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

29 July 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of Sage Energy Company for a waterflood project, Lea County, New Mexico. CASE 9182

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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I N D E X

JAY H. HARDY

E X H I B I T S

E X H I B I T S CONT'D

MR. CATANACH: Call next Case 9182.

MR. TAYLOR: Application of Sage Energy Company for a waterflood project, Eddy County, New Mexico.

MR. CATANACH: Are there appearances in this case?

MS. AUBREY: Karen Aubrey, with the Santa Fe firm of Kellahin, Kellahin & Aubrey, for the apaplicant.

MR. CATANACH: Are there other appearances in this case?

MS. AUBREY: Mr. Catanach, I believe that Mr. John Etcheverry wrote a letter to the Division indicating that he had some opposition to our application; however, he does not appear to be here.

MR. TAYLOR: I was just going to ask where he was at.

MS. AUBREY: I spoke to his lawyers on Monday and they indicated to me that they would not be appearing on his behalf and were not going to present the underground trespass claim they'd outlined in their letter; however, they didn't know whether Mr. Etcheverry would be here himself or not.

MR. TAYLOR: Is there only one witness?

MS. AUBREY: I have only one witness.

(Witness sworn.)

JAY H. HARDY,

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

DIRECT EXAMINATION

BY MS. AUBREY:

Q Would you state your name, address, and occupation for the record?

A My name is Jay H. Hardy. I'm an engineer for Sage Energy Company and reside in Midland, Texas.

Q And, Mr. Hardy, as a petroleum engineer have you testified previously before the Oil Conservation Divsion?

A Yes, I have.

Q Are you familiar with the application of Sage Energy in this case?

A Yes, I am.

Q Let me have you look at the C-108 that

was filed. Do you have that there?

A Yes, I have.

Q And you signed that C-108, is that correct?

A That's correct, I did.

MS. AUBREY: Mr. Examiner, are the witness' qualifications acceptable?

MR. CATANACH: Yes, they are.

Q Mr. Hardy, let me have you look at Exhibit Number One. Can you describe for the Examiner what that shows?

A Right. Exhibit One is Midland Map Company map showing the mineral interest in our area of interest and showing the 1/2 mile radius circle around the proposed injection well of this pilot waterflood.

Q With reference to that exhibit can you describe for the Examiner what it is that Sage Energy seeks today?

A Sage Energy Company proposes to convert the New Mexico State 30 No. 1, which is in the northeast of the southeast of Section 30 in the center of the circle, to a water injection well as a pilot waterflood in the Tres Papillotes Pennsylvania section at 10,400 feet. The anticipated response well is the Etcheverry No. 1, which is in the northwest quarter of the southwest quarter of Section

29.

Q Let me ask you about the mineral ownership briefly. Do you know who owns the minerals in Section 29?

A Mr. Etcheverry owns the minerals in Section 29.

Q And do you know who will benefit, ultimately benefit if the pilot waterflood project is successful in terms of existing wells?

A We believe that Mr. Etcheverry as the mineral holder will definitely benefit.

Q In which well do you believe you will first see the response to the watlerflood project?

A We believe we'll see the response first in Etcheverry Well No. 1, which is that well there in the northwest quarter of the southwest quarter of 29.

Q And do you know, sir, approximately what the producing rate of that well is now?

A That well is currently making 5 barrels of oil and one barrel of water.

Q Q Do you have an anticipated rate at which it will produce if the waterflood project is successful?

A Based on an analogy which is the North Vacuum Middle Penn Waterflood, operated by Mobil and is fif-

teen miles south of this pilot, we estimate that that production could go to 100 barrels a day, barrels of oil a day, that is.

Q And do you have an estimate as to how long you expect it to take before that well shows a response?

A My calculations show that if it doesn't respond in about 1.3 years we may have a problem.

Q If it doesn't -- if you don't see a response in that time then you would determine the project was not successful, is that correct?

A That's correct.

Q Do you have any more comments about Exhibit One, Mr. Hardy?

A No, I don't.

Q Let me have you look at Exhibit Number Two, Mr. Hardy. This shows a tabulation of the wells within the area of review, is that correct?

A That's correct.

Q Was that prepared by you or under your supervision?

A It was.

Q And this shows the well in which Mr. Etcheverry has an interest, is that correct?

A Right. That -- Mr. Etcheverry's well is

the John Etcheverry No. 1, which is the first well at the top of the sheet there.

Q Did you make your own investigation with regard to the data on here showing the casing and cementing programs in these wells?

A Yes, I did.

Q Where did you get that information, Mr. Hardy?

A The information was obtained from the New Mexico Oil Commission in Hobbs, from their plugging records, which in further exhibits, which I believe is Exhibit Three.

Q Were you able to find information on all of these wells that you believe was sufficient to show that the plugging and casing information you have on Exhibit Two is accurate and correct?

A Yes, I was.

Q Let me have you look now at Exhibit Number Three. This exhibit has a number of pages. Can you generally describe what the exhibit is for the Examiner?

A Right. The first part of the Exhibit is just a summary of the plugged wells with the actual plugging and the number of sacks of cement and whether or not the pipe was pulled. That's just the wells that have been plugged.

And then following that is a schematic of

each one with the way the well was plugged, sacks of cement, where it was originally completed and for every well that's been plugged in that radius, half mile radius.

Q And in reviewing this data, Mr. Hardy, do you have an opinion as to whether or not the plugging and cementing programs shown by this data are sufficient to protect fresh water sources?

A In my opinions the water that goes into the Tres Papillotes zone there will stay in the interval, that has been isolated adequately to keep it within that interval.

Q And you've attached a C-103 to each of your well schematics for each of the plugged wells, is that correct?

A That's correct.

Q Let me take you now to a description of the project as Sage proposes it. You have Exhibit Number Four in front of you. Would you go through that for the Examiner and generally describe how you propose to recomplete the proposed injection well and what Sage's long term project -- prospects are for this area?

A Okay. The data summarized there starts out with the estimated rate of 300 to 500 barrels of water per day. The 500 rate will give us some kind of response in 1.3 years and once again this based on Mobil's Middle Penn flood in the North Vacuum Middle Penn Waterflood.

The injection system will be closed because we will be using fresh water and we need to keep as much of the oxygen out as we can.

Q Let me stop you there, Mr. Hardy. Can you explain for the Examiner why it is you propose to use fresh water in this injection well?

A The reason that we're using fresh water is just based on Mobil's result. They have done a detailed core study of the Pennsylvanian and the Abo and by using other water than fresh water they found that the pore throats are clogged by the solids in the water. It's very sensitive, this formation is very sensitive to extraneous water and which resulted in real high injection pressures and very poor results. It was not until they changed to fresh water that they were able to see any results, with fresh water having a very small amount of total dissolved solids.

Q Mr. Hardy, what is your proposed injection pressure?

A We feel that the maximum pressure will go to 3000 pounds which is a .7 gradient.

Q Do you know whether or not that exceeds the Oil Conservation Commission's guidelines?

A Yes, it does exceed the guideline.

Q What's your proposal with regard to ex-

ceeding -- in the event you do exceed those guidelines, what's your proposal to the Division?

A Well, we'll just have to show that we have to -- have to have that kind of surface injection pressure to be able to get results and I think if this pilot is successful, we'll be able to show that.

