NEW MEXICO OIL CONSERVATION COMMISSION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10507

IN THE MATTER OF:

The Application of C & C Landfarm, Inc., for a Commercial Surface Waste Disposal Facility, Lea County, New Mexico.

BEFORE:

CHAIRMAN WILLIAM LEMAY

COMMISSIONER BILL WEISS

COMMISSIONER JAMI BAILEY

FLORENE DAVIDSON, Staff Specialist

State Land Office Building

Morgan Hall

January 14, 1993

REPORTED BY:

CARLA DIANE RODRIGUEZ
Certified Court Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.
General Counsel
State Land Office Building
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

(No Appearance)

CHAIRMAN LEMAY: I'll now call Case No. 10507, which is the application of C & C Landfarm, Inc., for a commercial surface waste disposal facility, Lea County, New Mexico.

MR. STOVALL: Mr. Chairman, due to an important meeting being attended by counsel for the Protestants in this case, who requested the de novo hearing, and counsel for the Applicant, have agreed to and have requested a continuance to the February 25th Commission hearing.

CHAIRMAN LEMAY: Are there any objections to the continuance of that case?

If not, Case 10507 shall be continued to the February 25, 1993 Commission hearing.

(And the proceedings concluded.)

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

_____, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Carla Diane Rodriguez, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Commission was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL January 15, 1993.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ, RPR
CCR No. 4

NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10507

IN THE MATTER OF:

The Application of C & C Landfarm, Inc., for a commercial surface waste disposal facility, Lea County, New Mexico.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

August 6, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
BY: **WILLIAM F. CARR, ESQ.**

FOR SW CATTLE COMPANY AND ELSIE REEVES:

KELLAHIN, KELLAHIN & AUBREY
Post Office Box 2265
Santa Fe, New Mexico 87504-2265
BY: **W. THOMAS KELLAHIN, ESQ.**

EXAMINER STOGNER: This hearing will come to order. I'm going to venture away from our venue for a little bit and call the next case, No. 10507, which is the application of C & C Landfarm, Inc., for a commercial surface waste disposal facility in Lea County, New Mexico.

Mr. Kellahin, Mr. Carr, I see you both here today. One or both of you like to speak on this at this time?

MR. CARR: May it please the Examiner, I represent the applicant in this case, C & C Landfarm. The application has been pending for approximately a year. And we were prepared to go forward today, and yesterday at approximately noon, Mr. Kellahin advised us that his witness, primary witness had a personal problem develop that we recognize as a bona fide problem. And therefore, at that point in time, we agreed to continue the case and -- agreed to Mr. Kellahin's request to continue.

We are anxious to get the project going. And after conferring with each other and with you, if it is agreeable to you, we would request that this case be set for hearing and the only case set for hearing on September 1. We

easily can finish the case in one day. And that would mean it wouldn't be placed on the September 3 docket, which looks like it will be a lengthy docket, and we think this will be in the best interests of the parties and also getting this matter resolved as quickly as possible.

EXAMINER STOGNER: Mr. Kellahin?

MR. KELLAHIN: Mr. Examiner, I'm appearing on appearing behalf of SW Cattle Company and Elsie Reeves. This is our first request for a continuance in a case that was originally docketed in July. The previous continuances have been at the request of the applicant.

The reason for our request for continuance is my geologic expert has a family crisis that demands his attention. I learned of that at noon yesterday, and he's not available today or we would have gone forward.

We propose the September 1 hearing date for this case to start at 9:00 o'clock in the morning and that this would be the exclusive case on that docket. I think Mr. Carr and I represent all parties that have participated and appeared in this matter, and we propose to go forward on

that day.

EXAMINER STOGNER: Thank you, Mr. Kellahin. This case was continued from the July 23, 1992, Examiner Hearing. I don't remember who requested it. However, with you both appearing today requesting this, and we have discussed this matter about having a special hearing on September 1 at 9:00 o'clock, which is the Tuesday before the regularly scheduled Thursday hearing, I am reluctant to also continue this case to the other Hearing Examiner's docket, because it is getting somewhat large at this time, with that I see no problem. Our court reporter has graciously agreed to be here on September 1.

So with that, this Case 10507 will be continued to Tuesday at 9:00 o'clock here in this room, September 1, 1992. Thank you, gentlemen.

[And the proceedings were concluded.]

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10507 heard by me on 6 August 1992.

, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL AUGUST 15, 1992.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3

NEW MEXICO OIL CONSERVATION COMMISSION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10507

IN THE MATTER OF:

The Application of C & C Landfarm, Inc., for a Commercial Surface Waste Disposal Facility, Lea County, New Mexico.

BEFORE:

CHAIRMAN WILLIAM LEMAY

COMMISSIONER BILL WEISS

COMMISSIONER GARY CARLSON

FLORENE DAVIDSON, Staff Specialist

Mabry Hall

February 25, 1993

REPORTED BY:

CARLA DIANE RODRIGUEZ
Certified Court Reporter
for the State of New Mexico

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.
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FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.
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BY: **WILLIAM F. CARR, ESQ.**

FOR MS. ELSIE REEVES and S-W CATTLE COMPANY:

KELLAHIN & KELLAHIN
Post Office Box 2265
Santa Fe, New Mexico 87504-2265
BY: **W. THOMAS KELLAHIN, ESQ.**

I N D E X

E X H I B I T S

CHAIRMAN LEMAY: We shall continue by calling Case No. 10507.

MR. STOVALL: Which is the application of C & C Landfarm, Inc., for a commercial surface waste disposal facility, Lea County, New Mexico. The case is heard de novo based upon the application of Elsie Reeves, S-W Cattle Company and W. T. "Trent" Stradley.

CHAIRMAN LEMAY: Appearances in case 10507?

MR. CARR: May it please the Commission, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge & Sheridan. I represent C & C Landfarm, Inc., and I have one witness.

CHAIRMAN LEMAY: Additional appearances. Mr. Kellahin?

MR. KELLAHIN: Mr. Chairman, I'm Tom Kellahin, of the Santa Fe law firm of Kellahin and Kellahin. I'm appearing today on behalf of Ms. Elsie Reeves. Ms. Reeves is here in the audience with me. And Mr. Trent Stradley is sitting behind her in the audience. He is president of S-W Cattle Company. I intend to call them both as witnesses.

In addition, my hydrologist is Mr. Tim Kelly from Albuquerque, and he is my third witness.

MR. STOVALL: Robert G. Stovall on behalf of the Division. The Division is not a party to this case, but this has involved some administrative processing by the Environmental Bureau of the Division, and there may be a strong likelihood--there will be a member of that Bureau testify to explain what has happened at the Division and where the Division Bureau stands with respect to this application.

Again, we don't take a position, but with respect to keeping the Commission informed, I think it's almost essential that that occur and that that witness be put on.

MR. KELLAHIN: Mr. Chairman, I think this is a unique case. Mr. Carr, Mr. Stovall and I, I think, have been plowing new ground with this case and we continue to perhaps make it up as we go.

I think it would be appropriate to have opening comments in an effort to put in context what each of us thinks are the issues for concern to the Commission at this point.

CHAIRMAN LEMAY: Okay. Let's swear in the witnesses, and then we'll go to opening comments. Those that will give testimony, please stand.

[And the witnesses were duly sworn.]

CHAIRMAN LEMAY: Let's begin with opening comments, then. Mr. Carr.

MR. CARR: May it please the Commission, in October 1991, C & C Landfarm, Inc., filed an application with the Oil Conservation Division seeking approval to run and operate a commercial landfarm in Lea County, New Mexico.

Meetings were held with the Environmental Division Bureau of the Oil Conservation Division, and on May 20, 1992, the Environmental Bureau advised that the application had been determined to be approvable if certain conditions were met, and those conditions were set forth.

C & C agreed to meet these conditions, and a case was advertised before an examiner of the Oil Conservation Division, and the advertisement noted that unless there were objections, the application would be approved.

Following that, the people that Mr. Kellahin represents here today filed written objections, the matter was set for hearing, and following an examiner hearing an order was entered approving the application and imposing a set of conditions on the operation of this facility.

Following that and on January 6th, another letter was delivered from the Environmental Bureau, and still new and additional conditions concerning how this facility was to be installed and operated were at least recommended by the Division. And those conditions are also, I might add, acceptable to C & C.

We're here today because of the objections that have been filed, and although the Environmental Bureau has determined that this application is approvable, the question is for you to decide whether or not this application is, in fact, to be approved.

We will call Michael Pierce. He's a consulting geologist from Hobbs. Mr. Pierce is going to review for you what they're proposing, how the project will operate, and he will show

you that what we are proposing will not contaminate fresh water, is environmentally sound, and will not pose a threat to human health.

And after 18 months of working with this matter, we believe we are finally in a position where we can come to you and seek your final approval.

CHAIRMAN LEMAY: Thank you, Mr. Carr. Mr. Kellahin.

MR. KELLAHIN: Mr. Chairman, I have a plat that illustrates the area that I would like to put up. There's not an easel in the room, but perhaps I can position it here so that the only person that can't see it will be Mr. Stovall.

MR. STOVALL: I think I've seen it before, Mr. Kellahin.

MR. KELLAHIN: I believe you have, Mr. Stovall.

MR. KELLAHIN: Gentlemen, my clients' position is that adjoining ranchers and owners will be materially affected by the approval of what C & C Landfarm proposes to do. We'll give you some more illustrations, some more maps, but just to orient you, let me explain to you what

C & C originally applied for back in October of 1991.

We filed, with the Oil Conservation Division's Environmental Bureau, a request for surface commercial disposal facilities within a 40-acre tract located here and outlined in red on the exhibit, which will be Exhibit No. 2. It's Section 3. Within that 40-acre tract, then, that was the facility or the siting of the landfarm facility.

Outlined in blue is some 200 acres, of which 40 acres has been carved out. This is land under the control of Mr. Cooper. Mr. Cooper has arranged with C & C Landfarm to use the 40-acre tract as the landfarm.

You can see identified on the display a yellow outlined tract, and that is the farm or ranch that Elsie Reeves and her family controls, that is west and southwest of the facility.

Mr. Trent Stradley, as S-W Cattle Company, controls the acreage to the south and to the east of the site, and it is outlined generally by the green border.

The major sources of fresh water are very shallow aquifers lying above the redbed.

There is a windmill down here, identified in the southwest quarter of 3, by the blue dot that is Mr. Stradley's windmill. That has been there for decades. It produces continually from shallow groundwater. From the surface to the depth of the water is about 20 feet, give or take a couple of feet. That is a principal point of withdrawal of the shallow water.

You can see from the topo map and, as Mr. Kelly will describe to you and Mr. Stradley will document, that this is in the area called White Breaks. Topographically, it's simply a slump or a sink in this area, and is a natural collection point for shallow fresh water.

In addition, Mr. Stradley has two other points down here on the display, shown on the south side of the display by two blue dots. Those are submersible pump wells, where he also produces and extracts fresh water at shallow depths. Those three withdrawal points are the only points within six to eight sections where Mr. Stradley waters his cattle. There's no other water available to him other than those control points.

The application, as originally filed,

sought to place contaminated soils, soils that were contaminated with hydrocarbon, taking them from sites where wells were located, taking that material and concentrating it at the facility. The Applicant originally sought to put that contaminated soil in an excavated pit.

The pit originally started in the southeast corner of the 40-acre tract. Caliche was removed from that area and was used in other oil field sites, on roads and whatever, off the property.

The plan was to take the contaminated soils and put them back in the pit. That was the original plan. C & C submitted that to the Environmental Bureau.

The Environmental Bureau, through a course of exchanges of correspondence, asked the Applicant to provide documentation, a design for that facility, and to further document what they sought to do.

Based upon that review, then, the Environmental Bureau, in May of 92, issued some conditions. The conditions would approve putting the contaminated soils into the excavated pit. The protective device to be utilized to protect

the shallow groundwater was something called a redbed dike. The plan was to excavate along the edge of the pit and construct a deep, narrow dike to protect or constitute a barrier so that contaminants or leachates would move off the property. That was the condition of approval, in substance, of the May conditions.

My clients objected, sought to preclude the administrative approval of this landfarm concept with those conditions, and sought a hearing. That hearing was held before Examiner Stogner in September of 92.

At that hearing, we presented testimony from Ms. Reeves, Mr. Stradley, and Mr. Kelly, describing and identifying for the Examiner the issues we had of concern for the contamination of the groundwater.

After that hearing, Mr. Stogner entered an order denying our objections and approving the facility, attaching to it substantially the same conditions as were set forth in the May 20, 1992 letter of conditions from the Environmental Bureau.

We then timely filed for a de novo hearing. Pending a hearing before the

Commission, the Environmental Bureau now issues substantially revised recommendations, on January 6, 1993. What the Bureau did is they now preclude the Applicant from putting contaminated soils in the excavated pit. They say, "That poses a risk and you can't do it," and so now the Applicant can only utilize native soil within the 40-acre tract, and put it on top of undisturbed soil.

Mr. Kelly finds fault with the amendment, he finds fault with the original concept, and we're here to object to the approval of this facility at this site.

Procedurally, we're in no man's land, I contend. We're here on the rehearing or the de novo hearing of the examiner order and yet, as we go through that process, we are now subject to additional conditions from the Environmental Bureau that have substantially altered the facility as approved by Examiner Stogner. It would be my position that it is premature to be before the Commission today, and what should happen is this case ought to be reopened and the recommendations taken by the Environmental Bureau be taken back to the Examiner, so he can

reexamine whether or not that ought to be changed.

We are here today to oppose the facility either under the original concept or under the current proposed amendments of January 6, 1993.

CHAIRMAN LEMAY: Let me interrupt you for just a point here. Mr. Carr and Mr. Stovall, have you discussed procedurally what Mr. Kellahin is talking about, whether that would be the procedure for this type of an application, or do you agree or disagree?

MR. STOVALL: I'll allow Mr. Carr to respond first and then I'll be glad to explain.

CHAIRMAN LEMAY: I didn't mean to interrupt you at that point, Counselor, but I thought while we were on that point, I would like to clarify that.

MR. KELLAHIN: I think it's worth clarifying at this point. The processing of the case was originally administrative. The Division is currently undertaking to develop guidelines for landfarms. They haven't been issued, as best I know. What we have is an experiment, if you will, with this application, in determining what

criteria, standards and guidelines are applied to it.

As we go through the process, the conventional case would have taken this to an Examiner because of objections. The Examiner enters an order, and we come before you if we're dissatisfied. But that prccess has now been interrupted by a significant change in what's happened, and I don't know why you ought to be hearing it.

CHAIRMAN LEMAY: Let's look at that issue by itself. Mr. Carr.

MR. CARR: As I indicated in my opening statement, this application was originally filed in October 1991. Since that time, the procedures have been evolving at the Division level as to how to handle a project of this nature.

To come in and say now because 18 months later there has been some change in recommendations from the agency, which you're here to consider, means that we have to go start the process all over again, I think is absurd.

This isn't the unique case Mr. Kellahin wants it to be perceived as. You have approved two of these in less than 90 days, in the

interim, since this application was originally approved under the guidelines developed by your Environmental Bureau.

We have a situation here where there are two ways to keep us frcm going forward; beat us on the merits, which they've been unsuccessful in doing, or defeat us with a war of attrition, and if after 18 months because there is an evolving set of rules and regulations we're told to go start all over again, it means we'll be back before you 18 months from now, and you're going to deny the Bureau its flexibility in continuing to evolve effective regulations for needed projects just like this one.

