 1000 sacks.

Q Okay, was the top of the cement, was that calculated or was that measured?

A As far as -- we took this out of the files and as far as I can tell it was calculated. Our indications are that it is a calculated top.

Q Was Mobil the operator of this well originally?

A No, sir, this was a Superior well and Mobil just bought out Superior in 1984.

Q When was this well drilled?

A 1972.

Q Same with the 5-1/2, do you know if that was measured or estimted?

A It's the same way.

MR. PEARCE: Mr. Examiner, the page before that schematic is a copy of the C-105 and I would just point out that that C-105 does not show whether that was measured or calculated but I assume it's calculated on both the 8-5/8ths and 5-1/2.

MR. STOGNER: Thank you, Mr. Pearce.

MR. PEARCE: Yes, sir.

Q And you propose to run back in there, pull the tubing, and re-perforate, is that correct?

A Yes, sir, we -- yes, sir, that's right. We always go on and look for -- to see if there's anything that might be productive in there that we have overlooked before.

Q What's your lowermost perforation that you're planning, Mr. Bankson?

A The lowermost is -- would be 8783.

Q Okay.

MR. STOGNER: And, Mr. Pearce, in looking at the advertisement I do show the perforated in

terval from approximately 8714 to 8763; however, we did mention that this injection interval was within the North Vacuum-Abo Pool.

Q Are there any producing wells in the Abo formation either to the north or west of this proposed injection interval?

A We find that the one well to the north is the Koch State "B" No. 2.

Q And do you know the production interval in there, if it extends down to that particular level or --

A To the bottom perforation?

Q Yes.

A We've looked at it. We know that it's in the Abo formation but I haven't checked to see if it's actually going down and picking up those little -- little stringers in there.

As a matter of fact, I didn't have a log; there was no log available for me to actually go ahead and --

MR. PEARCE: Mr. Examiner -- excuse me.

A -- correlate.

MR. PEARCE: Prior to the hearing I pulled the well file on that well. I am looking at a C-104 filed with the Division and approved on October the

2nd, 1972.

Perforations in this well show perforations from 8735 to 8742; 8729 through 8732; 8715 through 8726; 8708 through 8712; and 8687 through 8691.

A Okay, so that the 8691, if we could just look at the -- at the structure map up there, we say that they are just about on a -- on a structural par, and the perforations on this would be just as deep as ours.

MR. STOGNER: Mr. Pearce, do you see any reason that this one would need to be readvertised to correct this 20 foot difference in your production interval -- I mean in your injection interval?

MR. PEARCE: Mr. Examiner, I believe that the advertisement for this case, which describes the formation in which we intend to inject is adequate notice to provide to other operators in the area, specifically that particular operator.

MR. STOGNER: Okay. Was there any -- did you receive any objection from Koch Exploration?

MR. PEARCE: We did not receive an objection. If I may, just a minute -- I'm told that the company never received any response from their notice to Koch that this application was going forward.

MR. STOGNER: Since we used the word "approximate" and we did advertise in the Vacuum-Abo

Pool, I believe the advertisement is sufficient and I'll let that stand as is, and see no reason to readvertise it.

MR. PEARCE: Thank you, Mr. Examiner.

Q What size of tubing do you propose to run, Mr. Bankson?

A We have on the -- let's see, let me just double check that.

Q I'm looking at your Exhibit Number --

A We're going to use 2-7/8ths, sir.

Q I'm sorry, pardon?

A 2-7/8ths injection tubing.

Q And will this be internally plastic-coated or otherwise?

A We don't -- we inject fresh water there, so we haven't been injecting internally pastic-coated pipe.

Q Are there any chemicals that go down with your water?

A No, sir, none, except that once in awhile we put in a little bit of dip inhibitor (sic) or scale inhibitor, but that's very seldom -- just an occasional treatment and that's all.

Q What is the scale inhibitor?

A Well, it's just to keep the -- well, I'm not -- I'm not sure of the chemical compound -- the chemical

compound at this point. I can get that information for you, if you like to get it.

Q What does the scale inhibitor do?

A Well, it just -- it's just a precautionary method of keeping this tight formation in tip-top shape. It's not something that we put a lot of chemical in the ground just periodically. If some of the wells have some scale building up on our perforations, then we go ahead and put some of this chemical in there. But generally speaking, all we ever put in there is fresh water.

Q Are all your surrounding injection wells, are they non-coated tubing, also?

A Yes, sir.

Q What has been your record of tubing failures out there?

A We don't -- tubing failures has not been a problem for us at all.

Q Mr. Bankson, I'm going to check with my District Supervisor down at Hobbs and if this application is approved I'll leave it at his discretion whether to -- as far as the -- what type of tubing, whether it will need to be plastic-coated or anything at that time.

Where is your information on your pressure at which you propose to inject at?

A I can tell you all that information but I

think I need to take a look and see where we have it advertised.

Q While you're looking for that, what is that injection pressure?

A The injection pressure, the maximum injection pressure on the old injection wells out in this area is 4300 pounds to 4400 pounds on the surface.

On the new wells that we've been recently converting out there, we are limited to the .2 per foot.

MR. PEARCE: Mr. Examiner.

MR. STOGNER: Yes.

MR. PEARCE: In the C-108, looks to be approximately 6 or 7 pages from the back of that document, there's a typed sheet which has Roman Numeral VII at the top, Data of Proposed Operation.

MR. STOGNER: Okay, I have that.