Q And will you -- will Sage be willing to submit to additional testing as determined by the Division in the event that you do exceed the surface pressure limitation?

A Yes, we will.

Q What's the injection zone, Mr. Hardy?

A Okay, the injection zone is the Penn, the Bough C, and from 10,392 to 10,407. The thickness of the Penn formation, as such gross section, is about 700 feet, but we're only talking about 16 feet of net pay here in this particular well.

Q Was this a well that Sage had drilled?

A That's correct. Sage drilled this in 1985 -- 86, excuse me, 86.

Q And is the well now plugged and abandoned?

A No, it is not. The well is producing 3 barrels of oil and three barrels of water.

Q Have you made an investigation of the

source of -- underground sources of drinking water in the area?

A Yes, I have.

Q Can you describe for the Examiner what the -- those sources are?

A Well, it's the Cretaceous at about 250 to 350 feet.

Q Have you found any evidence of a fault or hydrologic connection between the injection zone and that source of drinking water?

A No, I haven't.

Q Do you have any other comments to make about Exhibit Number Four, Mr. Hardy?

A No, I don't.

Q Exhibit Number Five appears to be a water analysis. Can you describe the source of the water that was analyzed by Halliburton as shown on Exhibit Five and describe its relevance to your application?

A The Exhibit Five is an analysis of a fresh water well which happens to be 100 feet away from the John Etcheverry No. 1 in the northwest quarter of the southwest quarter of Section 29, and the analysis of that water shows a very low total solids, less than 600 parts per million.

Q This is not from a well located on Sec-

tion 30, though.

A No, it is not.

Q Do you have an opinion as to whether or not you would expect an analysis of fresh water from Section 30 to be similar to that in Section 29?

A Yes, I do. I think it would be the same, very similar.

Q Let me have you look now at Exhibit Number Six. Can you describe that exhibit for the Examiner?

A Exhibit Six is the proposed injection well, New Mexico State 30 No. 1, which is located 800 feet from the east line and 1980 from the south line of Section 30, Township 14 West, Range 34 East.

We completed that well with 13-3/8ths surface casing circulated with cement there from -- from 43 feet.

And then we ran 8-5/8ths intermediate and set that at 4482 and we circulated that to the surface with 2000 sacks of cement inside an 11 inch hole, and then we ran a long string of 5-1/2, 1550 and 17 pounds and set that at 10,530. We cemented that in two stages. The first stage was cemented with 380 sacks and then we ran a DV tool at 6,036 feet and cemented that with 300 sacks, which was to tie us into the 8-5/8ths. Our calculations show that we did tie it in at 4482. This is to protect us from the San An-

dres, which is very corrosive in that area.

And then we perforated the well from 10,392 to 10,407, and that's the proposed injection interval, right there.

The well potentialed for 30 barrels of oil. It is now making 3 barrels of oil.

On the backside is our proposed injection completion. We plan to run 2-7/8ths N-80 plastic coated internally on a Baker Model R packer set at 10,342 feet with packer fluid on the backside.

This well was not drilled for injection. It was drilled to be an oil well, and it was completed 3-14-87. This well has not been perforated in any other zones and there is not any overlying or underlying oil or gas zones in this area. This is the zone.

Q Let me have you look now at Exhibits Seven and Eight and before I ask you a question about it, Mr. Examiner, we have asked Mr. Hardy's office to Federal Express us the actual return receipts for the Notice. They were supposed to arrive this morning but they simply haven't. I'd like to bring them over during the day when they come to my office.

MR. CATANACH: That would be fine, Ms. Aubrey.

Q Exhibit Seven is a copy of the legal

notice which was published in connection with this application, is that correct?

A That's correct.

Q And Exhibit Eight is a waiver of objection from Yates Petroleum Company, is that correct?

A That's correct.

Q Do you know who the other affected offset operator is?

A The only one -- that's the only operator, is Yates.

Q And then Mr. Etcheverry has the minerals in Section 29.

A That's correct.

Q Do you know whether or not he was notified by you in accordance with the proof of notice on the C-108?

A Yes, he was. We have a certified return letter from Mr. Etcheverry.

Q Let me have you look now at Exhibit Number Nine, which is a structure map. Can you go through that for the Examiner?

A Right. This is a structure map on top of the Tres Papillotes pay zone, the Penn, one more time. It just shows that there's very little relief in the area; that this particular feature is stratigraphic and not really con-

trolled that much by structure.

Q And the red dot on your structure map represents the proposed injection well, is that right?

A That's correct.

Q Let me have you look now at Exhibit Number Ten, which shows an area outlined in yellow. I understand that we need to clarify this exhibit for the Examiner in terms of what it shows in Section 29, is that correct?

A That's correct.

Q Would you go through that for the Examiner?

A Right. The area in yellow there is really our area of interest. We do not have the -- a lease on the northwest quarter of Section 29; however, Sage does own the rest of the area in that yellow 100 percent.

Q What about the southwest quarter of 29?

A The southwest quarter of 29, Sage has that lease, also.

Q And --

A Sage owns that well.

Q And Mr. Etcheverry has --

A He has the minerals.

Q -- the minerals.

A He has the whole -- all the minerals in Section 29.

Q Do you know to whom the northwest quarter of 29 is under lease?

A It is not leased presently.

Q Do you have any additional comments to make about Exhibit Number Ten?

A Right. This -- this map here, Exhibit Ten, is a net pay map of the Tres Papalotes pay zone with porosity greater than 5 percent.

The numbers in circles there, like if you look at the northwest quarter of 29, which says 62, that particular well recovered 62,000 barrels , so we're talking about the cum production by well with the numbers in the circles.

Mr. Etcheverry's well, for instance, has recovered 226,000 barrels. That's the well there, once again, in the northwest quarter of the southwest quarter of 29, and there'a five and a one there, that's his current production, five and one.

Q That would be five barrels of oil and one barrel of water?

A One barrel of water, right.

And the total production from this area here is 1.1-million barrels. This field was discovered in 1971.

Q Do you have an opinion as to the effect

under waterflood, if it's successful, on the total recovery from this field?

A Based on the Mobil analogy, My opinion is that we could recover as much secondary as there is -- as primary has been produced here, if this works.

Q Let me have you look at Exhibit Number Eleven, which is a cross section. Would you identify which log on here is for your proposed injection well?

A Right. The proposed injection well is the New Mexico State 30 No. 1, which, going from the lefthand side of the cross section, is well number two.

The first well there is a dry hole.

Q And this is running from A to A' on the structure map?

A That's correct.

Q Would you go through this exhibit for the Examiner?

A Right. This is hung structurally here, which shows the low relieve on the structure, extending from the northeast to the southwest across, diagonally across the structure, showing that you really have a porosity pinchout here which controls this reservoir. It's from dry hole to dry hole. For instance, on the lefthand side is the well which is down in the southwest corner there, the Superior Oil Company State P-1, which was a dry hole. You can see

that the Tres Papalotes zone there, the porosity really did not develop.

And then progressing from the southwest to the northeast, you have the New Mexico State 30 and then you have the Shell State 1 Unit P, which has been plugged, but that well made before it was plugged, it made 156,000 barrels of primary.

And the we have Mr. Etcheverry's well, which is making 5 and 1 and has made 225,000 barrels. He has about 22 feet of pay in his well.

And then you go to the Mark Etcheverry A 1 which is a dry hole and you lose your porosity.

