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

23 July 1986

EXAMINER HEARING

IN THE MATTER OF:

Application of WR Oil and Gas Company for a water/steam injection pilot project, McKinley County, New Mexico.	CASE 8943

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

GARY DITTMAR

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STATEMENT BY MR. CHAVEZ

E X H I B I T S

WR Exhibit One, Map 7

WR Exhibit Two, Map 8

MR. STOGNER: Call next Case Number 8943.

MR. TAYLOR: The application of WR Oil and Gas Company for a water/steam injection pilot project, McKinley County, New Mexico.

MR. STOGNER: Call for appearances, and the room remains quiet.

We will skip over for the time being and recall it later on in the hearing.

(Thereupon at a later time in the same docket Case 8943 was again called and the following proceedings were had, to-wit:)

MR. STOGNER: This hearing will resume to order.

Call next Case Number 8943.

MR. TAYLOR: Application of WR Oil & Gas Company for a water/steam injection pilot project, McKinley County, New Mexico.

MR. STOGNER: Call for appearances.

MR. MANGES: May it please the Examiner, my name is Joseph Manges. I'm of the law firm Stephenson, Carpenter, Crout & Olmsted here in Santa Fe. We represent WR Oil & Gas in this matter.

I have one witness.

MR. TAYLOR: Mr. Manges?

MR. MANGES: Yes.

MR. TAYLOR: Do you spell your name M-A-N-G-E-S-S?

MR. MANGES: Just one S at the end.

MR. TAYLOR: Thank you.

MR. MANGES: We have one wit-

ness this afternoon.

MR. STOGNER: Are there any other appearances?

There being none, will the witness please stand and be sworn.

(Witness sworn.)

GARY DITTMAR,

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

DIRECT EXAMINATION

BY MR. MANGES:

Q Would you please state your full name and occupation?

A My name is Gary Dittmar. I'm employed by WR Oil & Gas Company in Dallas. I am Senior Staff Petroleum Engineer.

Q Have you had the opportunity to testify before the Commission before?

A Not the New Mexico Commission, no.

Q Okay, would you briefly state your educational and employment background for the Commission?

A Okay. I graduated in 1974 from the Uni

versity of Missouri at Rolla as a mechanical engineer and worked for Amoco, W. R. Grace, and WR Oil & Gas in the form of a petroleum engineer.

Q Okay, how long have you been with WR Oil & Gas?

A I've been with WR Oil & Gas two and a half years.

Q And were you employed as a petroleum engineer for that period?

A Yes, I have.

Q And prior to WR Oil & Gas who did you work for?

A Quanah Petroleum for one year and Grace Petroleum for 2-1/2 years.

Q And were you employed as a petroleum engineer there also?

A Yes, I have.

Q And prior to Grace?

A Prior to Grace was five and a half years with Amoco Production in Houston, Hobbs, Odessa.

Q Okay. Are you familiar with the application filed by WR in this Commission in this hearing?

A Yes, I am.

Q Are you familiar with the project that WR Oil & Gas proposes?

Miguel Creek Field has 50 wells
42 producers 8 W.I.

A Yes, I am.

MR. MANGES: We would tender Mr. Dittmar as an expert witness to testify before the hearing.

MR. STOGNER: Mr. Dittmar is so qualified.

Q Mr. Dittmar, would you please take a look at what's been marked Exhibit One?

A This is a field map of the Gallup oil fields in the San Juan Basin and on there we have marked the approximate location of Miguel Creek Field, which is 60 miles northwest of Albuquerque and approximately 15 miles east by southeast of the Hospah Field.

Q Okay. Would you please tell me the present condition of the Miguel Creek Field?

A The Miguel Creek Field has been shut in for approximately two years.

Q When was it last operated?

A Last production of record shows June of 1984.

Q Okay. Approximately how many wells are there in the Miguel Creek Field?

A I the Miguel Creek Field there is approximately 50 wells, 42 producers and 8 water injectors.

Q What formations do the wells produce

from?

A Okay. This formation is locally known as the Hospach formation, which is Upper Gallup sand.

Q And when the wells were producing what was the constituents of the -- of the oil produced? Was it oil and water or mostly oil?

A It was approximately one to one barrel of oil per barrel of water; very low production rate. Many of the wells were shut in at that time.