This isn't an argument being advanced by Mr. Kellahin, because he's worried about the new conditions. They were mailed out January the 6th. Certainly there's opportunity and has been opportunity since that time for their expert to review them. They're trying to delay a final resolution of a question that they have been able to keep before you for now 18 months. And we think it's time to get this thing revolved. We have been ready to go for 18 months.

If you would like to discuss when your

Bureau's witnesses are up, the kinds of changes, and if you'll compare those changes to the very objections raised by Mr. Kellahin at the Examiner level, you will see in fact they were responding to those objections. And if you now start the process over and deny that flexibility to your agency, you're really creating a situation where when someone comes forward and tries to work with your Environmental Bureau to develop a sound project, we're really laying ourselves wide open to absolutely endless delay.

CHAIRMAN LEMAY: Mr. Stovall, would you respond.

MR. STOVALL: Mr. Chairman, procedurally, I think they've pretty well described what has happened. As you're aware, applications for all disposal facilities have normally been processed administratively by the Division's Environmental Bureau, and the director of the Division issues a permit authorizing operations.

One of the things about those permits and about the whole process is that it's iterative. The application comes in, the Bureau reviews it, they take pieces of it, they put it

together, and come up with a final package.

The original case, the first time we had a case was a surface disposal facility for produced water. That lasted, at the Examiner level, five days.

Part of the reason for that was because they stopped the iterative administrative process; decided, the next time what we would do is go through the administrative review, analyze it, come to a hearing--analyze it, make a preliminary determination whether or not an application was approvable or not, and give the party who didn't like the decision the opportunity to request a hearing.

That's essentially what we've done in this case, and indeed it is a bit experimental, in that sense. What has happened in this case that has caused the additional complication is that the Environmental Bureau reviewed the order and had some specific concerns about the Examiner order which came out, and quite frankly welcomed this opportunity to review and come back in.

Procedurally, and something we've always got to insist is, regardless of whether it's an administrative approval or an order

approval, the Division must retain authority to modify any permit conditions based upon future information that's acquired.

With respect to the January changes, I think that was the nature of the process, legally speaking, procedurally speaking, that the Division said, "We really think that these changes ought to be made to the process." At that time it was made in the context of knowing this case was going to come de novo and come before you.

This is truly, and the Division views this, as a de novo case. It is the obligation of the Applicant to show that this facility can be constructed and operated in a manner which is environmentally sound and meets the requirements of the Division, including the fresh water protection, the human or public health and the environment protections that are required. All the requirements of the OCD rules must be satisfied.

Procedurally, I would agree with Mr. Carr that the only effect of trying to take it back and go through an Examiner hearing again would be to extend and draw out the process, and

indeed this one has been a wrong one.

As far as the establishment of guidelines, it is actually hearing processes such as this that really aid and assist in the development of guidelines, and they are just that. They are a set of conditions or operational requirements which the Division publishes and says, "If you meet these, you can probably get approval."

But they're not rules, they're not hard and fast. Out of this hearing it's very likely that there may be some additional revisions to the guidelines. Those will be changed. They're intentionally not rules because somebody may come up with a better idea, and we want the opportunity to adopt that better idea.

I think, in fairness to everybody, I think you should go ahead and hear this case. It is de novo. It's a standing case. Make your decision, issue your order. We'll have some guidance to go forward and know how to operate in the future, but you're doing this one from scratch and need to get all of the right information in.

That's one of the reasons, as I stated

earlier, that I intend to put on a Division witness to explain the scientific basis for the conditions, and the things the Division is looking at are the January conditions that were put out; again, put out in anticipation of this hearing and knowing that they would be reviewed at this hearing. And the Division is prepared to explain those. So procedurally, I recommend that the Commission go forward with this case.

CHAIRMAN LEMAY: Let's take a couple of minutes here.

COMMISSIONER CARLSON: Do we have a motion, Mr. Kellahin? Are you moving that we dismiss this or send it back to the Examiner, or what are we acting on?

MR. KELLAHIN: I so move, that the application before you is premature because, as I understand it, both the Division Environmental Bureau and the Applicant have agreed to material changes to modifications of the Examiner order, as issued, and that's the order from which we've taken our de novo appeal. So it's premature to have the case before the Commission.

If you want it in the context of a motion, I move that this Commission direct this

case to be reopened at the Examiner level to take testimony concerning the changes.

MR. CARR: And I would ask you to refer to my prior statement, obviously.

COMMISSIONER CARLSON: I have a question of Mr. Stovall. Isn't there, statutorily, isn't there a provision that this Commission can take cases without having first going through an Examiner if it is obvious to the Chairman that it's likely to be appealed anyway?

MR. STOVALL: Yes, that's true, Commissioner Carlson. It's not a procedural requirement that it go back and be reheard. You have every authority in the world to take this case, and I recommend you do so as an original case at this point.

CHAIRMAN LEMAY: Commissioner Weiss.

COMMISSIONER WEISS: Have there been any new measurements since the original case?

MR. KELLAHIN: I'm sorry?

COMMISSIONER WEISS: Have there been any new measurements? anything measured that's different than it was back when you started?

MR. KELLAHIN: My understanding is, there are no new scientific data available for

consideration.

COMMISSIONER WEISS: Thank you. Let's take a couple minutes.

[Discussion off the record.]

CHAIRMAN LEMAY: We all agree unanimously that we do want to hear this case, so we shall carry forward with it today.

MR. KELLAHIN: That concludes, Mr. Chairman, my opening remarks.

CHAIRMAN LEMAY: I didn't mean to interrupt you at that point.

MR. KELLAHIN: No, I was finished. Let's get on with it.

CHAIRMAN LEMAY: Okay. Thank you, Mr. Kellahin.

MR. CARR: May it please the Commission, at this time we'll call Michael L. Pierce.

MICHAEL L. PIERCE

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record, please?

A. Michael L. Pierce.

Q. Where do you reside?

A. In Hobbs, New Mexico.

Q. By whom are you employed and in what capacity?

A. By Peak Consulting Services, and I'm owner of that company.

Q. Have you previously testified before this Division or before the Oil Conservation Commission?

A. I have.

Q. Have you previously testified before the Commission?

A. No, I have not.

Q. Would you briefly summarize your educational background and then review your work experience.

A. I received a bachelor of science degree in geology from the University of New Mexico in 1979. I spent a year working as a mine geologist in Grants, in a uranium mine. I moved to Hobbs, New Mexico, in 1981, provided as a petroleum geologist. I worked there until 1986 and I have been an independent consultant in Hobbs ever since then.

Q. When were you employed by C & C Landfarm, Inc., on this matter?

A. In approximately August of 1991.

Q. What were you asked to do?

A. To develop a plan for a commercial landfarm facility.

Q. Were you also asked to help secure the necessary regulatory approvals?

A. Yes, I was.

Q. Are you familiar with the application that has been filed in this case on behalf of C & C Landfarm, Inc.?

A. I am.

Q. Did you assist with the preparation of the application itself?

A. I did, yes.

Q. Subsequent to the filing of the application, have you been involved in meetings with the Environmental Bureau staff of the Oil Conservation Division?

A. Numerous meetings.

Q. Did you testify in support of this application at the Examiner hearing?

A. Yes, I did.

MR. CARR: At this time we would tender

Mr. Pierce as an expert in petroleum geology.

MR. KELLAHIN: May I ask the witness some questions, Mr. Chairman?

CHAIRMAN LEMAY: Sure.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Pierce, your current experience and the recent past experience has been in the field of petroleum geology, has it not?

A. The majority of it, yes.

Q. Do you hold a degree in hydrology?

A. No, sir, I do not.

Q. Do you have any experience in modeling or studying groundwater movement?

A. No, sir, I do not.

MR. KELLAHIN: Mr. Chairman, I don't believe Mr. Carr has laid an appropriate foundation to qualify this witness as an expert.

MR. CARR: May it please the Commission, I tendered him as an expert in geology. Mr. Kellahin maybe is trying to suggest that he is more than that, but we're going to try and stand on what his qualifications are, and I would request that he be so qualified.

CHAIRMAN LEMAY: I think he's qualified

as a geologist, and we'll hear his testimony. You can always object to an area you feel he's not qualified in.

MR. KELLAHIN: Thank you, Mr. Chairman.

FURTHER EXAMINATION

BY MR. CARR:

Q. Would you briefly state what C & C Landfarm seeks with this application?

A. We seek to permit a landfarm, pursuant to the Division Rule 7-11.

Q. Are you also one of the owners of C & C Landfarm?

A. I am. I have an interest in C & C Landfarm.

Q. Could you tell us, initially, what is a landfarm?

A. It's a facility designed--and specifically this facility is designed to remediate oil-contaminated soil.

Q. Is what we're talking about here today a new facility?

A. Yes, sir, it is.

Q. Are there any similar landfarms in this area?

A. No, there are not.

Q. Could you tell the Commission where this facility is actually located?

A. It's approximately two miles southeast of Monument, New Mexico, in the southwest quarter of the northeast quarter of Section 3, Township 20 South, Range 37 East, in Lea County.

Q. How much acreage are you actually proposing to utilize as a landfarm?

A. We would like 40 acres permitted.

Q. Can you identify what has been marked as C & C Landfarm Inc. Exhibit No. 1?

A. That's the original application we filed in October of 1991.

Q. Following the filing of this application, could you tell us what transpired?

A. Would you repeat that question?

Q. Following the filing of this application, were there meetings with the Oil Conservation staff?

A. Yes. We consulted with the Environmental Division of the Oil Conservation Division a number of times in order to develop a plan to develop this facility.

Q. This is the plan that the Division

advised in May of 1992 as being approvable, is that correct?

A. Yes, sir.

Q. Were you advised at that time that it would also have to be advertised for hearing?

A. Yes, it was.

Q. And set for hearing?

A. Yes, sir, it was.

Q. And objections were filed, is that correct?

A. Yes.

Q. Let's go to what has been included in Exhibit No. 1 as an area map. It's the first map in that exhibit. Would you identify that, please?

A. That's a land map with a half-mile radius around the proposed facility, and it's showing offset operators in oil and gas wells, and, in some cases, the offset surface owners.

Q. The shaded area in the center of the circle is the proposed facility?

A. That's correct.

Q. What is the radius on that circle around that facility?

A. That's half a mile radius.

Q. Could you just quickly identify the owners of the acreage, the offsetting owners to the proposed facility side?

A. Mr. Kellahin did that very aptly with his map. Mrs. Elsie Reeves owns the surface to the west of the facility, Mr. Stradley to the east and to the south, and Mr. Cooper to the north.

Q. Let's take out what has been marked as Exhibit No. 4, please. Could you identify this, please?

A. Yes. This is a map of the 40-acre tract that we had done by a registered surveyor.

Q. All right. Would you refer to this plat and just review what you're proposing the site to look like when it's fully installed?

A. This is an actual representation of what the 40-acre tract looks like today. You can see have two pits, labeled Pit No. 1, that is approximately one-and-a-half acres in size, and Pit 2, immediately to the north, that's one-and-three-quarter acres in size.

And immediately to the west and slightly to the south of Pit No. 2 is what we call Cell No. 1, and it's approximately--just

slightly under two acres in size.

The heavy dark line on the west and south side is a berm that's in place right now. You see what's identified as Wells 1 through 5. Those are monitor wells that are in place at the facility right now. We have labeled, in the hatchered area, several other cells, Cells 2, 3 and 4. These cells are proposed cells and they have not been constructed yet. There is an oil well in this facility that Amerada Hess operates, and then several pipelines crossing the facility.

The 40-acre tract is completely fenced, and there is a gate, a locked gate on the southeast side of the facility.

Q. Will there be an office at the facility?

A. Yes, close to the gate.

Q. And is there a proposed setback from the outer boundary of the 40-acre tract?

A. Yeah. Pursuant to the rules and the recommendations from the Environmental Division in their January 6th letter, they proposed a buffer zone of 100 feet from offsetting acreage.

Q. Is this property directly bordering the

county road?

A. Yes, sir, it is. I believe it's County Road 58 or Billy Walker Ranch Road is north/south along the east side of the facility.

Q. Is any right-of-way going to be needed as part of the proposed facility?

A. No. Mr. Cooper owns the 40-acre tract and it has access from Billy Walker Ranch Road.

Q. You've talked about cells. Could you tell us what you mean by when you say there's Cell No. 1?

A. This is the location where we would first like to begin landfarming. The cell, per OCD regulations, can be up to five acres in size. This cell is intact. It has been built.

Q. Cell 1 is where you propose to commence operation?

A. That's correct.

Q. Can you tell me exactly how you go about constructing a cell or what it looks like?

A. Under the January 6th letter, we are going to use a method called the treatment zone monitoring method, where we're going to landfarm on the original land surface of the area. All we have done here is scraped off the native grasses

and mesquite bushes in the area of Cell No. 1, removing very little of the topsoil material.

Q. Have you constructed a berm around that cell?

A. Cell 1 is completely enclosed in the berm that is shown as the heavy black line along the south and the west side.

Q. Are there plans to extend the berm?

A. Yes. Before the facility is opened, the berm will be totally around the facility.

Q. In addition to the berm around the facility, will there be berms around the individual cell?

A. Right. There will be berms separating individual cells.

Q. Now, what is the status of the land on which this facility is located?

A. It is owned by Mr. Jimmy Cooper.

Q. And is it fee land?

A. Yes, sir, it's fee land.

Q. Could you explain to the Commission how you propose to operate this landfarm?

A. Like I mentioned, we are going to use the treatment zone monitoring method, where we'll deposit oil-contaminated soil on the original

land surface in up to six-inch lifts or less. No more than six inches at a time, per lift.

This material will be tilled biweekly to ensure proper aeration cf the soil, so that the bioremediation can occur.

Q. Are you required to run any sort of tests before you deposit the oil-contaminated soil in a cell?

A. We are required to do a background test on the facility, just to get a background number or something we can compare it to at a later date. That's before any material is deposited in the soil.

Q. When you say you're going to get a background test, what do you do?

A. The first test, the initial test in the facility, will be tested for TPH, total petroleum hydrocarbons, a general chemistry in heavy metals, using approved EPA methods.

Q. What do you do? Do you take a sample of the soil?

A. That's correct. We'll take a sample in what they call the treatment zone, and that is an interval of two and a half to three feet below the original land surface where there's no

contaminated material. This is undisturbed material where we would take this test.

Q. So if I understand your testimony, you build the cell by constructing a berm and grading off the surface vegetation?

A. Correct.

Q. Then you test the treatment zone, as you've indicated, being the top two or three feet, and that gives you a base sample?

A. That's correct.

Q. Or base reading on the constituent elements in that soil?

A. That's correct.

Q. Then, at that point in time, in layers of not more than six inches, you spread the oil-contaminated soil?

A. That's correct.

Q. And then at least every two weeks you said you disk it? You plow it?

A. Right.

Q. Now, are there other tests that you're required to take of the soil in the cell?

A. On a quarterly basis after we've started depositing material in an individual cell, on a quarterly basis we're required to take

additional tests for TPH and BTEX, and this is every quarter after we've started landfarming in a particular cell.

If we are active in three cells, we will have to test each one of those cells every quarter.

Q. When you test within those cells, what is it you're testing?

A. We're trying to determine if there is any migration of contaminants into the treatment zone, the interval of two and a half to three feet below the original land surface.