So we feel that this structure here is pretty self-contained and there should not be a loss of injection fluid outside of the structure because of the lack of porosity development.

Q Let me have you leave the cross section out, Mr. Hardy, I want to take you to one more exhibit and then we can talk about how this cross section relates to the information you have obtained the Mobil project that you referred to earlier.

Let me have you look at Exhibit Twelve. Can you explain for the Examiner what that shows?

A Yes. Exhibit Twelve is my theoretical oil and water bank, the oil bank being in the red and the

water bank being in blue at the time of response in Mr. Etcheverry's well.

And based on my calculations, it will take about 1.3 years for that bank to reach Mr. Etcheverry's well, to see response.

This is assuming that there's not any any permeability variation in this reservoir that would be longitudinal or that there is not fractures, which we have not detected in this reservoir. This is assuming radial flow. It's ideal but it's a tool and my calculations of the 1.3 years is based on that particular volume there.

The volume, for instance, of the oil inside the bank there is approximately 353,000 barrels. If you assume that half of that goes to Mr. Etcheverry's well, you're looking at, like I say, 350, you're looking at 170,000 barrels of secondary that we should see in Mr. Etcheverry's well.

And then the water represents a little better than 300,000 barrels of water.

Q Using this exhibit, Mr. Hardy, can you tell the Examiner what your plans are in the event that you do see the expected response in Mr. Etcheverry's well, that you are moving the oil bank toward his well.

A Right. If we -- if we do see response here and that's really what we're looking for, we plan to

unitize this whole area and we will drill several additional wells and convert one well, possibly, to injection. There will -- there will have to be additional injection here, but we will unitize this for secondary purposes.

The reason we are conducting the (unclear) is because there is a risk here that you -- one, you won't bank oil and number two, there is only one successful Pennsylvania pilot in New Mexico that I can find. In fact that's the only waterflood I could find in the Pennsylvanian, so it's kind of an unknown.

And then three, it's so deep and you're talking about a lot of money to put in full blown waterflood here, which to us, without knowing what's going to happen, it would be prohibitive, since we do own it. I mean we have 100 percent working interest. For a little independent now, it's a bit much.

Q So it's your proposal to the Division that you be granted permission to inject into the State 30 No. 1 as the pilot well and if that's successful you'll come back under the statutory unitization provisions and attempt a secondary recovery unit, is that correct?

A That's correct.

Q Let me have you look now at Exhibit -- or we've marked these Exhibits Thirteen, Fourteen, and Fifteen. I believe that those represent the Mobil Waterflood in the

Penn that you talked about earlier.

Can you draw some conclusions about what you see from that, that unit, with regard to your proposed project?

A Right. The -- for instance, Exhibit Thirteen shows the location of the Tras Papalotes West and that is the northernmost circle there, and then on trend in the Pennsylvanian, where it says Penn there about fifteen miles to the south, you have Mobil's North Vaccum Middle Penn Unit, and that's our analogy. It's -- if you believe that size there that Midland Map has put on there, they're about the same size. The orientation is a little different.

And then Exhibit Fourteen is just a blown up section of the Middle Penn Unit that Mobil operates showing the injection well that they're using, which is 147 with the triangle around it. And the response well is number 165, and I have -- the cum there on that well is 410,000 barrels, and it's currently making 26 oil over 13 water.

Now there are other wells shown there. For instance, Well No. 121 made 98,000 and went to water and has been temporarily abandoned.

And then the well in the corner there, 120, made 17,000 barrels and is temporarily abandoned.

And then the well up in the Section 11

there, which is in the northwest quarter southeast quarter, No. 126, has made 41,000 barrels and on 5-82 they temporarily abandoned that.

So the response well has really been Well No. 165.

And the distance from Injection Well 147 to 165 is about the same distances we're talking about.

Q From your well to Mr. Etcheverry's well.

A That's correct. And then Exhibit Fifteen is a production curve of Well No. 165. Its rate, barrels of oil per month versus time, also barrels of water per month versus time, and you can see as the decline, the well declined there, that they did get some response. If you continue that decline at 20 percent there, you're talking about a primary recovery of 205,000 barrels.

Down at the bottom in 1974 there in September, they converted 147 to water injection. That's why you see that drop right there, and then the drop continued until they finally got response there in about January of '76, and the well did respond. It actually went up to 100 barrels a day, 3000, almost 4 went to 4000 barrels a month, better than 100 barrels a day.

The area between the continued primary decline and the response represents 199,000 barrels.

So just doing a secondary over primary

ratio, calling that 199,000 barrels of secondary oil due to response, and the continued primary to the same point was 205,000, their recovery is one to one and it's still, the production is still above that line; however, at the time I did this work, which was in December of '86, I didn't -- I haven't continued the decline here, but I believe it proves the point that it's been very successful.

Q And do you expect to see a similar response to your injection well as Mobil did in this case?

A We're encouraged by the Mobil results here and we hope that we see similar results.

But once again, that's why the pilot.

Q Have you reviewed the logs for the wells involved in the Mobil project?

A Yes, I have.

Q And do you have an opinion as to whether or not they reveal the same sort of data that your cross section shows?

A They're very similar. In fact the depth is the same and they're very similar on their log characteristics. And it's the same age, Pennsylvania age.

Q Do you have an opinion as to whether or not this project, if it's successful, will result in the recovery of additional oil?

A I think it definitely will if it's suc-

cessful. You're talking about quite a bit of oil that is currently there which would not be recovered if we didn't do this.

Q Will the granting of this application protect correlative rights, promote conservation of hydrocarbons, and prevent waste?

A Yes, it will.

Q Were Exhibits One through Fifteen prepared by you, Mr. Hardy?

A Or at my direction.

MS. AUBREY: Mr. Examiner, I offer Exhibits One through Fifteen and I have no more questions of Mr. Hardy at this time.

MR. CATANACH: Exhibits One through Fifteen will be admitted into evidence.

CROSS EXAMINATION

BY MR. CATANACH:

Q Mr. Hardy, referring to Exhibit Number Ten, as I understand it you -- Sage Energy has the leasehold interest in all of the area outlined in yellow except for the northwest quarter of Section 29?

A That's correct.

Q Now do you operate the well in the southwest quarter of 29?

A Yes, we do.

Q But Mr. Etcheverry owns the mineral interest.

A That's correct.

Q Can you point out to me the producing wells in the Pennsylvanian Pool in that --

A Yes, I can.

Q -- in that area in there?

A Yes, I can. You've identified the Etcheverry Well and then you've identified our 30 No. 1, which shows the 3 over 3.

Q Correct.

A And then if you go down into Section 31 there, the well in the northeast of the northeast is temporarily abandoned and we drilled a replacement well for that well, which is the well 600 feet south of that well. It has a 3 by it there and that is a current producing well and it makes 34 oil over 29 water.

Q Okay.

A And then going further south there, which would be in the southeast of the northeast, is our No. 2, which is producing 15 oil and 19 water.

And those are the only producing wells in this field.

Q So you don't have any other producing

wells in Section 30.

A No, we do not. That well there in the northwest of the northwest has been plugged.

Q I guess at this point you don't want to define the project area or what's the status on that?

A The project area would be similar to what's inside the yellow line. I mean that would be very similar.

One problem there, of course, is we don't have the northwest quarter of 29 leased.

Q Do you intend to lease it?