Q How would you characterize the field at this time?

A Okay, the field itself is very -- or no drive mechanism at all hardly. It's dead oil and therefore needs some assist to be produced.

Q So in your opinion it's a dead reservoir.

A Yes, it is.

Q Okay. Mr. Dittmar, I'd like you to refer to what's been marked as Exhibit Two. It is a large map which was in the back of the application that was submitted.

Could you -- are you familiar with this map?

A Yes, I am.

Q Did you prepare the map?

A Yes, I did.

Q Would you identify for the examiner which

wells are proposed to be utilized for steam injection and which wells for water injection?

A Okay. We have two, two symbols on the map, the triangles and the circles.

The circles indicate the wells that have been previously used as water injectors and which we'd like to continue injection of water into.

The triangles are wells -- are producing wells which we'd propose to inject steam in huff and puff manner.

Q Would you describe what the huff and puff manner is, what it is, what the project is all about?

A Okay, what we propose to do to assist the reservoir and production is to inject steam down the annulus of these producing wells for a period of four days; let the wells shut in for two days and then start production back up.

Q From the same well?

A From the same well. It's more of a method of stimulation than injection.

Q So if you inject the well for four days with steam, how much oil do you seek to produce as a result therefrom?

A Well, we hope that by injecting steam we will lower the viscosity of the oil and hear the reservoir

What else be retained

enough to assist the oil in moving toward the wellbore and in addition to that we are using the injection wells to add pressure and to help movement toward the producing wells.

We hope through a (not clearly understood) method to get anywhere from 14 to 20,000 barrels per well.

Q Could you explain in greater detail how heat will result in the greater production of oil?

A This reservoir essentially has no pressure assist downhole. What we intend to do by lowering the viscosity of the oil is make it easier to move in the reservoir and plus by adding the pressure, the steam, to hopefully allow the waterflood, benefit in our waterflood also.

Q How much pressure, how much steam will be introduced into the formations at how much pressure?

A Okay, we intend to inject steam for a period of four days initially and then -- with a maximum pressure of 500 psi, and what volumes go in, we're not -- we have no idea right now, but we intend to keep -- keep steam pressure and water pressure both and injection until we have parting pressure.

Q Okay. How are you, how do you propose to determine what the parting pressure is?

A We intend to perform step rate tests on

various injectors out here to determine the accurate parting pressure.

Q Once you have determined the parting pressure, then how do you propose to operate the wells?

A Okay, we will inject below that particular pressure so that we will not part formations.

Q Would you explain why it's advantageous to stay below parting pressure in this sort of operation?

A Part of the ideal waterflood philosphy is to get ideal areal displacement, areal sweep and displacement. Parting pressure, above parting pressure would create flow channels from injector to producer and therefore be inefficient and pass reserves, bypass reserves.

Q And if you are experiencing problems injecting adequate, what you determine an adequate amount of steam is into the formation, what do you propose to do?

A If once we start our injection it is determined that the well is -- the rates are not sufficient enough to -- to be of any benefit, we will then acidize, hopefully acidize the well.

Q Okay.

MR. MANGES: We would like to point out that we would like to ask for acid enhancement in the case some of the wells do not -- or the formations do not accept steam, enhanced, adequate steam enhancement.

W.I.

Q Let's turn to the water injected wells. Could you explain how -- what process will occur? How will the water be injected into the wells and at what pressures?

A Water will be injected down tubing. Wells will have packers in them set less than 100 feet above the top perforation. Pressures will be again limited to those below parting pressures as determined by step rate testing yet to be performed.

A water bank will be created and push oil toward the producers.

Q Where -- what are you -- do you propose to use as the source of the water for water injection?

A Okay. We propose water from the Massive Gallup water sand, which is approximately 80 foot below the Hospah.

Q I would like to turn to the application submitted by WR Oil & Gas, and to paragraph 3 of the application, which is the foldout page.

Mr. Dittmar, would you please explain the information on paragraph 3?

A Okay. What we have is tried to put on one page all the information required under paragraph 3 for injection.

As you can see, well type, we have either an O or an I indicating whether it is an oil well or injec-

(sic)
Flooding 8 oil wells and
5 injection wells

tor, and what fluid to be injected down that well.