Q. So do you again take a sample of the treatment zone?

A. That is correct.

Q. And then you have that analyzed?

A. Yes, sir.

Q. What do you do with that information?

A. We are required to report that to the OCD and retain those records at the facility.

Q. Now, after you take a sample out of the treatment zone, the layer of soil under the contaminated zone, what do you with that, the place where you took the--

A. We're required by OCD rules to backfill

this sample hole with an impermeable material such as bentonite cement.

Q. And this method cf landfarming is called what?

A. Treatment zone mcnitoring.

Q. Why are you proposing to utilize this method?

A. This is the method that the Environmental Division recommended us to look at in their January 6th letter. And, after talking with their representatives, we were more comfortable with this method.

Q. If you use this method and if there is contamination, how often will you be testing for that?

A. Every three months.

Q. And you report that, as you indicated, to the OCD?

A. That's correct.

Q. What happens if there should be contamination in this treatment zone?

A. We would obviously not deposit any more material in this individual cell, and we would report the results of the tests that showed contamination to the OCD, and we would consult

with them on the best procedure to take care of this problem.

Q. Now, you indicated, I believe, that the facility would be fenced?

A. Yes, sir. It is fenced now.

Q. And will there be a gate, a lock on the facility?

A. Yes, there is a gate and a lock on that gate now.

Q. When the facility is open and receiving product, will there be an attendant on duty at all times?

A. That's correct.

Q. Now, as soils are brought into this facility and delivered to the site, how are they documented? What do you do?

A. We have to keep track of where the material came from, how much material is in the load, the date received, whether it's exempt or nonexempt, the transporter. We have to keep on record in which cell it was deposited in.

Q. Is all of this required by OCD guidelines?

A. Yes, this is all required by OCD guidelines.

Q. Will any free liquids be received by the facility?

A. No, no free liquids will be received.

Q. Will any water be permitted to pool or stand within the facility?

A. No. We will be required to use fresh water on occasion to control the dust, if this develops a problem at the facility, and to keep the remediated soil from drying out completely, so that the remediation process can progress.

Q. If there is any evidence of contamination, you check that every three months to see if there is?

A. That's correct.

Q. And if there is any sign of it, then you immediately report it to the OCD?

A. That's correct.

Q. Are there fresh water zones under the proposed facility?

A. No, sir, there are not.

Q. What do you base that statement on?

A. The five marker wells we drilled, that are shown on Exhibit 4, were drilled down to a depth of two feet into the redbed and screened off approximately five feet in the bottom of the

hole, and we encountered no fresh water in any of the five wells on this.

Q. Were the wells dry?

A. Yes, sir, they were dry.

Q. Did you check the records at the state engineer's office to see if there were water zones reported under the facility site?

A. Yes, sir, we did.

Q. What did you discover?

A. They had no record of fresh water on that 40-acre tract.

Q. Did you check the records at the BLM for the existence of any fresh water?

A. Yes, sir, we did.

Q. What did those records show?

A. They showed no evidence of fresh water on this tract.

Q. Mr. Kellahin, in his opening, indicated that there was a windmill in the vicinity that was operated by Mr. Stradley, I believe?

A. Yes, sir.

Q. And that is how close to the proposed disposal facility site?

A. Approximately half a mile to the southwest.

Q. Was a water analysis, a sample taken and analyzed from that well?

A. Yes, it was included in the original application.

Q. And the analysis is in Exhibit 1?

A. Yes, sir.

Q. So there's base information to judge if, in fact, anything ever should happen to that well.

A. That's correct.

Q. Does Exhibit 1 also show the other water wells in the area that were reviewed by Mr. Kellahin in his opening?

A. I think his map is a little more detailed. We were only required to show the water wells within a mile, I believe, of the facility, in the original application.

Q. Now, you've been at the site?

A. Yes, sir.

Q. Is there any slope to the surface?

A. The general topography, where our facility is, slopes to the west.

Q. Now if there should be a spill of one of these hydrocarbon-contaminated-soil facilities, how do you propose that be handled?

A. Well, as there's not going to be any free liquids, we would just pick up any spill and deposit it in a cell to be remediated.

Q. Will the 100-foot buffer zone be kept clean and free of any oil-contaminated dirt or soil?

A. Right. There will be no oil-contaminated soil in the buffer zone at all.

Q. Is this facility located in a flood plain?

A. It is on the west side of a gentle hill. I mean, it's not in a low spot, no, sir.

Q. Is there, in your opinion, any danger resulting from rainfall in the area?

A. As you know, we experienced a hundred-year flood in May of 1992, and at the time the facility did not have any berms around it. The way the facility is laid out with the county road there on the east side of it, the county road is below grade of the facility, so any water that ran off the hill from above us ran down to the county road and either went south or north, and nothing from the east side flowed into the facility.

With the installation of the berms

around the facility, this will ensure that we get no run-on from rainwater in future events on the facility, and the berms will also keep any water, any rainwater from leaving the facility, also.

Q. After the flood last summer, did the Oil Conseravation Division inspect the facility?

A. Yes. Chris Eustice, of the Environmental Division, went out there and we tested the monitor wells to see if they had any water in them, and they were still, all five, dry.

Q. Now, if I understand it, all the disposal that you're proposing will be confined to those cells that are shown on what we have marked as our Exhibit No. 4?

A. That's correct.

Q. Does C & C Landfarm have a $25,000 bond on file with the Division as required by the guidelines in the Environmental Bureau?

A. They do.

Q. Now, as we know from the opening statements, the Division has imposed certain conditions on the operation of this facility, is that correct?

A. Yes, sir, they have.

Q. And certain conditions were included and incorporated into the Order that resulted from the Examiner hearing?

A. That's correct.

Q. Was C & C prepared to comply with all those conditions?

A. Yes, sir, we were.

Q. Those conditions have been subsequently changed, is that right?

A. That's correct.

Q. Are those changes contained in the letter that has been marked as C & C Exhibit No. 3?

A. Yes, sir, that's correct.

Q. What were the changes that were actually proposed?

A. Essentially, the major change in that was to no longer use the redbed dike, and to use the treatment zone monitoring method.

During the original Examiner hearing, Mr. Kellahin and his witnesses objected to this. First of all, they didn't know how effective it would be and, secondly, they didn't know how you could construct such a barrier.

Q. And that's no longer a requirement?

A. Yeah. With the letter in Exhibit 3, we're no longer proposing this in lieu of the treatment zone monitoring method.

Q. Now, are the conditions proposed by the Environmental Bureau in its January 6th letter, acceptable to C & C Landfarm?

A. Yes, sir, they are.

Q. Will C & C Landfarm, in operating this facility, keep all records and make all reports and otherwise fully comply with Division rules, regulations, and with the guidelines of the Environmental Bureau for a landfarm of this nature?

A. Yes, sir, they will.

Q. How long are these records to be kept?

A. A minimum of two years.

Q. What are the closure plans of Seay & Seay for this facility?

A. When we decide that we are going to close this facility, we notify the OCD immediately. We're no longer allowed to accept any contaminated soil, but we must continue the remediation process until all the material on the side has been remediated to OCD and EPA standards.

Then, once that has been accomplished, the area will be reseeded and all equipment and buildings and all will be removed from the site.

Q. If the Commission should approve this application, how soon could Seay & Seay be ready to commence operation?

A. Just very soon. Like I say, the facility is in place, and all we need to do to comply with all the conditions is to do the background check at the facility.

Q. Do you anticipate encountering any H2S in any of these open pits?

A. No, sir, we do not.

Q. And, if you do, will you comply with the provisions of Division Rule 118 concerning H2S emissions?

A. Yes, sir.

Q. In your opinion, will the proposed facility provide an economical and efficient way to dispose of oil field waste?

A. Yes, it would be economical, and it's a much needed system. Right now we're very limited on what we can do with oil-contaminated soil.

Q. In your opinion, as the operator of the facility, have you fully complied with the

guidelines set forth by the OCD? Are you prepared to do that?

A. Yes, sir, we are.

Q. And are you prepared to comply with all of their regulations designed to protect human health, the environment, and avoid contamination of groundwater?

A. Yes, we are.

Q. And are you prepared to comply not only with the guidelines as they stand today, but with subsequent changes in those guidelines if and when in those guidelines are amended or changed?

A. Yes, we will.

Q. Were Exhibits 1 through 5 either prepared by you or compiled under your direction?

A. They were.

MR. CARR: At this time, we would move the admission of C & C Landfarm Exhibits 1 through 5.

CHAIRMAN LEMAY: Without objection, Exhibits 1 through 5 will be admitted into record.

MR. CARR: That concludes my direct examination of Mr. Pierce.

CHAIRMAN LEMAY: Thank you, Mr. Carr.

Mr. Kellahin.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Pierce, let me ask you about what I propose to use as S-W Cattle Exhibit No. 1. It's the illustration of this area that I made my opening comments from.

As best as you understand it, have I correctly depicted the relationship of the various owners within this given area?

A. Yeah. I don't know Mr. Stradley and Mrs. Reeves' acreage positions out there, but I do know they own acreage in approximately where you've indicated.

Q. In terms of complying with the notice requirements that the Bureau has placed upon you as the Applicant, do you find, in your search of owners, any different ownership than I have expressed to you in my opening statements?

A. Yeah. We did notify several other owners to the north, and I don't recall their names.

Q. This information, though, is consistent with what you have found?

A. Yes, sir.

Q. When we look at what has been characterized as the Cooper tract outlined in blue in Section 3, a portion of which is the 40-acre tract that is to be the facility?

A. Yes, sir.

Q. As part of your analyzing for site selection, did you look at the 40-acre tract north of the proposed site as a potential site?

A. No, sir, we did not.

Q. Did you look at the 40-acre tract west of the proposed site as a possible site?

A. No, we did not.

Q. How about the northwest diagonal 40-acre tract to the site?

A. No, sir.

Q. Within that site, then, you have prepared what I call a site plat, Exhibit No. 4. Do you have one of those?

A. Yes, sir.

Q. Have you satisfied yourself that the five wells listed in your application are properly located on Exhibit No. 4?

A. I believe they are. We had a surveyor do this. I would assume that he put them in the right position.

Q. My only question is, when you look at Exhibit No. 1 and go over to the test well logs on page 4, am I correct in understanding that those test well logs on page 4 of Exhibit 1 are the wells that you've identified on Exhibit 4?

A. Yes, sir.

Q. So if there's a slight misdescription in that Exhibit 1, may I use Exhibit 4 to tell me where those wells are located?

A. Yes, sir. That is probably closer to being correct than these. I mean, the surveyor did that.

Q. All right. Pit No. 1, as it existed in the ground when we had the hearing back in September, did it encompass the entire 1.53 acres as depicted on Exhibit 4?

A. It probably was not as large back in September. They were still hauling caliche out of it.

Q. This represents the current size and shape of Pit No. 1 now?

A. To the best of my knowledge, yes, sir.

Q. Do you have intentions of enlarging this pit?

A. They're still hauling caliche; I mean ,

on an as-needed basis, out of these pits.

Q. So, in terms of this display, Pit 1, over the life of the facility, could be enlarged?

A. Yes, sir, it could.

Q. Does Pit No. 2 exist in this size and shape now in the ground?

A. Yes, sir.

Q. Do you have plans to increase the size and the shape of this pit?

A. No, sir. This is the pit that the road department hauled caliche out of to redo the Billy Walker Ranch Road. Mr. Cooper donated caliche out of this pit to do that road.

Q. What's the size of any individual cell within a cell display here?

A. The size of each cell is there. They can be no larger than five acres, by OCD rules. The Cell No. 1 is 1.85 acres.

Q. I misspoke. The interior grid of each cell, what's the significance of the grid?

A. It's just showing the aerial extent of Cell No. 1 and proposed Cell No. 4 and proposed Cell No. 3.

Q. As part of your proposal to be the operator of this facility, have you done any soil

samples or tests within the 40-acre proposed facility?

A. No, sir, we haven't done any tests.

Q. Have you done any compaction tests?

A. These tests are not required for this application, by the OCD.

Q. But you haven't done them?

A. No, sir, I haven't. They're not required.

Q. If you would just answer my question, we'll get through this easier.

A. I did answer your question, sir.

Q. I didn't ask you if they were required by the Division, I asked you if you had done the test.

A. Well, if they were not required, I wouldn't have done them.

Q. Did you do any permeability tests?

A. No, sir, I didn't.

Q. Did you do any liquid or plastic tests on the redbeds?

A. No, sir, I haven't.

Q. Did you do any soil property tests or data?

A. No, sir, I haven't.

Q. Did you do any hydrology tests?
A. No, sir, I haven't.
Q. Any groundwater studies?
A. We drilled five monitor wells and they were all dry.
Q. Any percolation tests or data?
A. No, sir.
Q. Any groundwater migration tests or data?
A. We have no groundwater at the site, so we can't do those tests.
Q. Any contaminant mobility tests or data?
A. No, sir.
Q. Whose idea was it to have a redbed dike, as proposed in the conditions in May of 92?
A. I don't know that I recall. We were speaking with several people in the Environmental Division. I don't know if it was an idea that we come up with or one that the OCD come up with.
Q. Summarize for me the sequence, starting with the application and then the proposal to put this material in the excavated pit. Give me a summary of the evolvement of the processing of the application, starting off with, what was the first proposal? What did you you want to do?

A. The first proposal, we proposed to use the cell caliche out of the pits for locations and road use, and landfarm in these pits, and fill the pits back up with this landfarmed remediated material so that we wouldn't have a hole in the ground after we were through.

Q. And part of that original plan, then, included this redbed dike concept?

A. Yes, sir, it did.

Q. You don't recall who suggested that idea as--

A. It was either the Environmental Division or us.

Q. Help me understand the material that you now propose to take through the gate of the facility and put on the surface within the cell blocks. Describe for me what material you're seeking approval to put on the facility.

A. This will be material from around wellheads, oil-contaminated soil from around wellheads, tank batteries from flow line leaks, and spills.

Q. To try to understand it as a layman, is this simply contaminated soil material that has been contaminated with hydrocarbons?

A. Yes, sir.
Q. It's not tank bottoms?
A. No, no tank bottoms.
Q. There are not solids? It does not produce salt water?
A. No, there will be no free liquids in the facility.
Q. No liquid hydrocarbons except those that may have been saturated in the contaminated soil?
A. There's not going to be any free hydrocarbons that you can hold up in your hand and see dripping out of the soil. No, sir.
Q. Under the January 6, 1993 recommendations from the Environmental Bureau, do you propose to accept all of those conditions?
A. Yes, sir.
Q. In paragraph 1, what is your understanding of what you can do with the contaminated soils in relation to the excavated caliche pits?
A. We cannot use the excavated caliche pits for any contaminated soil. We cannot deposit any contaminated soil in the caliche pits.

Q. In addition, is it also your understanding of that condition in this paragraph, that even if those soils are remediated, that even the remediated soils can not be put in the excavated pits unless you get subsequent approval from the Division?

A. That's my understanding, yes, sir.

Q. Skip down with me to No. 9 on the conditions or recommendations. I believe that's the one that gives you the contaminants or the constituents to test for. What contaminants are you suppose to test for?

A. The total petroleum hydrocarbons, benzene, toluene. I don't personal know everything that these two tests test for. I don't run those tests, so I don't know.