A We certainly do. We're trying to right now.

Q How -- how good a response would you -- would you need to -- to make a full scale waterflood?

A A full scale flood? If we -- if we saw 50 barrels in Mr. Etcheverry's well and it looked like we were going to recover, oh, 20 or 30,000, we'd get excited.

Q 50 barrel per day increase?

A Uh-huh, increase.

Q Mr. Hardy, you own all the mineral interest in that yellow outlined area, is that correct?

A That's right.

Q The leasehold and the mineral interest?

A Well, we have it leased. The State owns

the minerals in it.

Q Okay, is it all State land?

A No. All except for Mr. Etcheverry's.

Q Okay. The southwest of 29.

A That's correct.

Q That's fee.

A Yeah.

CROSS EXAMINATION

BY MR. TAYLOR:

Q Mr. Hardy, you indicated that John Etcheverry is the owner of Section 29 and you -- you have an oil and gas lease from him for the southwest quarter?

A Actually we purchased that well from Mewbourne, so by virtue of the fact that we purchased it we have.

Q You're a sublet --

A Beg pardon?

Q You're a sublet and you're the assignee.

A Right, assignee.

Q And Mr. -- Mr. Etcheverry receives royalties or other (unclear) on that production?

A He certainly does.

Q Is it your testimony that -- that this project will increase the production from the well on that

southwest quarter?

A Yes, it is.

Q So actually your understanding and your study of the project shows that you will increase the amount of oil that will be produced from the lease (unclear)?

A Yes, that's correct.

Q Okay, and since he is -- this waterflood is going to be into, I assume, the formation where the production is coming from.

A That's correct.

Q Okay, in his letter to us he claims that -- that you'll be trespassing on his lands by this injection but the only -- the only part of the proposed area that's not leased is the northwest quarter, right?

A That's correct.

Q How do your projections indicate the effect on that -- what effect there will be on the northwest quarter?

A Well, if you'll look at my bubble map there you can see that I'm pushing oil into the northwest quarter, so --

Q So, if anything, you're increasing the possibility of production from lands owned or leased by Etcheverry, not -- not pushing oil off of his property.

A That's correct. That's correct.

Q Okay. That's -- that's all the questions I have.

MS. AUBREY: Mr. Taylor, if I may for the record say that when I talked to Mr. Como and his associate at the Carpenter firm that represented Mr. Etcheverry and who wrote the letter you referred to, on Tuesday, they indicated to me that they were abandoning any claim they had to underground trespass in this case.

So apparently that is not any longer an issue with them.

RECROSS EXAMINATION

BY MR. CATANACH:

Q Mr. Hardy, I have a question concerning the John Etcheverry, Jr. A State Well No. 1.

A Uh-huh.

Q I see that's a plugged and abandoned well.

A Right. Let me get that. Okay.

Q I don't show any plugs in that well from 1150 down to 10,515 feet. Do you know anything about that?

A No, I really don't. I noticed that, too, and going by that C-103 they didn't set any.

Q Do you know if the filled the hole with mud or anything else?

A I do not know that. I do not know.

Q That's all the information you could find on this --

A That's all I could get right there.

Q Do you have an opinion as to whether this well would communicate any of your injected fluid upward, if it would provide an avenue of escape for your injected fluid?

A The only thing I could say is according to the cross section there, there's just no porosity there, so I would think that -- that the well would not produce. I mean we would not be able to push fluid into the wellbore because of the lack of porosity. The pay is not there.

That's the only opinion I could come up with. It is on the edge of the field and it was a valid dry hole.

Q When the northwest quarter comes up for leasing when will you know if you can lease it?

A We're currently negotiating with Mr. Etcheverry on that. He does own that, so --

Q (Inaudible).

A That's fee.

Q Making any progress?

A Not much.

MR. CATANACH: I don't think I

have any more questions.

Q Mr. Hardy, one more question. Do you -- do you know anybody with Mark Production Company or Mewbourne that you might be able to obtain any more data on the plugging of that well?

A I can certainly research that. Mark is no longer in existence. The principals in Mewbourne were Mark and I will just have to contact them.

We do not have any files on that northwest quarter but I could research that.

Q That would really be helpful if you could find that -- find something else on that well.

A Yeah, I'll be glad to research that and see if I could find that.

Q And if you could get that to me, I don't know, as quick as you can.

A Yeah, I'll sure try.

Q Okay.

A They're in Tyler, Texas, so it's --

Q Okay.

MR. CATANACH: Is there anything further in Case 9182?

If not, it 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. 9182, heard by me on 7/29/87.

David R. Catanach, Examiner
Oil Conservation Division

SAGE ENERGY COMPANY
P. O. DRAWER 3068
MIDLAND, TEXAS 79702

915/683-5271

June 9, 1989

Bonnie
Send to David
8/2/89

Oil Conservation Division
P. O. Box 1980
Hobbs, New Mexico 88241 - 1980

Attn: Mr. Jerry Sexton

Re: Increase Injection Pressure
New Mexico "30" State No. 1-I
Waterflood Projection R-8505
Section 30, T-14-S, R-34-E
Lea County, New Mexico

Dear Mr. Sexton:

Sage Energy Company requests premission to increase the allowable injection pressure from 2078 psi to 3000 psi in the subject injection well. As stated in Finding No. 7 of **Case No. 9182**, Order No. R-8505 dated 9-4-87 Sage is limited to a maximum injection pressure of 2078 psi unless circumstances warrant a change.