Date drilled, total depth, some casing details, and how we propose to inject.

Q What's the total number of wells that we're asking for permission to flood?

A Eight oil wells and five injection wells.

Q Could you briefly describe what information is set forth in the casing details?

A On the casing details we have the depths set, size and weight of casing, how many sacks of cement was used, where the top of cement in the annulus is determined through calculations, visual inspection, and where the perforations are, or the open hole completion, whatever the case may be.

Q Would you -- how many of the wells have been cemented to the surface?

A Five wells.

Q And how did you determine that? Would you please go to --

A Those were calculated, tops were calculated based on cement volumes only.

Q Under weight on casing details, what information does that indicate?

A We put the weight of the casing on there to point out that the casing used is -- has high integrity

as far as collapse and burst pressures. In other words, this casing is rated a minimum of 4200 pounds pressure before it would burst.

Q Okay, let's take an example of what we call the lightest grade casing and determine what the bursting pressure has been. Have you made some calculations which would indicate what the weakest grade of casing bursting pressure would be?

A What we have is 4-1/2 inch diameter casing, 9-1/2 pounds per foot, which has a burst of 4380 pounds.

Q Which well is that with respect to?

A There are numerous wells there. That's d38, 37, 49, and on down.

Q What was the figure that you just read?

A 4380.

Q What is the maximum amount of pressure that you propose to inject into the well?

A Right now we anticipate maximum pressure to be 500 pounds downhole.

Q Have you calculated any sort of safety factor?

A That's more or less eight to one.

Q Was that calculation taken -- did that calculation take into account the amount of cement that is

surrounding the casing?

A No, it did not. That would be uncemented pipe.

Q So in your opinion is there an adequate safety margin to prevent against the risk of any bursting under the pressure involved?

A Yes, we believe it is very safe.

Q Have you tested any of the wells in which you seek to inject steam or water?

A No, we have not.

Q Do you propose to test the wells to check their integrity?

A Okay. Prior to injection of water or steam we will run -- we will test the casing for pressure integrity by use of a tubing packer.

Q Could you explain that process in more detail?

A Okay. We will run in with tubing and packer and load the annulus and pressure test the annulus and monitor the pressure and if we have a pressure decline we would have a hole somewhere and we would either repair or move on to another well.

Q In the event that you have a hole, well, would you explain how you will know there is a rupture in the casing in greater detail?

Completion Method of W I W

A Okay, the annulus will not hold pressure; therefore we know fluid has to go somewhere.

Q How do you propose to guard against the risk of any ruptures during the operation of the injection?

A Okay, each injection will be -- water injection well will be injected through tubing and packer systems. The back side above the packer will be loaded with KCL water, and pressures will be monitored on the annulus also.

Q Are you going to add any other chemicals to the steam or --

A Okay, we will add KCL to maintain a Ph above 7.

Q What effect will maintaining the Ph above 7 have?

A It will lessen the risk of any corrosion.

Q In your opinion would approval of this application result in the production of oil which otherwise would not be produced and thereby prevent waste?

A Okay, we -- we feel that a successful pilot would yield up -- and (unclear) field expansion would yield up to a half million barrels of oil minimum.

Q I'd like to go back to Exhibit Two briefly and have you point out why you chose the various locations for the injectors.

A Okay, we -- we chose these particular producing wells to get both an idea of how each section of the field would respond to steam and how steam would respond under waterflood conditions. We have wells that are remote from any water injectors and we have wells that are included inside of a 4-spot, so that -- and that way we can determine whether injection, water injection is necessary and how helpful it is if it is necessary.

Q Will you be monitoring the effect of injection on the other wells in the field?

A Wells which are not in the pilot area will have pressure gauges and will monitor any pressure increase if we see it on most of these wells.

Q Okay, would you describe what the half circles surrounding the field are about?

A Okay. Each -- each proposed injector had a half mile radius circle drawn around it and these are just the outer boundaries of that -- those circles, so as not to clutter up the map.

Q Okay.

A It essentially encompasses the whole Miguel Creek Field.

MR. MANGES: We'd like to offer Exhibits One and Two into the record.

MR. STOGNER: Exhibits One and

Two will be admitted into the record.

MR. MANGES: That concludes my direct examination of Mr. Dittmar.