Q. Are you going to be running tests for total dissolved solids?

A. No, sir.

Q. Any salt chloride concentrations?

A. No, sir.

Q. Any sulfur conservations?

A. No, sir.

Q. Any heavy metals?

A. Yes, sir.

Q. Heavy metals would be, or constituents of those materials would be tested?

A. Yes, sir. Let me, on its last page--no, I take that back. In the treatment zone monitoring, on page 2--

Q. Yes, sir. Which paragraph are you looking at?

A. I'm trying to find it. Under No. 1, under treatment zone monitoring, it says the initial test will include a general chemistry, so some of what you mentioned may be tested in that. I don't know what a "general chemistry" encompasses.

Q. That's your initial background test so you can have background levels for all those constituents.

A. Right.

Q. But the subsequent test of the treatment zone does not include some of those items?

A. Right. That's correct.

Q. What's the source of the materials that are coming into the facility?

A. We anticipate the source to be from producing well locations, around tank battery

facilities, from old flow line leaks and spills.

Q. You said you reached a conclusion about the economic necessity for a facility such as this located in this area. Did you or did you not reach that conclusion?

A. I think a facility like this is needed, yes, sir.

Q. Upon what basis did you reach that opinion?

A. Under even new OCD regulations, when you abandon a lease, this lease will have to be reclaimed for state land, under state leases. And, under current federal leases, once you abandon a lease, this lease must be reclaimed.

So, you can either remediate it on site, or you can hall this material over to an appropriate facility.

Q. Have you made projections of the volume of material that you will bring into the facility over a certain range of time?

A. No, sir, we have not.

Q. Have you done any economic projections about the feasibility of the project.

A. No, sir, we haven't.

Q. Does Exhibit No. 4 represent the final

design plan for this facility that you would submit to the Environmental Bureau, if the Commission approves your facility?

A. Some of the cells may be smaller or larger, you know, depending on what takes place, but this would be a general schematic of what we anticipate, yes, sir.

Q. Help me understand what you'll do with regards to berming individual cells or individual pits to keep contaminated material from moving into the escavated caliche pits?

A. The caliche pits have berms around them now where they push the topsoil off to get to the caliche.

Q. Describe for me how those berms are created. To what height, what width, and to what compaction?

A. They're not compacted at all, they're in various heights up to 10 feet in places, and maybe 20-feet wide in some places.

Q. Do you propose that the size of the cells for the placement of contaminated soils in the facility is going to be enlarged?

A. Due to the locations of the pits, I think we're pretty well limited on how big we can

make Cell 1 and Cell 4. With the pipelines we have crossing this, I don't anticipate enlarging any of these cells very much.

Q. Help me visualize the scale of Exhibit No. 4. When I look at Mr. Stradley's property along the southern boundary, that is a common boundary between the facility and Mr. Stradley?

A. Yes, sir.

Q. When I'm looking at that line, how many feet north do I go before I hit the southern edge of the berm?

A. The scale on this is one inch is equal to 80 feet, and our buffer zone will be 100 feet from the property line, so no material will be deposited within a hundred feet of the property line in the buffer zone.

Q. So, to get from the edge of the property line into 100 feet, it's going to be on the north side of the berm but outside of the cell?

A. Right.

Q. You've accepted the Environmental Bureau's horizontal buffer of a hundred feet?

A. Yes, sir.

Q. Did you make any independent study or

scientific inquiry about the adequacy of the hundred feet?

A. That was the recommendation they had and used in other landfarms they permitted.

Q. And you accepted what they proposed?

A. Yes, sir.

MR. KELLAHIN: Thank you, Mr. Chairman.

CHAIRMAN LEMAY: Thank you, Mr. Kellahin. Additional questions of the witness?

MR. CARR: No additional questions.

MR. STOVALL: I have some questions, if I might, Mr. Chairman, very briefly.

CHAIRMAN LEMAY: Mr. Stovall.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Pierce, I'm asking these questions primariy to make sure you understand what the Division's concerns are.

First of all, will you be involved directly in management and operation of the facility?

A. As it exists now, yes, sir, I am.

Q. I see think it's important that we make sure you understand why we impose some

requirements or recommend some requirements. First off, what is your understanding as to what the most significant environmental risk is, if you will? What is the most important resource that we're trying to protect with this?

A. The fresh water in the area.

Q. Your statement was, there was no fresh water underneath your facility?

A. That's correct.

Q. But you acknowledge that there are some fresh water wells, as indicated on Mr. Kellahin's map?

A. Yes, sir.

Q. Do you have any knowledge or opinion of what is the most likely manner in which contaminants from the soils could possibly get to fresh water?

MR. KELLAHIN: Objection, Mr. Chairman. This witness has not been qualified to express an opinion within the scope of a hydrologist's expertise, and I would object that that question is outside the scopy of this witness's qualifications.

MR. STOVALL: Mr. Chairman, I did not offer this witness and I'm not relying on his

expertise. I'm asking him, as the Division attorney, because I want to make sure he has some comprehension of the issues he has to address as the operator of the facility. I'm here to find out whether he has some understanding of those issues.

MR. KELLAHIN: It doesn't matter, Mr. Chairman, who asks the questions. The witness has not been qualified to answer any question from anyone on that topic.

CHAIRMAN LEMAY: Let me ask the witness; does he feel qualified to answer that question?

THE WITNESS: Yes, sir, I think I can.

CHAIRMAN LEMAY: Let's hear the answer and we'll go from there?

A. Would you repeat your question?

Q. My question was, how would contaminants from the soil that you place on the site get to the fresh water sources in the area?

A. Using this treatment zone monitoring method, there's not any way that we can get any migration of contaminants into any fresh water. With this treatment zone monitoring, we monitor these individual cells on a quarterly basis. If

we see any migration of contaminants into this treatment zone, we immediately stop what we're doing and devise a plan to take ation to prevent this from going any further.

As long as we operate this facility per these guidelines, it doesn't take a hydrologist or an engineer or a hydrolcgist to operate this, as long as we use these rules. We're testing these on a quarterly basis, and if we operate under these rules, there's no way we're going to get any contaminants into any fresh water.

Q. In other words, it's your understanding that the treatment zone method that is being recommended, the purpose of that is to prevent contaminants from getting underground, is that correct? under the surface of the ground?

A. It's not designed to prevent it, but it's designed to detect it, and so that we can minimize any impact of the migration. On a quarterly testing schedule, if we have a problem, we're going to pick it up very fast. It won't be five years down the road when we first discover that we've got a problem.

Additionally, we've got monitor wells around this facility that we will test on a

regular basis, that we will look at, to see if we see any material in these monitor wells; any water or whatever. So we have an extra measure of protection there.

Q. Would it be fair to characterize, then, that the concern that you perceive that is being addressed by these solutions is the potential fluid flow, somehow, through beneath the surface of the earth to, potentially, those water sources?

A. Yes, sir.

Q. The two pits that you referred for, Pits 1 and 2, those are caliche pits and that's why they exist, is that correct?

A. That's right.

Q. Your testimony is that Pit 2 is about as big as it can get without interfering with the cells?

A. Right. The landfarming operation will, hopefully, generate more capital than selling caliche. So, it's not in our best interest to enlarge these pits at this point.

Q. I believe you testified, in response to either Mr. Carr or Kellahin, that in Pit 1 there was some potential that there would be some

additional caliche removed?

A. Yes, sir.

Q. Would you understand or would you agree that there ought to be some distance from any cell closer than which the pit could not be enlarged?

A. Oh, yes, sir. We would not encroach Cell No. 1. The capital we generate from landfarming would be hopefully much more than we could get through the sale of caliche.

Q. Do you have an opinion, yourself, as to what that distance might be, assuming the noneconomic factors?

A. I would just as soon the pit didn't get any larger right now, and that has been my recommendation to Mr. Cooper.

Q. You're speaking from the standpoint of an operator of a facility, and I'm thinking from the standpoint of potentially causing a flow of contaminants. Is there a distance, safety wise, that you would recommend that we not allow the pit to get any--I'm getting convoluted in my words here, but, a safety distance between the pit and the cell?

A. I think we could probably use the same

buffer zone around that as we did offset.

Q. A hundred feet?

A. Yes, sir.

Q. Now, you indicated that there will be berm around the entire facility, is that correct?

A. That's correct.

Q. If I look at your scale, it looks like that's approximately 50 feet--the outer edge of the berm is approximately 50 feet from the property line, give or take half an inch or so?

A. I think it's a little more than that, but, yes, sir. All on the sought side, yes. On the west side it's much more than hundred feet in the buffer zone.

Q. And the southeast corner is the low point in the property, is that correct, topographically?

A. Probably the same all across the west side..

Q. You also indicated that you're going to berm each cell, is that correct?

A. That's correct, to separate the cells from one another.

Q. What is the purpose of the berms, as you understand it?

A. We want to separate the cells and to keep any inflow or runoff from moving to and out of these cells, from one cell into another, or from off the property onto the property, or from on the property off the property, or whatever. Whatever is out, keep it out; and whatever is in, keep it in.

Q. To prevent the fluid flow of any sort, whatever it might be?

A. Right.

Q. Now, under the proposal by the Division, we've talking, actually, about three tests. There additional background tests to start with, is that correct?

A. Yes, sir.

Q. And that is the least comprehensive, actually, of the tests? It's looking for TPH and general chemistry, is that correct?

A. And heavy metals. It's just designed as a background test to give us a baseline which to compare future tests.

Q. There are quarterly tests within the treatment zones to determine if there has been any downward migration of any contaminants, is that correct?

A. That's correct.

Q. And again the guidelines have been presented--not the guidelines, but the conditions recommended by the Division, if specified the specific types of tests and components to look for, constituents to look for?

A. Yes, sir.

Q. And, additionally, there is required an annual testing or more comprehensive testing, looking for some additional constituents. Do you understand that?

A. Yes.

Q. I gather, from your testimony and in response to Mr. Kellahin, you aren't specifically knowledgeable and would not begin to testify as to the nature of these tests or exactly what they look for?

A. No, sir.

Q. But you understand they would have to be conducted by a laboratory in under accepted and approved laboratory conditions?

A. Certainly. Yes, sir.

Q. What is your opinion as to what the remediated soil can be used for? What can be done with the soil after it has been treated, and

I believe the conditions again state a level to which you must treat it, is that correct?

A. Yes, sir.

Q. What is the potential use or disposition of that soil?

A. Depending on the consistency, you might use it for roads, or locations even.

Q. The real question is, once treated to the level set by the Division, it's your opinion that those soils could safely be distributed and spread at most locations in that area?

A. That's my understanding, yes, sir.

MR. STOVALL: I have no further questions.

CHAIRMAN LEMAY: Any additional questions?

Commissioner Carlson?

COMMISSIONER CARLSON: Yes, I do.

EXAMINATION

BY COMMISSIONER CARLSON:

Q. I guess I don't quite understand how this thing is going to work. You say you put--you'll bring in contaminated soil and put six-inch lifts--

A. Yes, sir.

Q. --over Cell 1, initially?
A. Or a portion of Cell 1, you know, depending.
Q. And then you would disk that once every two weeks--
A. Yes, sir.
Q. --until the soil is remediated?
A. That's correct.
Q. And then you can put an additional lift on top of those other six lifts?
A. Yes, sir, after we've performed tests to show that that soil is remediated to OCD regulations. Right now, once we start this, we don't know how long this process is going to take. It's going to be trial-and-error.
Q. That was going to be my next question. How long will you be looking at?
A. We don't know that. We're going to have to spend some money and do these tests, until we have something to go by, whether it be 60 days or 90 days before we can add another lift, or 120 days. We just don't know that right now.
I imagine that the temperature is going to play a part in this. I mean, the remediation

process is going to be much slower in the wintertime. This is going to be a learning thing as far as the remediation process goes.

Q. But I mean, can it feasibly take years to remediate six inches of soil? Are we looking at 60, 90, 120 days, or are we looking at years?

A. I think we're locking at something more like 180 days. I have seen locations where they have gone in there and tilled the material on site at a specific location and kept it wet and aerated it, and grown grass in the same season on this material. So, I don't think we're looking at extended periods of time.

Q. So, is it your intent to do a lift over Cell 1, remediate that, then do another lift over that cell or move on to Cell 2?

A. No, to apply another lift on Cell 1 after the initial lift is tested.

Q. Before you move on to another cell?

A. No. We're going to get varying soils. Some soils will probably test when we bring them in the facility. They've already been remediated on site, they've been there so long.

Other material, you know, will be newer spills or whatever, and will take longer, so

we'll probably have cells divided into how concentrated--not concentrated, but the amount of hydrocarbon in the soil. And that's going to be just an estimate of that, you know. I guess I don't know how to explain that to you.

Q. Okay. You mentioned as part--I think in your application, you agreed to identify what is exempt and nonexempt. Would you explain what you mean by that? Is that from RCRA?

A. Yes, sir, RCRA, subtitle Seay.

Q. Oil field wastes, by definition, are exempt from RCRA, isn't that correct?

A. Yes, sir, but in our application we propose to only take oil-contaminated soil, and that's primarily what--that is what we want to do. We don't want to get into nonexempt waste, where we have to test it before we bring it in. We want to go with RCRA-exempt waste.

Q. You have no intention at all of bring anything else but oil-field waste into this?

A. There are other facilities in the area, Parabo, CRI, that can take these other materials. We don't need to take that type of material.

Q. You mentioned the pits. Initially you

planned to put the contaminated soil in the pits, but I guess that's no longer the plan, is that correct?

A. That's correct. We will not deposit any contaminated materials in the pitts.

Q. And obviously you're not going to backfill it, you'll berm them and they'll stay as pits during the life of this operation?

A. That's correct.

Q. Do you have any estimated time frame about the life of this operation?

A. I think that goes back to how fast the material can be remediated. If the material that we end up taking remediates very fast--well, I guess, to back up, I see this facility being there 10 or 15 years.

Q. Okay. You put a six-inch lift on, the soil gets remediated, you add another six inches. Sooner or later the level of these cells is going to increase.

A. Right.

Q. How high are you going to build the level before you're going to move to another cell or do something with that remediated soil?

A. I don't think we've addressed that

question.

MR. STOVALL: Commissioner Carlson, if I might, I think there seems to be--I want to make sure everybody understands how this is done. I might try to ask some questions to clarify for you how the operation would actually work?

COMMISSIONER CARLSON: Is it your intent, Mr. Stovall, to have a witness from the Division?

MR. STOVALL: I do intend to have somebody to explain that, but I think in terms of depositing, your questions would indicate or my understanding would be that there would be lifts deposited at different locations and remediated at those different locations within the cells, and so it's sort of an ongoing process. It's not fill one cell and complete it and then move on to the next, and that's what I wanted to get to with Mr. Pierce.

And that's correct?

THE WITNESS: That's correct.

COMMISSIONER CARLSON: Well, I understand that. There comes a time, though, when the level of these cells will get X feet

high, and you have to either stop or move the soil, I assume.

I don't have any other questions.

CHAIRMAN LEMAY: Commissioner Weiss?

EXAMINATION

BY COMMISSIONER WEISS:

Q. I guess your feeling that bioremediation will work, is personal experience, where you've seen it in the field?

A. Yes, it has been done. It hasn't been extremely effective because, in our part of the state, you know, we don't have a lot of rainfall and moisture content of the soil for the natural remediation process to take place. We need a certain amount of moisture in the soil. And, to add quote-unquote bugs and stuff like that, you have to have a certain moisture content or these organisms don't survive or they don't prosper.