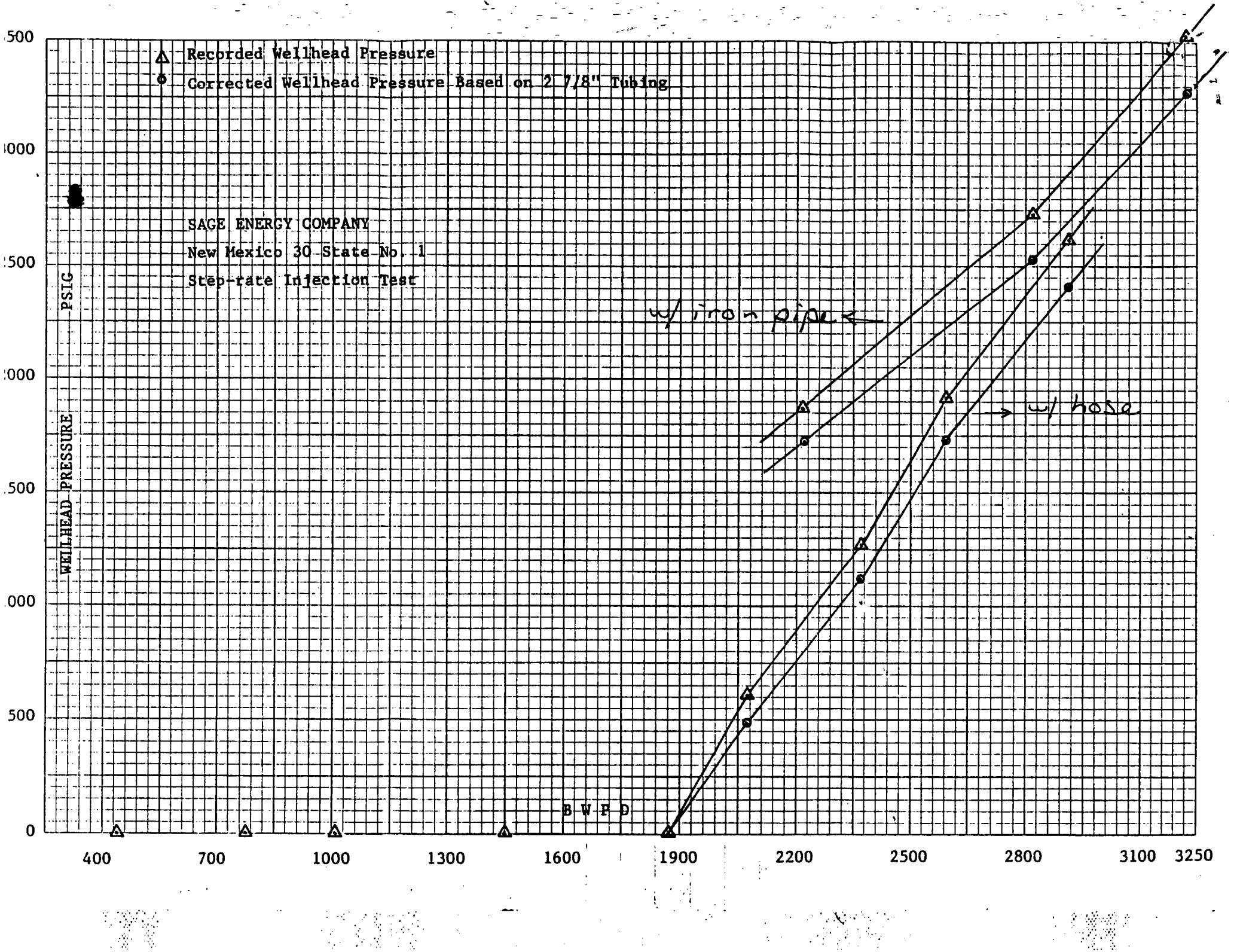
Attached is a step rate test preformed by John West Engineering showing that the parting pressure of the formation is in excess of 3500 psi well head pressure. The split on the curve of pressure vs. rate occured when the tester changed from using a flexiable hose to steel pipe because of the high pressures that were encountered. As can be seen, the curve does not break over even with a pressure as high as 3500 psi.

Sage Energy would like premission to injection 1500 BWPD at a maximum pressure of 3000 psi surface pressure based on the step rate test. Should you have any questions concerning our request or need any additional information, please advise.

Sincerely,

Jack R. Gevecker
Petroleum Engineer

JRG:h


Recorded Wellhead Pressure
Corrected Wellhead Pressure Based on 2 7/8" Tubing
SAGE ENERGY COMPANY
New Mexico 30 State No. 1
Step-rate Injection Test
WELLHEAD PRESSURE - PSIG
BWPD
w/ iron pipe
w/ hose
500
000
500
000
500
000
500
0
400
700
1000
1300
1600
1900
2200
2500
2800
3100
3250

JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name New Mexico 30 State No. 1 Date June 1, 1989
CO. Name Sage Energy Company

Remarks	Time	Tbg. Press.	Rate BPD	Total	BHP	Tbg. Press.	Rate GPM	HEAD LOSS
	12:05.			0				
	12:10	-3.3	432.00	1.5				
	12:15	-2.9	460.80	3.1				
1	12:20	-2.3	432.00	4.6		-6.52	12.88	6.52
	12:25	-1.9	864.00	7.6				
	12:30	-2.5	720.00	10.1				
2	12:35	-4.8	748.80	12.7		-18.56	22.68	18.56
	12:40	-5.8	1036.80	16.3				
	12:45	-6.3	950.40	19.6				
3	12:50	-5.4	1036.80	23.2		-30.00	29.40	30.00
	12:55	-5.5	1497.60	28.4		-58.76	42.28	58.76
	1:00	-5.7	1440.00	33.4				
4	1:05	-4.6	1411.20	38.3		-58.76	42.28	58.76
	1:10	-4.8	1872.00	44.8				
	1:15	-3.6	1872.00	51.3				
5	1:20	-3.6	1872.00	57.8		-94.31	54.60	94.31
Beg. Pressure	1:25	208.9	1987.20	64.7				
	1:30	432.4	2131.20	72.1				
6	1:35	602.4	2102.4	79.4		488.45	60.48	113.95
	1:40	897.10	2448.00	87.9				
	1:45	1094.50	2332.80	96.0				
7	1:50	1261.20	2332.80	104.1		1115.16	69.16	146.04
	1:55	1561.90	2649.60	113.3				
	2:00	1745.10	2592.00	122.3				
8	2:05	1908.70	2534.40	131.1		1735.91	75.60	172.19

JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name New Mexico 30 State No. 1 Date June 1, 1989

CO. Name Sage Energy Company

Remarks	Time	Tbg. Press.	Rate B P D	Total	B H P	Tbg. Press.	Rate G P M	HEAD LOSS
	2:10	2259.9	2966.40	141.4				
	2:15.	2452.00	2908.80	151.5				
9	2:20	2615.20	2851.20	161.4		2402.07	84.84	213.13
	START OVER		2908.80	WITH IRON PIPE				
	3:00	686.70		0				
	3:05	1295.00	1756.80	6.1				
	3:10	1619.70	2476.80	14.7				
1	3:15	1863.50	2419.20	23.1		1734.48	64.68	129.02
	3:20	2248.40	2851.20	33.0				
	3:25	2478.20	2793.60	42.7				
2	3:30	2730.10	2822.40	52.5		2528.53	82.32	201.57
	3:35	3157.30	3225.60	63.7				
	3:40	3383.0	3225.60	74.9				
3	3:45	3520.6	3225.6	86.1		3262.55	94.08	258.05

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE
August 7, 1989

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
(505) 393-6161

OIL CONSERVATION DIVISON
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

RE: APPLICATION FOR PRESSURE LIMIT INCREASE FOR DISPOSAL & INJECTION WELLS

Gentlemen:

I have examined the step rate test for the:

Sage Energy Company	New Mexico "30" State #1-I		30-14-34
Operator	Lease & Well No.	Unit	S-T-R

and my recommendations are as follows:

Test Results indicate that pressure increase is OK

Very truly yours

Jerry Sexton
Supervisor, District I

/bp

STEPHENSON, CARPENTER, CROUT & OLMSTED
Attorneys at Law
Coronado Building, 141 E. Palace Avenue
Post Office Box 669
Santa Fe, New Mexico 87504-0669

Telephone (505) 982-4611
Telecopier (505) 988-2987

Richard N. Carpenter
G. Stanley Crout
Charles D. Olmsted
Michael R. Comeau
Larry D. Maldegen
Michael W. Brennan
Sunny J. Nixon
William P. Templeman
C. Mott Woolley
Jon J. Indall
Stephen J. Lauer
Michael S. Yesley
Lindsay A. Lovejoy, Jr.
Patricia J. Turner
Richard S. Mackenzie
Joseph E. Manges
Candace Kern
Rebecca Dempsey
Paula A. Johnson
Nicholas F. Persampieri
Grey W. Handy

Donnan Stephenson
Of Counsel

July 8, 1987

William J. LeMay, Director
Oil Conservation Commission
310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87501

Re: Case No. 9068; Application of Sage Energy Co. for Authorization to Inject

Dear Mr. LeMay:

On behalf of John Etcheverry ("Etcheverry"), we are writing to formally object to Sage Energy Company's ("Sage"), amended application, dated June 19, 1987, for authorization to inject fresh and produced water into New Mexico "30" State No. 1 well for the purpose of secondary recovery. We plan to attend the hearing to be set in this matter and offer evidence in opposition to the amended application.