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Dittmar, let's look at the steam wells for a second. Could you walk with one of those through me with any special --

A Okay, but --

Q Let's go back to one of the steam injection wells. Would you please walk it through with me, your proposed schematic, the equipment you used, steam generation, how do you propose to make the steam? Is this going to be a steam generator per well? Is this going to be a centralized steam injector? How's it going to be heated, and essentially give me an overall view of it.

A If you can turn to the next page we have a schematic diagram of a producing well.

This particular well, as you see, is cemented to surface. It has 5-1/2 inch casing in it and perforations are at approximately 900 foot.

What we'll do is we have a portable steam generator that is propane fired and we intend to get the steam up to 330 degrees and 500 psi.

We'll inject down the annulus. We'll have the tubing, or the pump will be shut, shut-in, and hopefully force the steam into the perforations.

This generator is trailer mounted and pulled behind a pickup. We'll have water from the Massive Gallup. We'll make a connection with the water supply wells and steam, steam it for approximately four days, at which time we'll remove the equipment. The well will remain shut-in for another two days and then we will turn the pump on and pump out what we can.

The steam itself, the heat itself is generated through propane and those flue gases or the exhaust gases will be also re-induced into the boiler.

Q Okay, how many days will you be pumping? Is this predetermined or will it just --

A It's -- it's trial and error method. We'll be monitoring offset wells with pressure gauges. We don't anticipate seeing any pressure increase in offsets. Four days was an arbitrary number and to start with right now.

Production, hopefully, will last in the neighborhood of six to eight months.

Q This 2-3/8ths inch tubing, that won't be pulled during your injection process, right?

A No, sir, it will not.

Q Will that be able to withstand 500 psi?

A Yes, it should.

Q Now you show this particular well, which is Well No. 54, to be cemented all the way back up to the surface; however, when I look over --

A Yes, sir, there are others that -- that the cement top's been calculated. I believe the deepest cement top is a little under 400 foot from surface.

Again these are calculated tops.

Q Would you elaborate on that? Is there any possible danger or --

A Okay.

Q -- any --

A We don't foresee any danger at all by injecting steam down the annulus.

Q Without that portion that would -- that portion of the casing that doesn't have cement --

A Right, there should be no problems. The casing is rated well above 4000 pounds.

Q What is the maximum temperature that will be reached during this steam injection?

A 330 (inaudible).

Q What kind of extra problems will that cause, the tubing, casing, cement, or other facilities out there?

A There may be some expansion in the casing but not sufficient enough to warrant any problem.

Steam had been successfully injected in wells to the north on the State lease.

Q In the same procedure?

A Using different equipment but basically the same procedure.

Q Is there any water zones, fresh water zones, above this perforated interval?

A None that we're aware of. Water is produced out of the Massive Gallup, which is approximately 80 foot below the top of the Hospah. There's 50 feet separation between the Hospah and the Gallup.

Q And what separates this?

A Shale.

Q Shale. Where are your source water wells at?

A There's one by 6-Y; by 44, I believe, and then one to the north by 80. The exact locations right now I don't have on my map but there are three source wells scattered throughout the field.

Q Are they designated on this map?

A No, sir, they are not.

Q Have they been drilled or are they --

A They've already been drilled.

Q Could you submit me some information on those water wells?

A Yes, I could.

Q Do you have water analyses on that water?

A Yes, there's a water analysis included in the brochure. Both waters out of the Hospah and out of the Gallup are drinkable.

Q Okay, if I refer to your booklet that you identified as your application, the second to the last page marked water analysis, is that your source well or is that --

A That is a produced well. That is Hospah water, and the next page is the water from the water source well.

Q Who is the surface owner out here in your area of review?

A Okay, the surface owner is Lea Ranch, Fernandez Company (sic).

Q And have they been notified?

A Yes, sir, they have.

Q Do you have a notification on that?

A Yes, we do.

Q Is that submitted with the --

MR. MANGES: We've submitted that, that's correct. It should be in the file.

Q Is that by letter dated June 127th, 1986?

A Yes, sir, it is. We also have registered mail certificates.

Q Did you make me a copy of those?

MR. MANGES: The green -- the originals have been submitted to the Division.

They were submitted yesterday so they may not have been filed.

MR. STOGNER: Oh, were they mailed yesterday?