In a localized facility, we can monitor, you know, the moisture content of the soil and make optimum use of the natural biodegradation of the naturally occurring organisms in the soil, or these guidelines give us the option, with OCD approval, of adding organisms to the soil to enhance the process.

Q. Now that I understand what you're talking about, around the battery or something like that where oil has been spilled over the past years before people are real concerned about it, is that similar to asphalt? I was just wondering if the oil content was similar?

A. I think that most of the light ends of the hydrocarbon have been dissipated through the years, you know, and you're going to end up, potentially, with some concentrated material there, yes, sir. But that's part of the process of tilling it, you know, on a regular basis and breaking this soil up, so that the remediation process can go faster.

Q. I don't know what the state does with the asphalt that they chop up out of these roads when they replace them, but would that stuff fit in your site?

A. No, sir. We're just taking stuff from oil field-related facilities, from producing locations; tank batteries, spills, flow lines, and material like that.

COMMISSIONER WEISS: Those are the only questions I have. Thank you.

CHAIRMAN LEMAY: I just have a couple

of questions for you, Mr. Pierce.

EXAMINATION

BY CHAIRMAN LEMAY:

Q. You mentioned if there was evidence of contamination, you would notify the OCD. Do you have any contingency plans, if there is contamination?

A. We talked with the Environmental Division. I guess it depends on what we've seen. Say if we start to see the migration of fluids down, that might mean we're applying too much moisture to the facility to control the dust and to the moisture content of the soil.

We might back off on that and monitor it on a closer interval, instead of every three months, every month, and see if that's taking care of the problem. I guess eventually, you know, we could excavate that site and deposit it in another cell and remediate it there, you know. We would get with the Environmental Division and see what we would need to do with that.

Q. What about another facility, like Parabo or something like that, could they take your contaminated soil in the event that--well, say it didn't work?

A. Yes, sir, they could.

Q. In terms of your five well logs, if I get into an area that you feel uncomfortable or Mr. Kellahin objects, feel free not to answer the question.

I was curious, at least at a geologist, if you could identify the type of rock or soil you encountered below the redbed? It looked like you penetrated below the redbeds, and there's no description of what was below that.

A. I did not participate in the drilling of these wells. Mr. Eddie Seay actually drilled the wells and, as you know, Eddie was an employee of the state for a number of years and has drilled several hundred monitor wells for the state. Mr. Seay did that part.

CHAIRMAN LEMAY: Is Mr. Seay going to testify, or not?

MR. CARR: We were not planning to call him, but I can call him and ask he be sworn, and he can respond to your question if you sire.

THE WITNESS: I was not available to witness the drilling of those wells. I was on another job.

CHAIRMAN LEMAY: I might ask then, is

the hydrologist you have--

MR. KELLAHIN: I have no objection to you asking Mr. Seay those questions right now.

CHAIRMAN LEMAY: I think it would help. We're at that point right now, and if you're going to get into the hydrology, I would like to know what's below the redbeds.

MR. KELLAHIN: I don't think you need to swear him in or qualify him; just ask him the questions.

CHAIRMAN LEMAY: Eddie, what was below the redbeds?

MR. SEAY: We did not drill below the redbeds. The redbeds are 900-feet thick below our site. We only drilled two feet into the redbeds.

CHAIRMAN LEMAY: Where it says "16 to 18 feet," that means that you drilled two feet of redbed and stopped? It doesn't mean you had 16 or 18 feet of redbeds?

MR. SEAY: Oh, right.

CHAIRMAN LEMAY: That was my question. I didn't mean to--

THE WITNESS: No, I misunderstood your questions.

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MR. SEAY: Oh, right.

CHAIRMAN LEMAY: That was my question. I didn't mean to--

THE WITNESS: No, I misunderstood your question.

CHAIRMAN LEMAY: The wells don't give how deep they are, they just give the location. And then you have a description of the rock, and I was just assuming you penetrated the redbeds.

Those are the only questions I have.

MR. CARR: I have no further questions of Mr. Pierce.

CHAIRMAN LEMAY: The witness may be excused, if there are no additional questions.

MR. CARR: And that concludes our direct presentation.

CHAIRMAN LEMAY: Okay. Let's take a short break and then we'll come back.

[A recess was taken.]

CHAIRMAN LEMAY: Please continue.

W. TRENT STRADLEY

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Stradley, for the record, would you please state your name?

A. My name is W. Trent Stradley, 419 Jemez, Hobbs, New Mexico. I'm president and owner of S-W Cattle Company.

Q. Mr. Stradley, did you testify as an opponent before the Examiner of the Division when this case was heard back in September of 1992?

A. Yes, sir, I did.

Q. And you're appearing again today in opposition to the Applicant?

A. Yes, sir.

Q. Let me ask you, sir, to help us identify some plats and help us get oriented as to your ranch property.

First of all, if you'll look at Exhibit No. 1, which is two portions of a quadrangle map put together, have you satisfied yourself that the topographic maps that are published by the U.S. geological survey, to the best of your knowledge, accurately depict the surface of this area as you know it to exist?

A. Yes, sir, I do. This information was furnished by John West Engineering Company out of Hobbs.

Q. Did they assist you in enlarging this information so that the details of this facility could be more easily visualized by parties?

A. Yes, sir.

Q. Have you examined what is identified as

S-W Cattle Company Exhibit No. 2, which is the large display, and satisfied yourself that that's an accurate reproduction of the topographic maps?

A. I briefly looked at it, yes, sir.

Q. The area that's outlined, being south and east on the display, of a line that's shown in green, can you see that, sir?

A. Yes, sir.

Q. What does that generally depict?

A. That looks like part of Section 3. If you're going to the east, it goes into Section 2 and to Section 1, and if you go into 38, it's in Section 6.

Our ranch consists of approximately 16 sections. It's almost a square entity, four by four miles in area, and we operate it in four areas that we rotate our cattle in, working off a hub in the center that we work our cattle at.

Q. Insofar as that ranch property that you control is adjacent to or potentially affected by this application, does Exhibit No. 2 accurately show that?

A. Yes, sir.

Q. On Exhibit No. 2, there is a windmill circled in blue in a portion of Section 3. Do

you know about that windmill?

A. Yes, sir, I do.

Q. Is that accurately located on the display?

A. Yes, sir.

Q. In addition, down, I believe it is, in section--

A. 9.

Q. --9, there are two other well locations indicated by blue dots. What do those represent?

A. They are wells; one that we just recently drilled, and the other was an old existing well that was homesteaded by the--I don't know whether it was the Laughlin family or it could have been the Buchanan family. It was an old homestead well.

They're submersible wells, and we actually have laid fast lines to some of our country that has no water, so we can utilize these wells to water these areas where we normally didn't use to run our cattle.

Q. Give us a summary of your personal involvement with this portion of the ranch property.

A. I actually started riding this ranch

when I was 14 years old, with my father-in-law who was Billy Walker, and I have been over most of this country. And in regard to this windmill well, we actually used to pull this well by hand because it's so shallow.

Q. Describe for us what the current water level is in the windmill, as you know it.

A. I measured this well myself just before the last hearing, and the well from the top of the casing, which is about two foot above ground level, it was 33 foot to the redbed--I assume the redbed. The well has been there forever. It gauged 18 foot of water, so the water level was approximately, oh, 12 to 15 foot below ground level.

Q. Over your experience of dealing with this windmill, does it continue to have water in it or is it one where water levels fluctuate?

A. It's been there since I have been going to the place.

Q. All right. Go down and give us the water levels on the two wells that have the submersible pumps in them.

A. The furthest est well, which is right at the edge of the highway, approximately three

miles or two and a half miles south of Monument, this well is the old homestead well. It's approximately 52 foot deep. This well has approximately 25 foot of water standing in it, and with this submersible pump actually servicing four surface tanks for my cattle, this well has never pumped off.

The other well is the well that we drilled. It's not as good a well but it was drilled down to approximately 46 to 50 foot. It had approximately 18 to 20 foot of water standing in it, and it will produce something like 35 gallons per minute.

We primarily did this because Texaco was furnishing the electricity and I wanted a backup in case we did loose any of these watering places.

Q. Are these your sources of fresh water for this portion of the ranch?

A. These three wells actually furnish water for approximately eight sections of country. There is one exception. In the center of the hub, which is the center of these 16 sections, I do have water there that I pump in from over on the east side of the ranch, which I

have my own submersible pumps there, and I can pump into the center of this area. It would be four to five miles, in some instances, from my boundary line to the center point, if we didn't have this other water available to us.

Q. Let's talk about the topography. Let me direct your attention to Exhibit 3, a locator plat. This is the plat you utilized at the last hearing, Mr. Stradley.

Prior to the last hearing, did you prepare Exhibit No. 3?

A. Yes, sir, I did.

Q. And in conjunction with that, in Exhibit No. 4, there are some colored photographs for the Commission--and I apologize I don't have sufficient color photographs, but we can share them with Mr. Carr.

Exhibit 4 represents the photographs 1 through 17?

A. Yes, sir.

Q. These are all photographs that you've taken and had photocopied and enlarged?

A. Yes, sir, that's right.

Q. Take us through, and I will let you do this for us, if you use the locator plat, Exhibit

3, each of the numbers corresponds to a photograph, does it not?

A. Yes, sir, that's right.

Q. And the purpose of the arrow is to show the point of view you had when you took the picture, is that correct?

A. That's right.

Q. And does the photograph as reproduced, give you an accurate depiction as you could see that property from that point of view when you stood on the ground?

A. That's right.

Q. Take us, with No. 1, and give us a sense of the topography of this area.

A. If you were to start at the southeast corner of the 40-acre tract that is intended to be the landfill, C & C, there is a cattle guard there that we recently put in to restrict the movement of my cattle into this county road.

I stood at this cattle guard and actually took these pictures to the four different directions, the north, east, west and south, primarily to show the fact that the topography of this landscape actually moves very strongly from this point to a west and southwest

area, on to a draw that traverses across this Cooper country and actually moves on down to this area where my windmill is.

At the time that the engineering company gave me this information, they estimated from this point, to my windmill, was probably in excess of a 40-foot drop from the point of the corner, which is the highest point in that area, to my windmill. In all this area, it all moves to either the west or the southwest towards my property and my windmill.

Q. When you look at the surface, there is an area identified on Exhibit No. 2 to the south and identified as White Breaks?

A. Yes, sir.

Q. Is that a name known to you?

A. Yes, sir. This is a caliche-looking gypsum-type formation that actually lays back to the east. It's been pretty common knowledge that any water lays below this White Break cliff. I actually have Sections 1 and 2, and we have no water in that area that we've been able to find, or usable water. What water we do have is a gypsum content to the extent that the cattle won't hardly drink it, so we actually don't pick

up good water until you do fall off of this White Break cap.

Q. Identify for us the next series of photographs. You've compiled them together as Photographs 2 through 6. Take us through those and these us what we're seeing.

A. No. 2, I'm standing at the cattle guard that I referred to, which is at the corner of the C & C proposed facility and my lease property. I have shot from that point to the south.

Now, at this point we're on top, this is before you fall off the White Break, and this facility, you can actually see a caliche pit and a clay pit right directly south, pretty close to this arrow that's showing the curve, and the old clay pit has been there for years and years.

The caliche pit was dug 15 years ago, and it's real strange that within a 50- to 60-foot range that you've actually got a bona fide caliche pit, and then you move into a clay pit that's probably 12- to 15-feet deep that will hold water--fresh water.

The No. 3 is actually shooting from this same point, shooting to the west. My prime reason for doing this, if you'll look at the

stakes of the fence that's running from east to west, you can see how it is traversing down from this point.

To the right of that is when they originally started this C & C facility and, I might add, in my opinion the pit is already within approximately 75 to 80 foot of our property line.

Also, it's hard to see, but approximately 200 foot down this fence line going to the west, you can actually see the first monitor well. Now this monitor well serves no purpose because it's up above, and I would acknowledge there has never been any water in this particular area.

If you move on down this line 500 foot you pick up the next monitor well, and then at this point they actually moved on to the west approximately 500 foot, but they also moved back to the north 60 to a hundred foot, so these are the three wells and, in my opinion, only the furtherst west well would have any value as far as a monitor well.

This does show how the country does decline down, and you can actually see in the

background where it actually is higher over approximately a mile from us and actually works back to this low area, which is this draw that runs north and south.

No. 4 is a shot back to the east, and this shows how the country--this goes into section--this is the east quarter of Section 3 and then on into Section 2, and you can see how much higher it is back into that area.

Shot No. 5 is taken from this same corner, shooting to the north, and this is the county road that they would primarily be bringing the material in. You can actually see where they have got their area there where they will go into this facility.

On the north side, you'll see where I've recently built a fence to help control our livestock from being on this road, because I felt like with the additional traffic that we might pick up in this area, that it would be a hazard to animals and humans not to have this area fenced.

Some of my country is open area and we've asked the county to give us some help as far as fencing, but they don't fence so any

fencing we build, we have to bear the expense and the labor to do it.

No. 6 is primarily shooting from this cattle guard into the C & C facility, when they first started building it. And in the background you can actually see some of the houses over in the Monument area.

No. 7 is the first monitor well, which is approximately 200 foot from this cattle guard, going west down this fence line. As you can see, testimony was given that there was approximately 20 foot from the fence line. I would venture to say that it's probably closer to 12 foot than 20 foot.

No. 8 is the second monitor well, and again you can see from the fence line the fact that it's probably not over 12 foot at a maximum from the property line. And then also, if you look down that fence line, you can see how this property--how the terrain traverses downhill, and back to the left of this is my windmill.

Q. No. 9 is taken from the second monitor well, just looking back to the facility as it was first laid out. This is actually taken back to the northeast.

The No. 10 photograph is actually taken from the fence line, and this is the third monitor well which is the west well which, as I say, in my opinion was the only one that might have any credibility. You can see that it was actually moved in from the fence line, I would estimate, somewhere in the hundred-foot range. Also, if you look at the back, you can see also how the terrain is moving downward in a steep decline towards that draw.

No. 11 was taken from the quarter section support marker. In other words, normally, when you build fence, about every quarter of a mile you'll put in a cross-member to help support your fence, and this was actually taken from the point. You can see just to the right of this support area, you can see this third monitor well which I was alluding to. You can also see in the background how this country is coming down towards us.

No. 12 is, again, taken down my fence line to describe how this country does continue to move to the west and southwest from the high point of this facility.

[Referring to No. 13] I turned and

shot towards my mill, and while they estimated this area to be--the distance from the fence line to my mile to be in excess of a half a mile, in fact it's less than four-tenths of a mile.

The No. 14 was actually back up at the cattle guard again, shooting towards my mill, which you can barely see the mill but you can see how all this country is moving downward towards my mill. This whole area here actually works like a huge funnel or a bowl type, and all these areas move to this low point. And then it continues to move lower as it moves on to the south and southwest.

No. 15 was a dry hole marker. This actual location is on BLM land. Now, I have made application to BLM to buy this land. They, at first, sent me a letter saying they were going to sell it to me, and now they're going to reconsider.

However, you can see how the vegetation has grown up around this location, and while I have no control over the BLM land, on some of my deeded land I will not be in very good humor if someone comes in there and starts tearing up my soil again after I have already lost as many

acres as I have to the oil people. I would be remiss to agree to let them come in and tear up my country again.

But, in essence, this is from this dry hole marker shooting back towards the pit, which again you can see that the area moves downhill from the pit area to this dry hole marker on the BLM hand.