Sage's original application, dated December 4, 1986, sought authorization to inject produced water into a different well, New Mexico State No. 1 well, for the purpose of disposal. In a letter dated December 22, 1986 and at an Examiner Hearing held on February 4, 1987, we objected to Sage's original application on behalf of Mr. Etcheverry, who owns surface and mineral lands near the sites of both New Mexico State No. 1 well and New Mexico "30" State No. 1 well. Mr. Etcheverry objects to Sage's amended application for authorization to use New Mexico "30" State No. 1 well for secondary recovery, for the same reasons that he objected to Sage's original application for authorization to use New Mexico State No. 1 well for salt water disposal. The proposed injection would cause produced water to flow through the cavities of the Pennsylvanian formation toward and through the subsurface mineral lands owned by Etcheverry, and would cause produced water to accumulate in and upon those subsurface lands. Such injection would constitute an intentional trespass on Etcheverry's subsurface lands, and the Commission's authorization of such injection would constitute an unlawful taking of Etcheverry's property without compensation in violation of the Fifth and Fourteenth Amendments to the United States Constitution and Article II, Section 20 of the Constitution of the State of New Mexico.

The amended application requests approval to inject produced water into a different well at a higher injection rate than the injection proposed in the original application and thus presents issues not previously considered by the hearing examiner.

Respectfully submitted,

Michael R. Comeau/mp

Michael R. Comeau
Attorney for John Etcheverry

MRC:cyc

cc: Mr. Michael E. Stogner
Mr. Jay H. Hardy
W. Thomas Kellahin, Esq.
J. W. Neal, Esq.

KELLAHIN, KELLAHIN AND AUBREY
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

Telephone 982-4285
Area Code 505

July 29, 1987

RECEIVED
JUL 30 1987
OIL CONSERVATION DIVISION

Examainer David Catanach
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Dear Examiner Catanach:

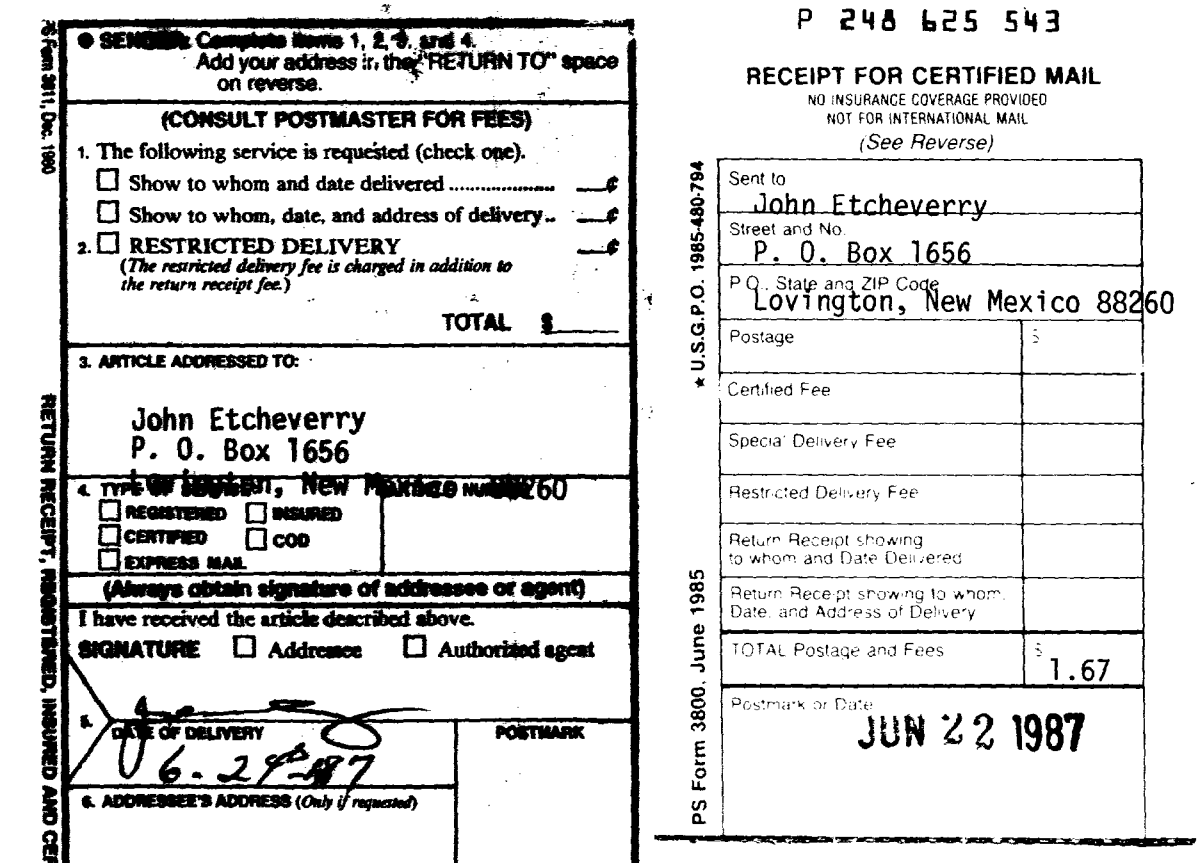
As discussed with you by Karen Aubrey today, enclosed please find Exhibit 16 re Case No. 9128.

Please do not hesitate to call should you have any questions on this matter.

Sincerely,

Jo Carolyn Martin
secretary to
Karen Aubrey

/jo
enclosure



PS Form 3811, Dec. 1980

● SENDER: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
- ☐ Show to whom and date delivered ..... ¢
- ☐ Show to whom, date, and address of delivery.. ¢
2. ☐ RESTRICTED DELIVERY ¢
(*The restricted delivery fee is charged in addition to the return receipt fee.*)

TOTAL $

3. ARTICLE ADDRESSED TO:

John Etcheverry
P. O. Box 1656
[illegible], New Mexico 88260

4. TYPE OF SERVICE: NUMBER
☐ REGISTERED ☐ INSURED
☐ CERTIFIED ☐ COD
☐ EXPRESS MAIL

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent

5. DATE OF DELIVERY 6-29-87 POSTMARK

6. ADDRESSEE'S ADDRESS (*Only if requested*)

7. UNABLE TO DELIVER BECAUSE: 7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

P 248 625 543

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL
(See Reverse)

Sent to John Etcheverry	
Street and No. P. O. Box 1656	
P.O., State and ZIP Code Lovington, New Mexico 88260	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$ 1.67
Postmark or Date JUN 22 1987	

★ U.S.G.P.O. 1985-480-784

PS Form 3800, June 1985

SAGE ENERGY COMPANY
P. O. DRAWER 3068
MIDLAND, TEXAS 79702

915/683-5271

June 19, 1987

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 16
CASE NO. 9182

John Etcheverry
P. O. Box 1656
Lovington, New Mexico 88260

Dear Mr. Etcheverry:

Enclosed for your information and use is a copy of Sage Energy Company's application to use its New Mexico "30" State No. 1 well for the purposes of a pilot waterflood. Please contact Jay Hardy of this office if you should have any question.

