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

19 November 1986

EXAMINER HEARING

IN THE MATTER OF:

Application of Challenger Energy Inc. for salt water disposal, Eddy County, New Mexico. CASE 9033

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Jeff Taylor
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I N D E X

E X H I B I T S

MR. CATANACH: Call next Case 9033.

MR. TAYLOR: Application of Challenger Energy, Incorporated, for salt water disposal, Eddy County, New Mexico.

MR. CATANACH: Are there appearances in this case?

MR. PADILLA: Mr. Examiner, Ernest L. Padilla, Santa Fe, New Mexico, for the applicant.

I have one witness to be sworn.

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

Will the witness please stand and be sworn in.

(Witness sworn.)

CRAIG HUBER,

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

DIRECT EXAMINATION

BY MR. PADILLA:

Q Mr. Huber, will you please state your

name and where you reside?

A My name is Craig Huber. I reside at Artesia, New Mexico.

Q Mr. Huber, what is your connection with Challenger Energy, Inc.?

A I'm an officer of the corporation.

Q And what is that capacity, what officer are you?

A Vice President in charge of engineering.

Q Can you briefly tell us what the nature of this application is today?

A Application for the disposal of produced water in the Brushy Draw-Delaware Pool.

Q Mr. Huber, have you previously testified before the Oil Conservatio Division and had your credentials accepted as a matter of record?

A No, I haven't.

Q Tell us, sir, what your educational background is.

A I have a BA from McMurry College in Abilene, Texas.

Q And what's your degree in?

A In political science.

Q What is your background in the oil and gas industry?

A I worked for Tidewater Petroleum Services from 1975 to 1978 as a staff engineer and for the Harvey E. Yates Company from -- till 1982, and since that, since 1982 I've been an officer of Challenger.

Q Did you cause this application to be prepared or the information contained in the exhibits that we are going to introduce today?

A Yes, I did.

MR. PADILLA: Mr. Examiner, we tender Mr. Huber as a practical oil person to testify in this hearing today.

MR. CATANACH: Mr. Huber is considered qualified.

MR. PADILLA: Mr. Examiner we have also taken the application itself and we're going to tender that as a -- and mark it as Exhibit Number One and our testimony for purposes of this hearing is going to be generally following that application.

MR. CATANACH: Okay.

Q Mr. Huber, let's turn now to page three of that application and tell us what is contained on that page.

A Okay. Page three is a response to Items 7 and 8 of the application, for the proposed average and daily rate of injection pressures and the geological data

for the injection zone.

Q Briefly tell us what kind of pressures and what kind of injection rates you're going to have.

A Well, we anticipate pressures from 3-to-600 psi based on our acidation (sic) of this zone and treatment for -- we tested the zone for commercial oil production.

Q Mr. Huber, is this application going to be used for -- or the disposal well going to be used for commercial production?

A Yes, it will.

Q Will it be used also for your own private water production?

A Yes.

Q Primarily?

A Right.

Q And it's going to be a closed system?

A Yes, it will be a closed system.

Q Let's go on now to page four of the application and tell us what that is.

A This is just the well data for the proposed injection well.

Q Can you tell us what -- generally what is shown on this page four?

A Generally it indicates that we will in-

ject into the Ramsey Sand at approximately 3300 feet. It gives the casing and cement data for -- for this well to indicate that we have -- the well was cemented properly with no exposure to potential water zones.

Q Does the schematic on the following page describe the cementing program for the well?

A Yes, it does.

Q Can you tell us what that is?

A Well, essentially it was the production string which will cover the zone of injection was cemented and a temperature survey indicated the top approximately 2500 feet, which would be well above the proposed zone of injection and the only water sand in the area was covered by a secondary cementing on the intermediate stage.

Q Mr. Huber, I notice a retrievable bridge plug at -- in that schematic at 3850 feet. What if that bridge plug fails? What -- what would happen?

A It should pose no particular problem to the disposal well. It would be easily indicated by our surface pressure monitoring.

Q And that could be remedied at that time.

A Yes, it could.

Q Now what else is contained with respect to the description of this well and the injection zone in your application?

A Essentially it's just geological data for the proposed zone of injection and the well file data from the Eddy County OCD for wells that are within the one-half mile radius of the proposed disposal well.

Q Okay, on page six you have a water analysis. Tell us why you have that in here.

A This is a water analysis for the wells that we operate in the immediate area and propose to dispose of this water in the disposal well, and it's essentially indicating that the -- the water that we will be disposing of is primarily compatible with the water from the zone of interest that we are disposing into.

Q Okay. On page seven what do you have?

A It's a segment of the well log that's on file with the OCD in Eddy County.