I turned directly south from this same location and shot my mill, and at the time I think my mill was approximately 1,700 foot south of this location where I was shooting, and my deeded land actually is just to the area of where this road comes through and then moves on down. And I have deeded land that moves to all different directions from this mill.

The No. 17 was actually taken from the windmill itself, shooting back towards the area where C & C--and you can see this area just to the right of my windmill. However, it's not very legible, but you can see the fact that it's quite a bit higher than the area where my mill is.

Q. How long has that windmill been there?

A. I started going to the ranch with Mr. Walker when I was 14 years old, and that's been

some 45 years ago, and the well was there then.

Q. Have you personally drunk the water out of the windmill?

A. Yes, sir, I have.

Q. Can you drink it?

A. Yes, sir.

Q. Let me show you Exhibit 5, Mr. Stradley. If you'll turn to page 2. The first page is a cover sheet. If you'll turn to the second page, at the bottom of the water analysis there's a code by which each of the three water samples has been analyzed and coded to a particular source.

Can you identify for us where sources 1, 2 and 3 are in the water analysis?

A. These are the two submersible wells and the windmill that lie on our deeded property.

Q. These were water samples extracted from those sources back in July of last year?

A. Yes, sir, that's right.

MR. KELLAHIN: That concludes my examination of Mr. Stradley, Mr. Chairman. We would move the introduction of Exhibits 1 through 5.

CHAIRMAN LEMAY: Without objection,

Exhibits 1 through 5 will be admitted into the record.

Mr. Carr.

EXAMINATICN

BY MR. CARR:

Q. Mr. Stradley, if I understand your testimony, you're concerned about possible contamination of these fresh water wells on your ranch as a result of this disposal activity?

A. That would be the most devastating thing that could happen to me. My operation is a cow-calf operation. We've been there, the Weirs homesteadd the place. My father-in-law bought the land from the Weirs. It took in excess of two years to buy the place because they had checkerboarded this place in 40-acre tracts, and we had to deal with some 10 to 12 heirs, so it took over two years to get this under purchase.

Yes, it would be very devastating, considering the fact that we just got through with our taxes and we spent over $300,000 out there this year, most of it in the State of New Mexico. If it gets to be any more expensive to me, I suspect that I can no longer afford to keep this place.

Q. Is it important to you that the Oil Conservation Division has developed guidelines for the installation and operation of facilities like this?

A. Let me commend them. This is a far cry from what we first started with. But there again, even your oil companies such as Conoco, which is one of the best companies when it comes to protecting the landowner, I think I just recently received a check from them for something like 25 leaks. Now, they didn't intend for those leaks to be there, but they were.

Chevron has one little pipeline across me and they sent me a check for six leaks. If these major oil companies can make these mistakes, it concerns me what a landfill might do there just above my property.

Q. Isn't it also important to you that the OCD guidelines require or provide that they'll monitor this site at least quarterly?

A. I appreciate that. I would hope they would do it, but having dealt with the government for many years, sometimes these things fall through the cracks.

Q. If this application was approved, would

you prefer that the guidelines developed by this agency for facilities of this nature be incorporated into this order and made conditions of its approval?

A. Well, you suggested maybe I want it in Roosevelt County. Now, I don't want it in Roosevelt County. I wouldn't wish this on Roosevelt County. What I would prefer to see, the Coopers have a great deal of land that lays back to the west and southwest of us, probably many sections. There's no reason why they couldn't move this facility onto some of this land where it wouldn't be of any consequence to their neighbors--they're probably polluting our water--and actually made this 16-section ranch worthless, rather than have this facility on some of their property.

Q. Maybe you didn't understand my question.

A. I'm sorry.

Q. My question was, if this application should be approved, would it be important to you that these guidelines, which you've commended the agency for, be incorporated into that order and made a condition of the operation of this

facility?

A. Yes, sir. Yes, sir. I'm sorry.

MR. CARR: That's all.

CHAIRMAN LEMAY: Additional questions?

Commissioner Carlson?

COMMISSIONER CARLSON: Yes.

EXAMINATION

BY COMMISSIONER CARLSON:

Q. You mentioned, I think it was photograph 15, that that was BLM land?

A. Yes, sir, that's right. This facility was constructed and, in essence, what I have of the 16 sections, I have approximately 1800 acres of BLM land, there's 2200 acres of state land, and approximately 6000 acres of fee land. This is all mixed together.

I've always had a lease on the state land. I have a cow-calf allotment on the BLM land, and then of course, my fee land.

Where this facility is, right due south is a 40-acre tract that belongs to the State of New Mexico. Right adjoining that is a 40-acre tract that belongs to BLM. Then, just to the west of that is a 40-acre that is my fee land.

It looks to me like if the wind gets

high enough to blow these contaminants over in this area, not only will it hurt me, but possibly the State of New Mexico and the BLM may have some concern.

Q. So, within Section 3, there is federal, state, and fee land, all interspersed through there?

A. Yes, sir, that's right.

Q. And the 40 acres directly south of this site is state?

A. And then the 40 acres to the southwest of the facility is BLM land.

Q. I see.

A. So the corner of the BLM land actually hooks up with the corner of this facility.

Q. Okay. And you have the lease on the BLM, and that state 40, plus--

A. I have the lease on the state land. This old federal allotment is a cow-calf allotment, where they allow us to run so many mama cows for a certain length of time in this area.

COMMISSIONER CARLSON: That's my only question. Thank you.

CHAIRMAN LEMAY: Commissioner Weiss?

COMMISSIONER WEISS: Yes, sir.

EXAMINATION

BY COMMISSIONER WEISS:

Q. I looked at your water analysis here, and No. 3 is the windmill sample. Is that the same sample point, do you know, that was reported in C & C's report as a analysis?

A. I don't know, because I didn't give C & C permission to take this analysis. So, I'm not for sure that they did take an analysis, but possibly they did.

Q. They're totally different waters, I guess, is what I notice.

A. Well, then, possibly we ought to have it redone.

Q. It's not important. I don't know. They're both fairly fresh water. But I see that neither analysis included any tests for organics or oil, or that nature. Is there any oil in the water now?

A. Sir, I wouldn't know. I would doubt it because there's not a whole lot of production in that particular area.

Now, if you move south, probably two miles, Amoco just got through doing remediation

work on a well. They dug down to approximately 28 foot, at which point they picked up the fresh water. They claimed to have done a water analysis on it. They did cover the whole back up and wrote me a letter saying the water wasn't contaminated. I truthfully don't know, but I take their word for it.

COMMISSIONER WEISS: Thank you. That's my only question.

CHAIRMAN LEMAY: I don't have any questions. Thank you very much. I appreciate your attendance.

THE WITNESS: Did I do good?

CHAIRMAN LEMAY: That's why I don't have any questions. You answered them all.

THE WITNESS: Thank you.

MR. KELLAHIN: Call, at this time, Mr. Chairman, Elsie Reeves.

ELSIE REEVES

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Ms. Reeves, for the record, would you please state your name and occupation?

A. My name is Elsie M. Reeves, and I'm retired.

Q. Where do you reside now?

A. At 3902 West Kain Drive, in Phoenix, Arizona.

Q. At the Examiner hearing back in September of 92, you testified as one of the opponents to the Applicant in this case?

A. That's correct.

Q. We have illustrated on Exhibit No. 2 an area outlined in yellow on the display. Have you examined that area?

A. Yes, I have seen that.

Q. What does that represent?

A. That is the property owned by the Laughlin family in Lea County.

Q. You characterize it as the Laughlin Ranch or the Laughlin Farms, is that correct?

A. That is correct.

Q. What is your relationship to that property?

A. My father and my grandparents homesteaded that property in the early 1900s.

Q. Do you currently have any management interest in that facility or that ranch property?

A. Yes. I am one of the three-member advisory board that takes care of--looks after the property, and we are currently leasing it.

Q. We have identified on Exhibit No. 2 a windmill in the approximate center of the Laughlin property identified by a blue dot in Section 4?

A. That's correct.

Q. Are you familiar with that windmill?

A. Yes, I am.

Q. Is that windmill utilized for any purpose at this point?

A. Yes. Currently, our tenant is using it to water his cattle.

Q. Okay. Your concern is the same as Mr. Stradley's, of potential contamination to shallow groundwater sources?

A. Very definitely.

Q. As part of your review of available groundwater in this vicinity, did you go to Roswell, New Mexico, and visit with the Office of the State Engineer and study, with their assistance, the public documents concerning water locations and water level measurements?

A. Yes, sir, I did.

Q. When did you do that?
A. Tuesday.
Q. Did you bring those documents to my office and, with the assistance of my secretary, did you prepare a plat that located all those water sources and make copies of all the documents you obtained from the State Engineer's Office?
A. Yes, sir.
Q. In looking at Exhibit No. 6, did you attempt to locate, from the information supplied to you by the State Engineer in Roswell, the location of any points that had penetrated water in this area?
A. Yes, sir.
Q. Did you locate them or, with the assistance of my secretary, locate them as best you could on the topo map?
A. Yes, we did.
Q. What do the numbers represent when we look over at Exhibit 7, to the compilation of all that data?
A. The numbers on Exhibit 7 are reflected on Exhibit 6 as locations of places where water had been documented.

Q. How did you determine from the State Engineer records the water level that you've shown on the exhibit?

A. From the well records that are copied here in Exhibit 7.

Q. And as you turn to Exhibit 7 and move past the index and go to the section and past the section cover sheet, then, each well record is numbered with a number that corresponds to the index?

A. Yes.

Q. Were there available to you in Roswell water analysis from any of these wells?

A. Yes, I believe they did have that information.

Q. You had not had the opportunity to tabulate yet the water analysis for any of the wells?

A. That's correct.

Q. At this point you simply had the measurements of the reported depths of water in the area and have depicted them on the display?

A. That's correct.

MR. KELLAHIN: That concludes my examination of Ms. Reeves, Mr. Chairman. We move

the introduction of Exhibits 6 and 7.

CHAIRMAN LEMAY: Thank you, Mr. Kellahin.

Mr. Carr?

MR. CARR: We have no objections to the admission of the exhibits, and we have no questions.

CHAIRMAN LEMAY: The exhibits will be admitted into the record.

Additional questions of the witness? Commissioner Carlson?

COMMISSIONER CARLSON: No.

COMMISSIONER WEISS: I have no questions.

CHAIRMAN LEMAY: I have, I guess, one.

EXAMINATION

BY CHAIRMAN LEMAY:

Q. Your points of water there from the State Engineer's Office, they indicate a depth of water. Is there anything to indicate volumes? You said you had no quality data. How about quantity?

A. I believe some of these well records in Exhibit 7 indicate gallons per minute on some of these locations. I'm looking at the first one

that says 10 gallons per minute, the second one says 25 gallons per minute.

Q. I see a water level--okay. Oh, 10 gallons per minute on your well records, yes. Okay.

CHAIRMAN LEMAY: Thank you very much.

THE WITNESS: You're welcome.

MR. KELLAHIN: Mr. Chairman, at this time I would call Mr. Tim Kelly.

T. E. "TIM" KELLY

Having been first duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Kelly, would you please state your name and occupation?

A. My name is Tim Kelly, and I'm President of Geohydrology Associates in Albuquerque.

Q. Do you hold any professional degrees, Mr. Kelly?

A. Yes, sir, I hold a bachelor's degree in geology and a master's degree in geology.

Q. Describe for us your education and employment experience as a geohydrologist in the State of New Mexico.

A. After receiving my master's degree, I was hired by Chevron and worked for Chevron for two years. Then I resigned from Chevron and went to work for the water resources of the U.S. Geological Survey, and I worked for them for 15 years, after which, in 1975, I resigned and established the firm of Geohydrology Associates in Albuquerque. And we've been in business as consulting hydrologists since 1975.

Q. Have you conducted groundwater studies and geohydrologic studies in Southeastern New Mexico?

A. Yes, sir.

Q. Have you testified and qualified as an expert hydrologist before the Oil Conservation Commission in prior cases?

A. Yes, sir.

Q. Did you testify as an expert hydrologist before Examiner Stogner back in September, in this case?

A. Yes, sir.

Q. When did you first become involved in this particular issue, Mr. Kelly?

A. Probably in July or August, prior to the first hearing.

Q. Was that that point I hired you to make a study on behalf of my clients of the applications filed by the Applicant in this case?

A. Yes, sir.

Q. Have you reviewed the OCD case file concerning this application?

A. Yes, sir.

Q. Have you had conversations with Kathy Browne, Roger Anderson, and Bill Olsen of the Environmental Bureau, concerning this application?

A. Yes, sir.

Q. Have you reviewed the conditions of approval of May 20, 1992?

A. Yes, sir.

Q. And did you review the recommendations that the Environmental Bureau issued and distributed by letter of January 6, 1993?

A. Yes, sir.

Q. And, based upon that entire review, do you now have professional opinions and conclusions about this application?

A. Yes, sir.

MR. KELLAHIN: We tender Mr. Kelly as an expert hydrologist.

CHAIRMAN LEMAY: His qualifications are acceptable.

Q. Mr. Kelly, I've shown you what is marked as S-W Cattle Exhibit No. 8. It's an exhibit numbered from pages 1 through 43.

Does this include information that you have examined out of the OCD case file concerning this application?

A. Yes, sir.

Q. The initial document is the C & C Landfarm application, and you examined that prior to the last hearing?

A. Yes, I did.

Q. Following that is the various correspondences between the Applicant and the Environmental Bureau, and the Examiner Order, and then finally the recommended changes from January 6th of 93?

A. Yes, sir.

Q. I want to focus most of our attention on the January 6, 1993 recommendations, but in order to place that in context, I would like you to summarize for the Commission what were your concerns as a hydrologist about the original application as it was presented to Mr. Stogner?

What was that issue for you?

A. Well, my major concern is not whether or not Mr. Cooper has a soil farming operation on his land, but the location of this particular site relative to the existing water wells which are used by your clients.

At the first hearing before Mr. Stogner, I felt that it was kind of like fighting a cloud. We didn't see anything until the hearing. We saw no drawings. As a matter of fact, it was my conclusion that the system was still under design. In fact, I think testimony shows that some of the activities were being discussed between Mr. Pierce and the OCD within a matter of days prior to the hearing, so we were asked to testify in opposition to a plan which really was not even on paper.

So that made it difficult to address some of the problems other than, based on my knowledge of the geology and experience and looking at the data that had been presented, I didn't feel that the data presented justified granting the application.

Q. What was your opinion concerning the use of the excavated caliche pits as a place to

put the contaminated soils?

A. I felt that was just a pathway to any nearby water.

Q. Did you have an opinion with regards to the viability of the redbed dike as a mechanism to ensure that the leachates would not contaminate into the groundwater that existed off-site?

A. The redbed dike simply would not have worked. It couldn't have been constructed. It would have been a physical impossibility. But then they were proposing tc use a local material, the clay for the dike, but, in fact, they didn't have any tests on the clay to know how permeable it was. So, if they didn't know how permeable the clay was before they dug it up, they would have no idea what it was going to be like after they built the dike. And I think physically it would have been impossible to build the dike.

Q. Based upon your study at that point, would you characterize for us the potential groundwater migration, the hydrology of this area that Mr. Stradley has identified as being west of the White Breaks?

A. Yes, sir. I think on one of the

exhibits that you've given me here, it's identified as figure 3, and this is a reproduction--it's this illustration that I'm referring to. It's probably on page 5 or 6 of the exhibit.