Very truly yours,

SAGE ENERGY COMPANY

Frances Holzgraf
Production Clerk

CERTIFIED MAIL P 248 625 543

W A I V E R

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Sage Energy Company, New Mexico "30" State, 800' FEL and 1980' FSL of Sec. 30, T-14-S, R-34-E, Lea County, New Mexico.

Dear Sir:

I have been duly notified of the intent of Sage Energy Company to convert the captioned well to a pilot waterflood well. I have no objection to this conversion.

John Etcheverry
P. O. Box 1656
Lovington, New Mexico 88260

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

August 16, 1989

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Sage Energy Company
P.O. Drawer 3068
Midland, TX 79702

Attention: Jack R. Gevecker

RE: Injection Pressure Increase
NM "30" State No. 1
State "30" Lease Waterflood Project
Lea County, New Mexico

Dear Mr. Gevecker:

Reference is made to your request dated June 9, 1989, to increase the surface injection pressure on the NM "30" State Well No. 1. This request is based on a step rate test conducted on the well on June 1, 1989. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on the well is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following well:

WELL AND LOCATION	MAXIMUM INJECTION SURFACE PRESSURE
NM "30" State No. 1 Unit I, Section 30, T-14 South, R-34 East, NMPM, Lea County, New Mexico.	3000 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,

William J. LeMay
Director

cc: OCD - Hobbs
Case File 9182
T. Gallegos
D. Catanach

SAGE ENERGY COMPANY
P. O. DRAWER 3068
MIDLAND, TEXAS 79702

915/683-5271

June 9, 1989

Oil Conservation Division
P. O. Box 1980
Hobbs, New Mexico 88241 - 1980

Attn: Mr. Jerry Sexton

Re: Increase Injection Pressure
New Mexico "30" State No. 1-I
Waterflood Projection R-8505
Section 30, T-14-S, R-34-E
Lea County, New Mexico

Dear Mr. Sexton:

Sage Energy Company requests premission to increase the allowable injection pressure from 2078 psi to 3000 psi in the subject injection well. As stated in Finding No. 7 of Case No. 9182, Order No. R-8505 dated 9-4-87 Sage is limited to a maximum injection pressure of 2078 psi unless circumstances warrant a change.

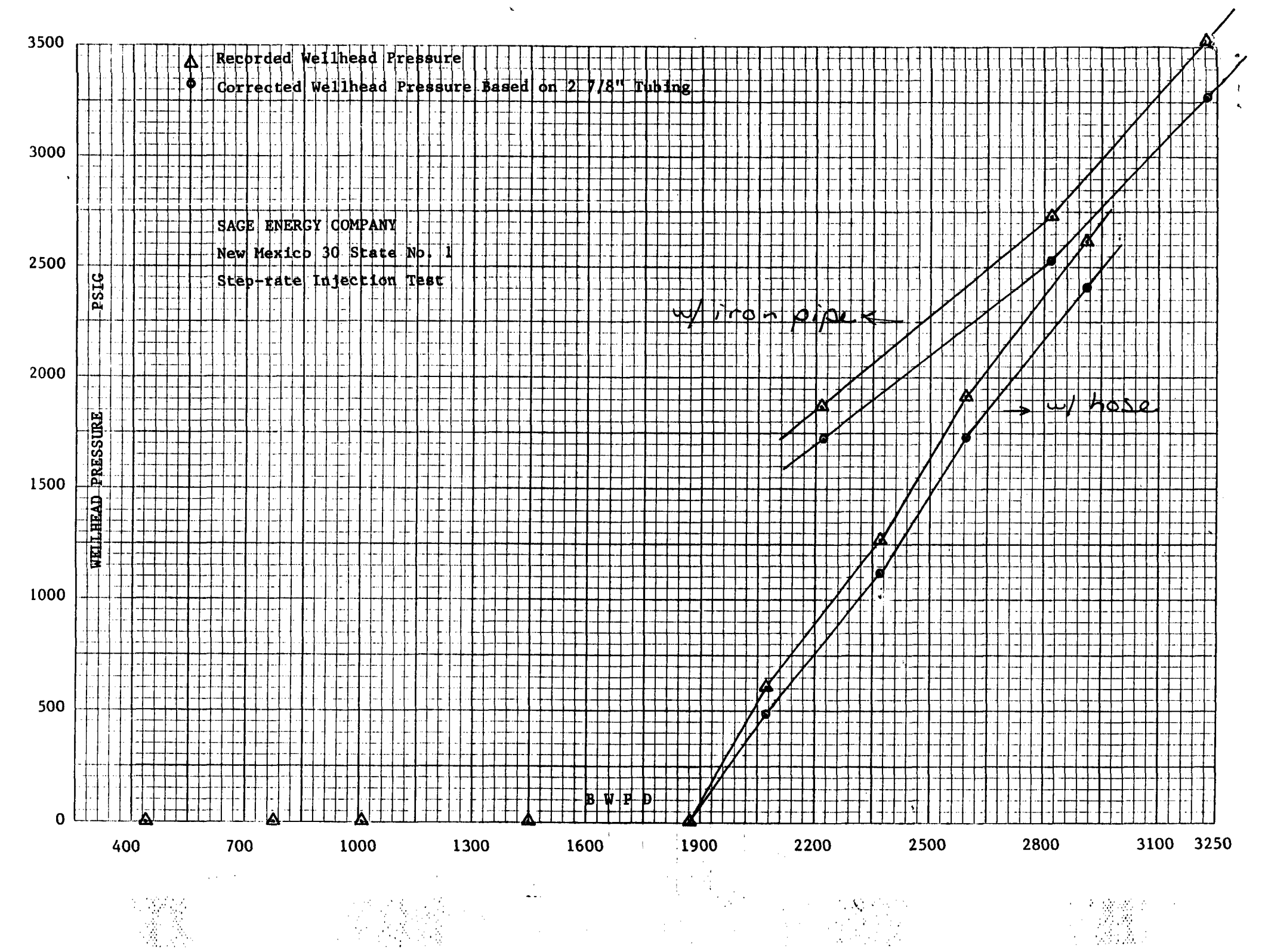
Attached is a step rate test preformed by John West Engineering showing that the parting pressure of the formation is in excess of 3500 psi well head pressure. The split on the curve of pressure vs. rate occured when the tester changed from using a flexiable hose to steel pipe because of the high pressures that were encountered. As can be seen, the curve does not break over even with a pressure as high as 3500 psi.

Sage Energy would like premission to injection 1500 BWPD at a maximum pressure of 3000 psi surface pressure based on the step rate test. Should you have any questions concerning our request or need any additional information, please advise.