Mr. Pearce, it's been our policy, unless a particular advertisement states, we always go with .2 psi per foot depth.

If an order is issued, I will restrict it to .2 psi; however, there will be a provision in there for a pressure increase administratively.

MR. PEARCE: Thank you, Mr. Examiner, that is our understanding also. Thank you.

MR. STOGNER: Thank you, Mr. Pearce.

Q Mr. Bankson, what can you tell me about the four existing wells out there on that lease as shown in your Exhibit Number Five? Are they all producing presently?

A The, let's see, the 131 that we have on there, there is -- is producing right now.

Q I'm talking just about the ones on the State "N" Lease.

A Oh, in the State "N" Lease?

Q Yes.

A The Wells No. 1 and 2 are producing wells. The No. 3, we just -- we drilled it and we are now testing it. And the No. 4, we've also drilled it and it ought to be getting -- we should be running the perforations today or tomorrow.

Q Okay, are these -- are any one of these three existing wells producing any gas per se?

A The gas/oil ratio is very low out there. yes, they produce gas but it's a gas/oil ratio of about 600-to-1000.

Q Is this gas being sold or is it connected?

A It's connected.

Q It is connected; all three wells?

A Yes, sir. Well, you know, the third well, I'm not sure that -- I mean the No. 3 Well, we're just testing. I'm not sure whether it's just going to the test tanks right now or exactly what is going on.

Q What's your date of start-up on the proposed injection, if it's approved?

A What I would like to do on this is -- is line these -- convert this well approximately within the next two or three months, just about the same time we're going to convert the 131 over there in the big unit, and so I can keep the injection rates approximately the same all around.

Q Did this Well No. 2, did it have any stimulation done to it, any fracturing or acid?

A As I said, I just said it received an acid job.

Now, the No. 2 Well is less productive than the No. 1. The stimulation treatments, we have -- it was acidized on completion. We have that information here.

Q Is that shown on the C-105, the completion report, that information?

A Well, let's see.

MR. PEARCE: I lost track, Mr. Examiner. Are we questioning about the 1 or the 2 well?

MR. STOGNER: The No. 2.

A 2, okay.

MR. STOGNER: I believe on the C-105 on that No. 2 it shows that there was 20,000 gallons of 20 percent acid.

Actually, it looks like it was acidized twice.

A Yes, sir, it looks like 3000 gallons the first time and 20,000 gallons the second time.

Q Okay, and that is, as far as you know, that is the only stimulation that was --

A That's the only thing I've been able to find.

Q Okay. Will there be a pre-injection stimulation or anything of that sort?

A We found -- yes, sir, we always -- we plan on acidizing with 6000 barrels. That's spelled out on, let's see, in Item Number 5.

MR. PEARCE: Exhibit Number Seven, Mr. Examiner.

MR. STOGNER: All right.

Q One more question, Mr. Bankson, and we'll get this little thing out of the way.

For NGPA purposes do you think these four wells are needed to efficiently and effectively drain the

proration unit out there, although these -- the pool is on 80-acre spacing?

A Yes, sir. Yes, sir, I do.

Q Okay.

MR. STOGNER: I have no further questions of this witness.

Are there any other questions of Mr. Bankson?

MR. PEARCE: We have nothing further at this time, Mr. Examiner.

I would like to move the admission of Mobil Exhibits One Through Seven to this proceeding.

MR. STOGNER: Exhibits One through Seven will be admitted at this time.

Mr. Lemay, do you have some questions?

QUESTIONS BY MR. LEMAY:

Q Mr. Bankson, when you drilled the No. 3 and No. 4 did you encounter the heavy waterflow in the salt section that's been found in this field?

A No, sir, not on these wells; neither one of them, and we'v been watching for that very closely.

Q Are you familiar with the limits of that salt flow? It doesn't go this far north or west?

A Yes, sir, it has --

MR. PEARCE Go ahead. I just wanted to point out that the previous witness is heavily involved in the committee that's studying that waterflow problem and we may want to have Mr. Hermance answer your questions. I think he's just more familiar with what's going on out there.

MR. LEMAY: I'd appreciate that, Mr. Pearce, if you would.

MR. PEARCE: Bill.

I think the question outstanding was does that waterflow problem extend this far north and east.

MR. HERMANCE: We have not had that --

MR. PEARCE: West, excuse me.

MR. HERMANCE: -- experience with it. The large -- the problem with the flows that are occurring now are occurring down through the central part of the field on some of the Texaco acreage, which is, well, probably about six miles from this location now.

We did not, when we drilled both the 3 and the 4, encounter any kind of flow from the evaporite section. And again, the major flows are approximately six miles to the south of it and we've seen no flows,

to speak of.

We had one, one minor one in the south end of the Abo Unit several years ago that lasted half a day and not very many barrels of fluid and that's the extent that we've seen.

MR. STOGNER: And you're pointing to Section 26 when you refer to the south --

MR. HERMANCE: To the one -- to Section 26 in the Abo Unit; that's the extent of the flows that we've seen.

MR. LEMAY: Appreciate that.

MR. STOGNER: Are there any other questions of either witness?

There being none, the witnesses may be excused.

Mr. Pearce, do you have anything further?

MR. PEARCE: Nothing further at this time, Mr. Examiner.

MR. STOGNER: Does anybody else have anything further in Case Number 9072?

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 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. 9072, heard by me on February 4 1987.

, Examiner
Oil Conservation Division