Q. The pages are numbered at the bottom, Mr. Kelly.

A. Thank you. It's on page 10 of Exhibit 8. This is an enlargement of a U.S. Geological Survey map that was published in cooperation with the Bureau of Mines, which shows the water table contours in the area, and groundwater flow moves at right angles to those contours. But in the vicinity of the facility, the water table or the groundwater movement would be generally from north to south.

Q. What's your conclusion?

A. So, my conclusion from that is that anything that got away from the pits would move directly onto the S-W property and the adjoining property, and certainly towards the well with which he is concerned.

Q. Is there any relationship to the topography of the surface and the position or the location of the groundwater?

A. There may or may not be. It's relative. Certainly the topography will carry runoff in the direction of the well, as indicated by Mr. Stradley. And during the movement of water down that drainage, it will percolate into the soils and eventually reach the water table where it may change direction of flow in accordance with the illustration shown here on page 10.

Q. Is there sufficient scientific data available to you at this point, from which you can conclude or project with reasonable certainty the extent or degree of grcundwater movement of leachates, if they're introduced at this facility?

A. Yes, sir, I would say there is.

Q. All right. Where will they go?

A. Well, it's on figure 10--I mean, page 10.

Q. What, in your opinion, is the necessary scientific information in order to have sufficient comfort, as a hydrologist, to site this facility as the Applicant proposes? What would you want done and what information would you want to see?

A. Well, certainly more monitoring wells. And the letter of January 6th, which begins on page 41, specifies certain things which are certainly an improvement over what was proposed by the Applicant at the September hearing. However, I don't think these are adequate to protect the environment.

Q. Let's specifically talk about those items. Looking at the January 6, 1993, recommendations, page 42 of Exhibit No. 8, going down to No. 9, or anywhere else in that recommendation, do you see any testing protocol to identify and test the vclumes of salt that may be introduced into the groundwater?

A. No, sir. They haven't been addressed.

Q. Is that an issue of importance to you, as a hydrologist?

A. Yes, sir, because those water wells can be contaminated by salt probably more easily than they can be contaminated by the hydrocarbons. Salts are much more mobile.

Q. The treatment zone monitoring that is proposed by the Environmental Bureau on the next page, indicates one background soil sample for the entire facility located in the center of that

facility?

A. Yes, sir.

Q. In your opinion as a hydrologist, is that an adequate sample to give you a representative test to identify the character of the soil for the entire 40-acre tract?

A. No, sir, it's not.

Q. Why not?

A. Because there's enough variations in the soils of that part of the state that you could collect 10 different samples in the 40-acre tract and the only way you would come up with a background would probably be to average the results of the 10.

I might also mention, going back--you had alluded to No. 9, what that specifies for is the sum of all the aromatics, the BTEX, but, in fact, as related to water quality standards, there's a lot of difference in the maximum permissible limits for benzene than there is for toluene or ethel benzene or xylene. Just giving the sum really doesn't tell you anything.

And I think it's important to talk about the water quality standard because that's what we're concerned with in this well.

Q. The use of a horizontal buffer, it's Item No. 2 on page 42, it says, "No disposal or remediation of contaminated soils will occur within one hundred feet of the boundary of the property"?

A. Yes, sir.

Q. To the best of your knowledge, information and belief, is there any scientific basis for that footage setback for this type of facility?

A. At the meeting that we had with members of the environment group from OCD, it was stated that that hundred feet was an arbitrary value.

Q. Are you aware of any scientific basis, within the context of your own knowledge, to justify a setback of a hundred feet?

A. No, sir.

Q. Do you have an opinion or recommendation as an expert as to what that buffer zone setback ought to be?

A. No, sir. I think that would have to be determined on a case-by-case basis.

Q. How would you go about making a determination on a case-by-case basis?

A. I would simply require a much more

stringent monitoring program associated with this, including additional drilling and testing.

Q. In determining the amount of buffer zone to have for the facility where it joins another property, would it be important to you as a hydrologist to know how deep it was vertically before you got to groundwater?

A. Yes, sir, it is. The other thing at this particular site which makes it difficult to establish a horizontal parameter, is the drill logs, which Mr. Seay analyzed, all show a considerable amount of caliche. And, contrary to popular belief, caliche is not impermeable. In fact, it's often fractured and jointed so it's extremely difficult to determine how and where water is going to move through it.

Q. Do you have a copy of the water values from Cardinal Laboratories? I believe it was Exhibit No. 6. I'm sorry, Exhibit 5. Here is one.

What is your opinion of the quality of the water as identified from the windmill source on the S-W Cattle Ranch?

A. I would say that this would certainly be acceptable water for cattle ranching

operations.

Q. Is that water quality sufficient that that water is protected by the State Engineer?

A. Yes, it is.

Q. Did you attempt to determine from the Environmental Bureau what standard, what criteria, what guidelines they were utilizing by which to develop the recommendations that are now set forth on the January 6, 1993 recommendations?

A. Yes, sir, I did.

Q. What were you advised was the basis upon which, either by experience or by literature, those recommendations were made?

A. Well, I visited the environment department and got a copy of the permit that was given to Rhino Tank Company, and it's my understanding that it is that site that was used as the guidelines for the system which is now proposed by C & C.

After examining that and talking with Mr. Robert Garcia, who is in charge of that particular monitoring system, my conclusion is there's a lot of difference between what Rhino has been required to do by the Environment Department and what OCD has required in these

recommendations that you've given me here.

Q. Let me show you what's marked as Exhibit No. 9, Mr. Kelly. If the Environmental Bureau is using as a basis of experience or at least as an example of a landfarm facility by which to analyze and judge the C & C Landfarm, if they're using the Rhino facility as a benchmark, if you will, what are the differences?

A. Well, they require, as you can see the first item, that four samples be collected, one per acre; whereas the OCD has required one per 40 acres.

Also, I think it's important to note that the Rhino facility cannot accept the same type of waste which is proposed by C & C Landfarms. Rhino only can accept waste from underground storage tanks.

This is soils which have been contaminated either by diesel or by conventional gasoline, and both of those products are highly volatile and therefore much more easily remediated through soil farming. And the volatiles are driven off much more quickly.

As a result, the entire concept for the Rhino site versus the C & C site are based on two

entirely different sets of parameters. Also, there's no reference in this permit from Rhino Tank concerning groundwater monitoring, and I was concerned about that. So, when I talked with Mr. Garcia, he advised me that four wells have been drilled to a depth of 200 feet at this site to confirm that there was no free water present.

And then, when I asked him if there was water at 18 feet below land surface in the vicinity, would they require monitoring wells, and he said, "Definitely." I said, "What about 50 feet?" and he said, "Yes." And I said, "What about a hundred feet?" and he said, "There's a place at Portales where they have monitoring wells beneath the soil farming operation where the water table is 100 feet below land surface," and he said that this was due to the fact it was on the Ogallala formation. And of course, I think it's been brought out in earlier testimony, that this is on the Ogallala formation.

Q. Do you have an opinion as to the environmental risk and the potential risk to groundwater of taking this material from various well sites and consolidating it or concentrating it within a facility such as this, as potential

risk?

A. Well, yes, sir. It certainly leaves it available to the effects of rainfall and runoff. Regardless of the amount of protection that they can give for runoff, no concern has been provided in either of the new guidelines provided in the letter of January 6th, or in any of the earlier work, for the salts.

And the salts, as I mentioned, are going to be highly mobile. There are always salts associated with this type of waste. So, those would certainly percolate into the groundwater, and there's no monitoring regulations for them.

Q. Mr. Pierce talked about the potential to remediate the contaminated soils by degradation. What, in your opinion, is the viability of that concept in which to remediate the soils?

A. I think it will take a considerable length of time to remediate these soils.

Q. Why do you say that?

A. Because, as Mr. Pierce alluded earlier, the volatiles are primarily gone, so you're left with the heavy fraction which is take a much

longer time for the bacteria to break down. I think it's going to take a much longer time than they believe.

Q. The Environmental Bureau has proposed a monitoring of the treatment zone and that monitoring, then, is to be the fail-safe for the system so that the detection of contaminants in the native soil underneath the contaminated soil is going to be the protection.

A. Yes, sir.

Q. Do you share their belief that that is an adequate fail-safe device in order to protect groundwater that's present in the area?

A. No, sir.

Q. Why not?

A. Well, they're going to look to the contamination once it gets three feet in the ground and then, as Mr. Pierce testified, if it gets down there, then they're going to go to a Plan B, but Plan B hasn't been provided.

So presumably, once they find a contamination there, they're going to have to figure out what they're going to do about it. I think that the number of samples are going to collect. Certainly the location of the

monitoring wells which they have proposed are not sited in such a way that they would intercept anything getting away, at least not all of the monitoring wells. So I just think there's a tremendous opportunity for this stuff to get away from them and they would never know it.

Q. In your opinion as a hydrologist, for this area, is there at adequate vertical as well as horizontal separation from groundwater so that this facility can be approved as proposed?

A. They've never identified groundwater and I think that's because they haven't drilled enough holes or drilled them in the right places. But certainly four-tenths of a mile to the one windmill is not very much protection for Mr. Stradley.

Q. Anything else in summary, Mr. Kelly?

A. No, sir.

MR. KELLAHIN: That concludes my examination of Mr. Kelly. We move the admission of Exhibits 8 and 9 into the record.

CHAIRMAN LEMAY: Without objection, Exhibits 8 and 9 will be admitted into the record.

EXAMINATION

BY MR. CARR:

Q. Mr. Kelly, the last time we talked was last July or August, and I think at that time you told me you only had a short period of time to review the proposal, is that correct?

A. I only think we discussed this at the hearing, which was in September.

Q. If I recall, you had only been involved in the project for just a matter of days at that time?

A. Yes, sir, that's right.

Q. And at that point in time, in fact, you had only limited data available to you?

A. Yes, sir.

Q. Have you ever been employed to consult on a project similar to this one?

A. Yes, sir.

Q. A landfarm of this nature?

A. We have been involved in several instances where we set up the landfarming operation for an operator. We did not ever go through the permitting process.

Q. Were they in New Mexico?

A. Yes.

Q. Could you identify those for me, or any

of them?

A. They were primarily in the San Juan Basin area.

Q. Do you know the name of the operator of any of those?

A. Well, that's proprietary.

Q. Were they landfarms where there was simply going to be no liquids but just a contaminated hydrocarbon soil remediated?

A. Yes, sir, they were.

Q. When you did that, when you're called to consult on a project like that, is it important to visit the site?

A. Is it what?

Q. Important to go out and actually visit the site?

A. It depends on what they want done.

Q. In terms of trying to reach conclusions about the viability of a project, you, as a consultant, would be able to do this without ever going to the site? Is that what you're telling me, or would you want to go out and look at it?

A. Normally I would go out and look at the site, yes, sir.

Q. Is there certain testing and sampling

that you would do?

A. There are certain tests and samples that we would recommend be done, yes, sir.

Q. Mr. Kellahin, every time we do this, rattles off these tests. Compaction tests, is that one of the things you would want to do?

A. Yes, sir.

Q. Permeability tests?

A. Yes.

Q. Percolation tests?

A. Yes, sir.

Q. Groundwater migration tests?

A. Yes.

Q. And contamination mobility tests?

A. Right.

Q. So these are things that you would need to reach a conclusion and make a determination about whether or not a project is sound, is that fair?

A. Well, it would depend on--as I said, it would depend on the site that it was at, the amount of material you're dealing with, and a lot of different factors. On a site like this, that's certainly what I would want, yes, sir.

Q. Have you ever visited this site?

A. No, sir.
Q. Following the Examiner hearing, Mr. Kellahin requested permission, and it was granted, to go out and collect samples and run tests. To your knowledge, were any tests or sampling done by you in preparation for this hearing?
A. No.
Q. Or anyone else for Mr. Kellahin's clients, that you're aware of?
A. Not that I'm aware of.
Q. I assume you have seen the OCD guidelines for landfarms that they have prepared?
A. Yes.
Q. You're not finding fault with these guidelines, are you?
A. No, I'm not.
Q. You're just saying that here maybe something else may be required?
A. Pardon me?
Q. You're saying, in this particular case something else may be required?
A. I think that the guidelines are as good as written, but each site must be evaluated on its own merits.

Q. And that would require the kind of testing and visual inspections and things that you've discussed?

A. Yes, sir.

Q. Now, your concern about contamination of these offsetting water wells is really based on the concern that the contaminants will get away from this facility, isn't that right?

A. I'm concerned that they won't stay on Cooper's property.

Q. In fact, they would get not only out of the treatment zone that they're talking about, but away from the facility altogether?

A. Yes, sir.

Q. If that didn't happen, we wouldn't have a problem?

A. That's correct.

MR. CARR: Thank you.

CHAIRMAN LEMAY: Mr. Stovall?

MR. STOVALL: I have a few questions.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Kelly, do you know of your own knowledge if there's any groundwater directly under the facility?

A. Based on the information that's been submitted at this hearing, I do not know whether there's any there or not, underneath that particular 40 acres.

Q. Would you explain to me, just as a hydrologist, what does it take to cause movement of fluids? We're talking about this situation, obviously. If contaminants got down there, what does it take to move them down and then move them away from the facility underground?

A. Free water.

Q. What does "free water" mean?

A. Rainfall or runoff or water that's added during the remediation process.

Q. How much would it take to move them how far?

A. I can't answer that question.

Q. Is this something you would have to calculate to figure out?

A. No. I think that the rule of thumb is that on the Ogallala formation, approximately one-half inch of precipitation infiltrates per year to the water table.

Q. Do you know that this is the Ogallala formation in this area?

A. I have worked in that immediate vicinity, and there are geologic maps, and I believe that one of the exhibits identifies it as the Ogallala, yes, sir. I don't think anybody questions whether or not it's the Ogallala.

Q. You're saying that if any moisture at all hits the surface, hits one of the lifts, that contaminants are going to flow down?

A. No, sir.

Q. There's a volume which causes it to flow, is that right?

A. Yes, sir.

Q. And in order to help design criteria that would make this specific facility safe, would it not be useful or do you think it would be useful for the Division to have those numbers, or is there some point at which you could say, clearly there's not enough volume of fluid or contaminant to do something? Where do we go?

A. To my knowledge, there's only been one study that's ever looked at this, and that was that one-half inch of precipitation, per year, percolates through the Ogallala to the water table, and that's in an area where the annual precipitation is roughly 10 inches a year. Now,

that was a study that was done on this particular aquifer.

The only way that you would ever get to what you're looking for, I believe, is to have a highly detailed monitoring system and one in which you were able to measure the rainfall and the water levels and monitoring wells, and see how they react. The rainfall takes time to percolate in. For example, you could get half-inch rainfalls for five years and never see anything get to the bottom. But if you got one three-inch rainfall, you could suddenly have an awful lot of water on the ground.

There are a lot of records with a lot of data in the geological survey and, I'm sure, in the Environment Department, that would verify that.

Q. You don't have any specific calculations for this site? no knowledge you have that would specifically guide us in making any sort of measurement or calculations?

A. No, sir.

Q. You don't have any saturated or unsaturated flow models that would be applicable or useful?

A. We have the use of those, but with a model like that, it's garbage-in-garbage-out, and we don't have enough information to be able to say. We don't know what the vertical or horizontal permeability is out there.

Q. Shifting to something else and talking about some of the testing, you were concerned about the sum of all the aromatic hydrocarbons, the BTEX in less than 50 parts per million?