Q And does this show the injection interval?

A Yes, it does.

Q Okay, and let's go on to page number eight.

A This is just a mud log of the -- a segment of the zone that we propose to dispose in giving additional geologica data.

Q Now, this geologic data, just what is that intended to show? Is that intended to show that the

zone is capable of -- has sufficient permeability to dispose of the water?

A Yes.

Q Okay. What do you have now on pages nine to seventeen?

A These are just sundry notices of work that was done on this -- on the proposed well from the time it was originally drilled for -- to test for commercial oil and gas production.

Q And these are the true and correct copies of the records of the Oil Conservation Division --

A Yes, they are.

Q -- well files? Okay. Let's go on now to skip to page number eighteen and have you tell us what that is.

A A land map of the area indicating the one-half mile and two-mile radius from the proposed disposal well.

Q What's inside the one-half mile circle?

A There are -- there are three wells that are currently in that half mile radius; two are plugged and abandoned; one is a disposal well, which disposes into the same zone that we propose to dispose into.

Q Are these the wells that are labeled A, B, and C?

A Yes.

Q Have you prepared data with this application that shows the condition of these wells?

A Right, we have schematics of the plugged wells and all the information that was recorded in the Eddy County, New Mexico, OCD office.

Q Okay, you also have a well there labeled D. Tell us about that.

A It falls right on the half mile radius but it does not penetrate the zone that we propose to dispose into.

Q Mr. Huber, what kind of production is found within the two mile circle?

A Okay, there are -- there are wells that produce from the Delaware Mountain Group, which is within our -- our proposed zone of injection. The primary producer from the zone that we propose to inject into is Hankamer and they operate the disposal well in there.

There's one other well that produces from the Wolfcamp formation that's 12,800 feet, which is considerably deeper than our proposed zone at 8200 feet.

Q That well that is -- which is that well that has commercial disposal?

A It's Well C.

Q Inside the one-half mile circle?

A Yes.

Q Okay. Do you have further data on that well?

A Yes. There are well diagrams, also, in the application.

Q Do you have anything further concerning this map?

A No, I don't.

Q Let's go on to the next page and tell us what you have there.

A It's just a schematic of the reference Well A, which is approximately a quarter mile south of our proposed zone. It's plugged and abandoned so the schematic is attached to the application.

Q Mr. Huber, that's, as I see that schematic, that has open hole in the bottom of the -- or in some of the hole. Tell us how -- does that -- well, let me ask you, does that pose any threat to any potential oil and gas bearing formations?

A No, in my opinion it doesn't. The -- it's been in existance for a good while, approximate to the disposal well that's being operated down there, and it's been plugged and abandoned and the perforations squeezed, which are in the same zone, and two cement plugs set on top of that.

Q Mr. Huber, is there any oil and gas production within that interval within the one-half mile circle?

A Is there any fresh water within that zone?

A No, there isn't.

Q What is the -- are these still records following that schematic for this A Well?

A Yes, sir.

Q And those are true and correct copies of the well records of the Oil Conservation Division --

A Yes, sir.

Q -- for this well?

A Yes, sir.

Q Okay, let's go on to page twenty-seven and tell us what that is.

A This is the -- another schematic of a well that's plugged and abandoned within the half mile radius of the proposed disposal well.

Q Is there anything significant about this well that is shown by this schematic?

A No. It just indicates that it's adequately plugged and abandoned and should pose no problems with -- in relationship to our disposal.

Q What follows this schematic?

A The well file or sundry notices that are on record with the New Mexico OCD in Eddy County.

Q Okay. Let's move on to page thirty-five and have you identify what that contains.

A This is just a tabulation of the well data for reference Well C, which is the active disposal well approximately a quarter mile south of where we -- of the proposed disposal well that we'll operate.

Q Mr. Huber, do you have a schematic for this well?

A Well, I have submitted the schematic that they have on record with New Mexico OCD in Eddy County.

Q Who is "they", Mr. Huber?

A It's Curtis Hankamer, Houston, Texas.

Q Okay, that's the operator of this well?

A Yes, it is.

Q Where is that schematic?

A On page -- I think it's page forty.

Q Okay. How does the schematic in this well -- this is the current commercial disposal well there now?

A Yes, it is.

Q And how far away is that from the well that you propose?

A It's one -- a little -- slightly over a

quarter mile to the south of our proposed injection well.

Q How does your injection well compare to -- to this well?

A Well, I think that -- I know they've done some work since this well -- since this schematic was -- was filed, but it's not a record at the time that I submitted the application, but essentially ours -- our propose injection well is much better cemented than this one.