MR. MANGES: They were hand delivered.

MR. STOGNER: And who were they given to?

MR. MANGES: I can give you a copy of what was submitted.

MR. STOGNER: You did submit them to this office, right?

MR. MANGES: Yeah.

Q Okay, now on this notice you show that a Mr. --

A Mr. Davidson?

Q Yeah.

A Mr. Davidson is an offset operator, Northern Minerals, which has a lease to the north and to the

south.

Q And there are no other operators or leaseholds out there?

A No, sir, there are not.

Q You mentioned something about acid enhancement. I'm confused about the terminology and I really don't know what you mean.

A Just an acid stimulation, 500 gallons hydrochloric acid, a near wellbore cleanout.

Q This is for the producers or injectors, or both?

A Both, depending on if we see a need, These wells have been shut in for two years and have really never been stimulated upon completion.

MR. STOGNER: Mr. Chavez, do you have any questions of Mr. Dittmar?

MR. CHAVEZ: Yes, I do.

Frank Chavez, District Supervisor, Oil Conservation Division, Aztec Office.

QUESTIONS BY MR. CHAVEZ:

Q Mr. Dittmar, how many other huff and puff projects have you operated?

A None.

Q This will be your first one for your com-

pany?

A Yes, it will.

Q Will this be a pilot project starting out with just a few, one or two wells and working to the others?

A This will encompass the thirteen wells that the application covers, so we will do each of these eight producers.

Q Do you foresee that perhaps some initial results might, if they're not very good, would cause you to not complete the project?

A No, we intend to go through the pilot.

Q Do you not foresee any problems with the casing failures caused by expansion or contraction from the heating and cooling of the casing in the steam injection wells?

A We've tried to get information on that. Right now we do not foresee any problems.

Q How about the expansion and cooling of the tubing and the sucker rods on the pumping equipment that may be in the well?

A We have no knowledge of any problems like that.

Q So you'll be injecting not only steam but also flue gas from the generator, is that correct?

A That is correct.

Q What is the cycle length on the steam cycle, steaming cycle and then a production cycle for these wells? Is that, I guess, I didn't understand but you've already explained that.

I know you will inject for four days, shut in for two, and then produce for how many days?

A Hopefully, we're talking, instead of days we're talking months.

Q Okay.

A And we hope to have at least six months of production. Then depending on what the rate has dropped to either re-steam, in other words cyclic. As far as how long the cycles are, we have no idea right now.

Q Okay, so that will depend on the results of the initial steaming?

A Yes, it will. We do know that on one of the wells that Golden Exploration had steamed to the north, pressure maintained on that well for well over a year; however that well was shut in, so there's real good handle on a time.

Q Will you change any perforated intervals by adding new perforations or closing any on any of the wells in the project?

A Not on these particular wells, no.

Q Have you discovered any discrepancies

with the data which is available to you on the actual conditions of this field concerning the wells, any wells?

A We made a field inspection and found the location of one well to be erroneous or -- and (not clearly understood) and relied heavily on data submitted to the state.

Q And which well was that, for the record?

A Okay, for the record it was Well No. 81, which is located on the map on the leaseline between -- or section line between Section 20 and 21, between the two proposed injection wells.

That well was permitted east of Well No. 80, about halfway on a diagonal between Wells 49 and 59.

MR. CHAVEZ: That's all the questions I have, Mr. Examiner.

MR. STOGNER: Thank you, Mr. Chavez.

RECROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Dittmar, who owns the mineral rights under the Felipe Tafoya Land Grant which intrudes up in Section 32?

A We don't know. We don't know that answer.

A SPECTATOR: Lea Ranch.

A Lea Ranch? Lea Ranch owns the minerals?

Q The reason I'm asking, they're within a mile of one of your injection wells up there in my crude measurement, but Lea Ranch was notified, that should be sufficient.

Do you know of any other wells within the half mile radius of these injection wells that are not shown?

A No, sir, we do not.

Q Is this within a designated pool?

A This is in the Miguel Creek Gallup.

Q In looking at the south half of 20 and the southwest quarter of 21 and the northwest quarter of 28 and the north half of 29, these particular portions of those sections which I just mentioned, are they within one single lease or is it a separate lease?

A That is all one lease.

Q All one lease? Okay.