Sincerely,

Jack R. Gevecker
Petroleum Engineer

JRG:h


Recorded Wellhead Pressure
Corrected Wellhead Pressure Based on 2 7/8" Tubing
SAGE ENERGY COMPANY
New Mexico 30 State No. 1
Step-rate Injection Test
w/ iron pipe
w/ hose
WELLHEAD PRESSURE PSIG
BWPD
3500
3000
2500
2000
1500
1000
500
0
400
700
1000
1300
1600
1900
2200
2500
2800
3100
3250

JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name New Mexico 30 State No. 1 Date June 1, 1989
CO. Name Sage Energy Company

Remarks	Time	Tbg. Press.	Rate BPD	Total	BHP	Tbg. Press.	Rate GPM	HEAD LOSS
	12:05.			0				
	12:10	-3.3	432.00	1.5				
	12:15	-2.9	460.80	3.1				
1	12:20	-2.3	432.00	4.6		-6.52	12.88	6.52
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	12:55	-5.5	1497.60	28.4		-58.76	42.28	58.76
	1:00	-5.7	1440.00	33.4				
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	1:10	-4.8	1872.00	44.8				
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5	1:20	-3.6	1872.00	57.8		-94.31	54.60	94.31
Beg. Pressure	1:25	208.9	1987.20	64.7				
	1:30	432.4	2131.20	72.1				
6	1:35	602.4	2102.4	79.4		488.45	60.48	113.95
	1:40	897.10	2448.00	87.9				
	1:45	1094.50	2332.80	96.0				
7	1:50	1261.20	2332.80	104.1		1115.16	69.16	146.04
	1:55	1561.90	2649.60	113.3				
	2:00	1745.10	2592.00	122.3				
8	2:05	1908.70	2534.40	131.1		1735.91	75.60	172.19

JOHN WEST ENGINEERING CO.
Step Rate Injection Test

Well Name New Mexico 30 State No. 1 Date June 1, 1989

CO. Name Sage Energy Company

Remarks	Time	Tbg. Press.	Rate BPD	Total	BHP	Tbg. Press.	Rate GPM	HEAD LOSS
	2:10	2259.9	2966.40	141.4				
	2:15.	2452.00	2908.80	151.5				
9	2:20	2615.20	2851.20	161.4		2402.07	84.84	213.13
	START OVER		2908.80	WITH IRON PIPE				
	3:00	686.70		0				
	3:05	1295.00	1756.80	6.1				
	3:10	1619.70	2476.80	14.7				
1	3:15	1863.50	2419.20	23.1		1734.48	64.68	129.02
	3:20	2248.40	2851.20	33.0				
	3:25	2478.20	2793.60	42.7				
2	3:30	2730.10	2822.40	52.5		2528.53	82.32	201.57
	3:35	3157.30	3225.60	63.7				
	3:40	3383.0	3225.60	74.9				
3	3:45	3520.6	3225.6	86.1		3262.55	94.08	258.05

KELLAHIN, KELLAHIN AND AUBREY
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

Telephone 982-4285
Area Code 505

August 26, 1987

Examiner David Catanach
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

RECEIVED
AUG 28 1987
OIL CONSERVATION DIVISION

Re: Case No. 9182

Dear Mr. Catanach:

I enclose a proposed form of order in the above-captioned matter. I note that Mr. Hardy has sent you additional plugging information on the well about which you had some questions. It appears that the well is adequately plugged to prevent the migration of any fluid outside the intended injection zone.

If I may provide you with additional information, please let me know.

Sincerely,

Karen Aubrey

KA/jo
enclosure
cc: Jay Hardy, w/enclosure

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 9182

ORDER NO. R-_____

APPLICATION OF SAGE ENERGY COMPANY FOR A PILOT WATERFLOOD PROJECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause having come on for hearing at 8:00 o'clock a.m. on July 29, 1987, at Santa Fe, New Mexico, before the Oil Conservation Division,

NOW, on this _____ day of _____, 1987, the Division Director, having considered the testimony, the record and the recommendations of the hearing examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Sage Energy Company, seeks authority to create a pilot waterflood project by converting the New Mexico "30" State No. 1 Well located 800 feet from the East line and 1980 feet from the South line of Section 30, Township 14 South, Range 34 East, Lea County, New Mexico.

(3) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(4) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production or plugged and abandoned wells.

(5) That the injection well may exceed the 0.2 pounds per foot of depth surface pressure limitation but that the applicant shall consult with the District Office prior to the well exceeding the surface pressure limitation.

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702 and 703 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sage Energy Company, is hereby authorized to initiate a pilot waterflood project by the conversion of the New Mexico "30" State No. 1 Well located 800 feet from the East line and 1980 feet from the South line of Section 30, Township 14 South, Range 34 East, Lea County, New Mexico.

(2) That injection into the well shall be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid with an approved pressure gauge or attention-attracting leak detection device.

(3) That the operator shall immediately notify the supervisor of the Divsion's District Office of the failure of the tubing or packer in said injection well, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(4) That the injection well herein authorized and/or the injection pressurization system, shall be so equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth unless authorized by the Division Director upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(5) That the subject waterflood project is hereby and shall continue to be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(6) That jurisdiction of this case is retained for the entry of such further Orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

William J. LeMay
Director

SEAL

W. Thomas Kellahin
Karen Aubrey

Jason Kellahin
Of Counsel

KELLAHIN, KELLAHIN AND AUBREY
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Telephone 982-4285
Area Code 505

August 31, 1987

Case File
9182

Examiner David Catanach
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: Case No. 9182

Dear Mr. Catanach:

I enclose a proposed form of order in the above-captioned matter.

Please let me know if we may be of further assistance to you.

Sincerely,

Karen Aubrey

KA/jo
enclosure
cc: Jay Hardy,
w/enclosure

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 9182

ORDER NO. R-_____

APPLICATION OF SAGE ENERGY COMPANY FOR A PILOT WATERFLOOD PROJECT, LEA COUNTY, NEW MEXICO.

PROPOSED ORDER OF THE DIVISION

BY THE DIVISION:

This cause having come on for hearing at 8:00 o'clock a.m. on July 29, 1987, at Santa Fe, New Mexico, before the Oil Conservation Division,

NOW, on this _____ day of _____, 1987, the Division Director, having considered the testimony, the record and the recommendations of the hearing examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Sage Energy Company, seeks authority to create a pilot waterflood project by converting the New Mexico "30" State No. 1 Well located 800 feet from the East line and 1980 feet from the South line of Section 30, Township 14 South, Range 34 East, Lea County, New Mexico.

(3) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(4) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production or plugged and abandoned wells.

(5) That the injection well may exceed the 0.2 pounds per foot of depth surface pressure limitation but that the applicant shall consult with the District Office prior to the well exceeding the surface pressure limitation.

(6) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702 and 703 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sage Energy Company, is hereby authorized to initiate a pilot waterflood project by the conversion of the New Mexico "30" State No. 1 Well located 800 feet from the East line and 1980 feet from the South line of Section 30, Township 14 South, Range 34 East, Lea County, New Mexico.

(2) That injection into the well shall be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid with an approved pressure gauge or attention-attracting leak detection device.

(3) That the operator shall immediately notify the supervisor of the Division's District Office of the failure of the tubing or packer in said injection well, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(4) That the injection well herein authorized and/or the injection pressurization system, shall be so equipped as to limit injection pressure at the wellhead to no more than 0.2 pounds per foot of depth unless authorized by the Division Director upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(5) That the subject waterflood project is hereby and shall continue to be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(6) That jurisdiction of this case is retained for the entry of such further Orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

William J. LeMay
Director

SEAL

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

September 8, 1987

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Attorneys at Law
Post Office Box 2265
Santa Fe, New Mexico

Re: CASE NO. 9132
ORDER NO. R-8505

Applicant:

Sage Energy Company

Dear Madam:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Sincerely,

Florene Davidson

FLORENE DAVIDSON
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other