We, as a matter of record, have circulated cement on both the intermediate and surface casings.

Q Your well.

A Yes.

Q Okay. So the integrity of your well is a lot better than this one.

A In my opinion.

Q Okay. What pressures are -- what's the injection pressure? Do you know the injection pressure for this particular well?

A Not -- not actually. They're a little bit close with their information, but we understand that it's in the neighborhood of 900 psi at a rate of, maybe, four barrels a hour.

Q Do you know what the fracture gradient for the disposal zone is?

A It's been indicated to us. We don't know as a matter of fact. We haven't treated this zone in this area, but from reports and recommendations from Halliburton and other service companies, we anticipate it's approximately .5 psi per foot.

Q Were these recommendations made to you by Halliburton at your request?

A Yes.

Q In connection with wells --

A To the north of this location approximately a mile.

Q Same formation?

A Yes.

Q Let's go on now to page forty-four and have you identify that.

A This is the -- this is a schematic that I included in the application which is within the half mile radius but did not penetrate the zone of interest. It's a shallow well that was drilled in 1957.

Q Just merely included this for --

A Yes.

Q -- informational purposes?

A Included it because it was within the half mile radius.

Q Okay. Let's move on to page fifty-one

and tell us what that is.

A This is a copy of a letter which we sent to the mineral interest owners in the two-mile radius of the proposed injection well.

Q Who are those mineral interest owners?

A They are Ron's Drilling Company, Yates Drilling Company, Penta (sic) Exploration, Curtis Hankamer, and Celeste Grynberg, and Gulf Oil Corporation.

Q Are those shown on pages fifty-two and fifty-three, or what is shown on pages fifty-two and fifty-three and fifty-four?

A Yeah, they are just copies of the -- of the receipt for the certified letters sent to these.

Q Who owns the surface on these -- on this land, Mr. Huber?

A It's Federal surface, Bureau of Land Management.

Q What notification have you given to the surface owner?

A Currently we're operating under the original APD surface use plan, submitted with the original APD when the well was drilled.

Q Have you been in touch with the Minerals Management Service concerning this application?

A Yes, I have and was directed to submit a

sundry notice upon approval from the New Mexico OCD.

Q Do you intend to comply with that request?

A Yes, we will.

Q What -- what is contained on the last page of this application?

A It's an Affidavit of Publication indicating that we, in compliance with regulations, publicized our application for -- to convert this well to a disposal well.

Q Mr. Huber, would approval of this application be in the best of the conservation of oil and gas?

A I believe it would.

Q How do you make that conclusion?

A Well, I believe it would provide for hte economical production of wells in the immediate area for -- as access to economical disposal of produced waters.

Q How about premature abandonment of some of these wells?

A They would be prematurely abandoned without this approval.

Q Does Challenger Energy have any wells currently shut-in due to water disposal problems?

A Currently we have two wells shut in immediately north of this proposed disposal well.

Q And you would use this well to dispose

produced water from those wells?

Mr. Huber, the Oil Conservation Division has a policy that requires pressures not to exceed .2 psi per foot of depth in a well. You've testified also that you consider the pressure gradient to be what -- what was that?

A Well, currently from our initial treatment of this zone, would be less than .2, approximately .15, or something like that.

We have hearsay that -- that Hankamer is disposing at pressures higher than the .2 psi per foot, so until we really get into operation, we'll have to monitor this to determine what the actual pressures will be.

Q Assuming you exceed the -- I'm sorry, I think I said pressure gradient awhile ago. I meant fracture gradient.

A Uh-huh.

Q Assuming that you exceed the .2 limitation, would you be amendable to working with the Oil Conservation Division in Artesia in order to solve any problems with regard to -- the Division may have concerning this potential excess?

A Yes. We'd be quite willing to work with them.

Q And you would comply with any requirements that the Oil Conservation Division would have as far

as reporting of disposal in this well?

A Yes.

MR. PADILLA: Mr. Examiner, we offer Exhibit Number One and we tender the witness for cross examination.

MR. CATANACH: Exhibit Number one will be admitted into evidence.

CROSS EXAMINATION

BY MR. CATANACH:

Q Mr. Huber, I'm sorry, what did you say about the fracture gradient that you've experienced in the well?

A Well, we -- our experience is fairly limited. We're just basing -- we're basing our .5 psi frac gradient from -- from information we're received from Halliburton and other service companies that have given us recommendations for completions on other wells in that area.

MR. CATANACH: I have nothing further of the witness. He may be excused.

Is there anything further in Case 9033?

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 that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9033, heard by me on Nov 19 1986.

David R. Catanach, Examiner
Oil Conservation Division