A Yes, sir.

Q So there's no need of -- within that lease, then, all of the royalties and mineral interests are the same?

A Right. We have outlined this lease on the attachment on the wall.

Q And all the mineral interests are common throughout.

A Yes.

Q So there would be no need of unitization or anything such as that.

A No, sir, not for these wells.

Q Okay.

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

I'd like to make note for the record I'll take administrative notice of the application which has -- which was submitted in book form.

MR. MANGES: We have one further request.

MR. STOGNER: Yes.

MR. MANGES: We'd like to reserve the right to expand the program with -- subject to administrative approval pursuant to Rule 701-E.

And the only other comment I have was, Mr. Dittmar, have you had experience with other waterflood projects?

A While I was with Amoco I was in charge of several waterfloods, both the production side and reservoir modeling.

I also worked with Amoco on CO2 enhanced

pilot in West Texas.

With Grace petroleum I initiated a CO2 flood in Montana and a polymer flood in Wyoming.

And when I was with Amoco in Hobbs I was in charge of the South Hobbs Waterflood Unit and also expansion of Bravo Dome CO2 Flood.

That will be all.

MR. STOGNER: One more question and then I'll be through.

On your step rate test, do you propose to do step rate tests on all the injection wells or do you have some other plan?

A We propose a minimum of three, 6-Y, 2 in the massive injection area.

MR. STOGNER: 6-Y and the No. 2?

A 6-Y and then one of the -- two of the wells, 79, 80, 82, 83, two of those wells, for a total of three tests.

MR. STOGNER: Do you have any idea when those will be ran?

A The first step rate test will be run after stabilized injection has occurred.

MR. STOGNER: I'm sorry?

A After the state has stabilized. In other

words --

MR. STOGNER: Stabilized at what, the pressure?

A After minimum pressure is stable; the pressure range is stable.

MR. STOGNER: You stated 500 psi, is that right?

A That was under steam. I believe 250 psi maximum waterflood.

MR. STOGNER: And the injection depth is what, about 800 feet?

A 800 feet, approximately. We're anticipating a bottom hole pressure maybe of 500 pounds.

MR. STOGNER: But you have no pressure information at this time?

A We have past injection pressures from a waterflood performed by Capital in the area, and we feel that their pressures weren't in excess of parting pressure at all and therefore the proposed step rate tests to determine that.

MR. STOGNER: Could these step rate tests be run before the project gets kicked off?

A There's been no water injection in these wells for two years, so that we need to stabilize some kind of water injection at minimum rate --

MR. STOGNER: You're talking about stabilizing at 250 and the maximum is 160 for the .2 psi per foot depth.

A We anticipate --

MR. STOGNER: So will you run that before you inject above 160?

A Okay, we looked at a .7, .8 fracture during these wells and feel that a .2 is a minimum.

MR. STOGNER: But you don't have nothing to show me that.

A No, sir, we do not.

MR. STOGNER: Okay. Is there anything further in Case Number 8943?

MR. CHAVEZ: Mr. Examiner, I'd like you to take administrative note, unknown to -- the best records available to the applicant indicate that there are two wells which are plugged; however, investigation by the District Office indicates that two of the wells as shown on the exhibits are probably not plugged; one may have been an illegal re-entry or illegal redrill within that area.

MR. STOGNER: Which ones are those, Mr. Chavez?

MR. CHAVEZ: In Section 29 towards the middle of the section where it says, just under the "N" of Northern Minerals No. 16, there's a well there at

this time and we have not yet determined whether it was an illegal re-entry of a plugged and abandoned 16 or a redrill of a new hole at that -- right next to that location.

The second well is the Sinclair Well, which was drilled, let's see, it's in the southeast corner of Section 20, where you see Well No. 41, right next to it as a P&A for a No. 1, that's another Sinclair well.

That well had been turned over to the ranch to use as a water supply well, however, our investigation so far has indicated that it was not plugged and it was completed in the formation under question.

MR. STOGNER: And these are the the only two wells which you know of?

MR. CHAVEZ: Yes, sir.

MR. STOGNER: Is there anything further in Case Number 8943?

The witness may be excused and Case Number 8943 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. 9943, heard by me on July 23, 1986.

Michael E. Stogner, Examiner
Oil Conservation Division