A. Right.

Q. You thought that was not specific enough?

A. I think that as long as you're going to get the sum, you ought to be reporting benzene, toluene, ethel benzene and xylene, so that you can look at the specific contaminants rather than just the bulk number.

Q. Do you have the January 6th order?

A. Yes, I do.

Q. I would ask you to take a look at that and, after it says 50 parts per million, do you see where that is in paragraph 9, third line?

A. Yes, sir.

Q. What's the next phrase after that?

A. "And the benzene is less than 10 ppm."

Q. You also expressed concerns about the salts?

A. Right.

Q. If you would turn to the next page, paragraphs 1 and 3, are you familiar with what the general chemistry test tests for?

A. No, sir.

MR. STOVALL: Thank you. I have no further questions.

CHAIRMAN LEMAY: Commissioner Carlson?

EXAMINATION

BY COMMISSIONER CARLSON:

Q. I think you heard Mr. Pierce say that he thought 180 days may be enough to remediate the soil, and you testified that you thought it would take much longer than that. How much longer?

A. That's a very difficult question to answer. I have personal experience in which it has taken gasoline-contaminated soils over a year to be remediated.

As I mentioned, gasoline is much more volatile than the material which would be put in this facility. I think it's reasonable to assume that it may take certainly more than a year.

Also, Mr. Pierce mentioned that some of the sites or some of the material brought in might already be remediated. I'm not sure why they would bring it in if it was already remediated, but it would depend on what the concentrations were. But I think it would take a lot longer than they propose.

COMMISSIONER CARLSON: That's all I have.

CHAIRMAN LEMAY: Commissioner Weiss?

COMMISSIONER WEISS: Yes, sir.

EXAMINATION

BY COMMISSIONER WEISS:

Q. On the drinking water issue, is Sample No. 3 that's in this packet of data, S-W Cattle Company, is that drinking water quality?

A. No, sir. It's not human drinking water quality. It's certainly adequate for stock water.

Q. Is that maybe the reason that people don't measure the amount of oil in the water because people don't drink it? My point is, I keep hearing that people are worried about oil getting in the water, but nobody tests for it.

A. Well, I wasn't a party at collecting

these samples. I probably would have had them analyzed for that. That wasn't one of my responsibilities.

Q. And then, perhaps, in your experience, what do people do with asphalt? What does the state do when they haul it off of roads? What do they do with it?

A. Some of it's buried in very dry soils and some of it--where they've removed base coat along I-25, it has been spread along the shoulder and left at the surface.

Q. In my mind, that's similar to what's going to be added to this facility.

A. Well, I'm not sure that that's true because the base coat is a very hard, compact media, and it is in dry chunks and relatively immobile; whereas, what they're bringing in is contaminated soil, and the only way they can remediate it is to keep it broken up, by disking. So, they have to keep it soft and loose and permeable, in order for the system to work.

COMMISSIONER WEISS: Okay. Thank you. That's the only question I have.

CHAIRMAN LEMAY: I've got one.

EXAMINATION

BY CHAIRMAN LEMAY:

Q. I'm going to go back to the Ogallala. It hasn't been mentioned before. I think you mentioned it. Do you know for a fact there is Ogallala in this area?

A. Yes, sir, I think I've got a map that shows that.

Q. Could you present it to us?

A. Yes, sir. This is identified as plate 1, geologic map of Southern Lea County, New Mexico. It was prepared by the U.S. Geological Survey in cooperation with the U.S. Bureau of Mines, and I'll give you the document from which it was taken. Here is the symbol right here for Ogallala, and here is the site.

Q. Getting pretty close to the edge, though, isn't it?

A. Yes, it is. What this is, right here, is the sand overlying the Ogallala down here.

Q. Are you familiar with the areas where the Ogallala is absent because of redbeds?

A. Yes, sir, there are some down there. In fact, the clay pit which Mr. Stradley alluded to, is one of those.

Q. Where would the Ogallala be in this area, do you think? Underneath the Triassic, if it's there? The wells that were penetrated show nothing but caliche on down to the Triassic redbeds. I'm just wondering where the Ogallala would be.

THE WITNESS: Would you like to answer that question, or should I?

MR. SEAY: Where the Ogallala is?

THE WITNESS: In these test holes.

MR. SEAY: There is none in these test holes.

MR. STOVALL: Mr. Chairman, we're now having the sworn witness asking an unsworn participant questions, to answer the Commissioner's question.

CHAIRMAN LEMAY: Sorry. We got carried away.

MR. STOVALL: It's geologically exciting, but I think it's terrible to build a record this way.

CHAIRMAN LEMAY: It's also very hard for the court reporter to translate, I know.

A. The answer to that question is, the caliche is within the Ogallala. The caliche at

that point is in the Ogallala.

Q. The caliche's in the Ogallala?

A. Yes, sir.

Q. That's an interesting one.

A. The caliche is simply calcium carbonate that's been deposited by groundwater in an existing formation of sand and gravel, and the existing formation that was there was the Ogallala, and then the caliche formed in it later.

So, when the drilling was done, they reported the rock tight, which was caliche, but the name of the formation is the Ogallala formation.

Q. Assuming we don't talk about names, then, but what characteristics do you normally associate with the Ogallala? Is it a good aquifer?

A. Yes.

Q. Is caliche a good acquifer?

A. Caliche is very permeable. It's generally quite shallow and water is commonly found beneath it.

Q. Is water found in it?

A. Water is found in it over at Monument.

Q. Does it supply water for any areas that you know? Are there any water wells in the caliche that produce water?

A. Yes, they are municipal wells near Monument, dug wells and old homesteads wells that are in the caliche that produce water from the Ogallala.

Q. From the caliche?

A. Yes.

Q. Are you sure of that?

A. Yes, sir. We put monitor wells in the caliche at the Climax Chemical Company Plant, which is just west of this facility.

Q. You can pump out of caliche?

A. Yes, sir. If I may, this is Groundwater Report No. 6, and the authors are Nicholson & Clebsch. It was published by the Bureau of Mines and Mineral Resources. The date is 1961.

CHAIRMAN LEMAY: Thanks for the reference. I have no further questions.

FURTHER EXAMINATION

BY COMMISSIONER CARLSON:

Q. One more question, following up on something Mr. Weiss asked earlier, if I look on

page 9, the water analysis report in your Exhibit 8, and I compare that to sample 3 in your Exhibit 5, do you have both of those?

A. I have the one from Cardinal Labs. I don't have the other one that you're referring to.

Q. The other one is on page 9 of Exhibit 8.

A. Okay. I do have it.

Q. Now, as I understand this, these are supposedly from the same well. My question is, is the margin of error so great between these two analyses that that could possibly be from the same well?

A. I don't think they're from the same well. One of them is a sodium sulfate water and the other one is a sodium chloride water. It does have a lot of sodium in it--I mean a lot of sulfate in it, but they look like different samples to me.

Q. Aren't they reputed to be from the same well? Am I reading something wrong here?

A. It's my understanding they're from the same well.

COMMISSIONER CARLSON: That's all I

have.

CHAIRMAN LEMAY: Additional questions of the witness? If not, he may be excused. Thank you.

MR. KELLAHIN: That completes my direct presentation, Mr. Chairman.

CHAIRMAN LEMAY: Thank you, Mr. Kellahin. Mr. Stovall?

MR. STOVALL: Mr. Chairman, if I could have two minutes to step out of the room, I'll be ready to start with Mr. Browne.

CHAIRMAN LEMAY: Okay. Let's take a two- to five-minute break.

[A recess was taken.]

CHAIRMAN LEMAY: Okay. We shall continue. Mr. Stovall.

MR. STOVALL: Mr. Chairman, I was about to call Kathy Browne to testify. Again, I want to reiterate that the Division is not taking a position. It's not supporting this application.

However, the testimony is going to indicate that the Division has found conditions under which it believes the Environmental Bureau staff believes that this permit could be approved, and were it being processed

administratively it would, most likely, be approved subject to these conditions.

The purpose of Ms. Browne's testimony is to explain the conditions, why they're imposed, what they looked at and how they came up with them, to help clarify the issues. And then, of course, her purpose is to be available to answer any questions that the parties or the Commission may have with respect to how the Environmental Bureau processed it, and the concerns it may have, and the factors it has looked at.

KATHY BROWNE

Having been called to the stand, was examined and testified as follows:

EXAMINATION

BY MR. STOVALL:

Q. Ms. Browne, would you state your name, please, and place of residence?

A. Kathy Browne, Santa Fe, New Mexico.

Q. How are you employed?

A. I'm a geologist for the Oil Conservation Division Environmental Bureau.

Q. Have you testified before this Commission and had your credentials as a

geologist accepted as a matter of record?

A. No, I haven't.

Q. Would you tell the Commission your educational background, please?

A. I have a bachelor of science in geology from the University of Texas, and a master's of science in geology from Northern Arizona University.

Q. What is your work experience that might be relevant to this, your work for the Division on this application?

A. My work with the Division?

Q. Your work experience prior to and with the Division that's relevant, that is useful, for them to understand your expertise.

A. Well, I'm familiar with the oil patch. I've worked as well tender in the summers of college out in the oil patch.

I worked for two and a half years with Shell Offshore in New Orleans as a production geologist and also in the field, and I've worked for the last two years with the Environmental Bureau, permitting disposal facilities, reviewing the ones we have, and all the other operations that we do as an Environmental Bureau for the oil

and gas industry.

Q. Are you familiar with the development of guidelines and conditions for approval of landfarm facilities, such as this one?

A. Yes, I am, because landfarms are fairly new in the oil patch, and I have been working with them as the permits have come into the OCD, so I have been working them from the beginning, basically.

Q. Mr. Carr submitted earlier what are called guidelines for landfarm operations. Are you familiar with those guidelines?

A. Yes, I am.

Q. Did you participate in the development of those guidelines?

A. Yes, I did. I was the lead person in developing them. However, everything we do in our Bureau is worked between myself and the other members, who are hydrogeologists and chemical engineers, and any other input from the engineers in our Division.

Q. With respect to this particular application, the C & C Landfarm application, are you familiar with that application?

A. Yes, I am.

Q. Are you the lead person who is responsible for processing the administrative process?

A. Yes, I am.

Q. Are you the person who primarily was the lead person in the development of the permit recommendations contained in the January 6th letter, which has been referred to numerous times today?

A. Yes, I was the primary person in that, however, as I said, with confrontations with the rest of the Bureau.

Q. Confrontations or consultations, or both?

A. Consultations.

MR. STOVALL: I would offer Ms. Browne at this time, as an expert geologist familiar with the landfarm operations.

CHAIRMAN LEMAY: Her qualifications are acceptable. I wonder if she was sworn in earlier?

MR. STOVALL: No, I'm sorry, she was not.

CHAIRMAN LEMAY: Would you stand and raise your right hand please?

[Ms. Browne was duly sworn at this time.]

MR. STOVALL: Thank you. I had forgotten she was not here during the initial period.

Q. (BY MR. STOVALL) Talking first in generalities, you say landfarms are relatively new in the oil field operations in New Mexico?

A. Yes.

Q. How new?

A. Last year and a half. This was the first one, basically, to come in. No, I'm sorry, we do have one up in the Northwest before that.

Q. Was that facility you're referring to, is that the Tierra facility?

A. No, that's the Enviro-Tech facility. It was permitted before I did come in.

Q. That was permitted by the OCD as a landfarm operation?

A. Yeah.

Q. Broadly similar to this one, in terms of operation?

A. This one has many more stringent requirements put on it than the Enviro-Tech one in the Northwest.

Q. But the methodology is the same, put the stuff on the ground, till it, and bioremediate?

A. Exactly.

Q. Is there not another one in the Northwest that was approved through a hearing process?

A. There are two other ones in the Northwest.

Q. The Tierra facility was approved through an Examiner Hearing, is that correct?

A. Exactly. TNT was also approved administratively.

Q. Is landfarming becoming, or is it reasonably well-established as a technique for dealing with contaminated soils?

A. Yes, it is.

Q. How does it work, basically? Just real quickly, what happens?

A. You take the contaminated soils and spread them out as we've indicated in a lift, six inches or less, and then you till the soil so that you have oxygen and the nutrients being mixed in with the oil and basically they are bioremediating or eating up the contaminants, the

hydrocarbons in the soils.

Q. It's a natural process?

A. Yes. Some people do add the bugs, but it's specific case-by-case.

Q. We're talking about in the oil field, and there was reference earlier to RCRA nonexempt. This field specifically deals with, excuse me, RCRA nonhazardous or exempt wastes, is that correct?

A. Right. Most of the wastes are exempt, but you could have pit clean-ups in, say, a service company that was not exempt. Those are case-by-cased only, to be accepted at the landfarm.

Q. When we're talking about exempt, it means it may have hazardous constituents by characteristics, but they're exempt from RCRA subtitle (C) regulations, as far as disposal?

A. Correct.

Q. When we're talking about nonexempt waste, we're talking about wastes which are not exempted from hazardous waste disposal, and if those are to be accepted here they have to be nonhazardous by characteristics, is that correct?

A. Right, and those would only be accepted

on a case-by-case basis.

Q. After testing, to ensure that they have no hazardous characteristics?

A. After testing, that's correct.

Q. Is landfarming ever used for hazardous material disposal?

A. Yes. In refineries, the hazardous wastes they have for that, but those are permitted through a different agency, however.

Q. Through the Environmental Department?

A. Right, through their Hazardous Waste Bureau.

Q. But my point is, it can be used for a wide variety of contaminants?

A. Right. We tend to look at remediation, as opposed to disposal. If we can find methods of remediation, recycling, those types of thing, as opposed to just a disposal facility, that's where we see the waste management going.

Q. Because then you have a usable or at least nondangerous material left?

A. Correct.

Q. That's a "yes," I take it?

A. Yes.

Q. Now, looking more specifically at the

permitting conditions, the bureau has developed a set of guidelines for landfarm permitting, is that correct?

A. Yes.

Q. Is that fairly recently, based upon the experience you've had with the other facilities?

A. Yeah, it is.

Q. With respect to this facility and the conditions that are part of, I believe it's Mr. Carr's Exhibit No. 3, your letter of January 6th which contained the recommended conditions, tell me how you developed those.

A. The different conditions?

Q. Yeah, the package of conditions as a totality?

A. They really evolved from the beginning of when this application came in, and through the other applications. Through our own discussions, through concerns from outside, from the public, through the two hearings that we've had, they've been an evolving process, trying to look at all the concerns and how we can protect the groundwater, health, and the environment.

Q. Were these specific ones in this letter developed with this specific site in mind?

A. Yes, with this site in mind, yeah.

Q. I think you mentioned earlier that some of the facilities in the northwest have less stringent conditions actually, is that correct? Not all of them, but at least one or two are less stringent?

A. Right.

Q. So, when you go to permit a facility, am I correct in assuming you start with the guidelines and then adapt them to the specific site?

A. They're site-specific.

Q. Let's talk a little bit about the site now. In earlier questions, I talked to Mr. Pierce, and I think Mr. Kelly's testimony largely alluded to the fact that the primary environmental concern is the protection of fresh water in this area, is that correct?

A. Correct.

Q. Do you have knowledge whether there is any fresh water in this area to be protected?

A. I believe that there's no fresh water directly below the site. I know that there's water in Mr. Stradley's well, but below the site I don't believe there is any fresh water.

Q. All the testimony about the water wells that we have heard, in the area, you assume that to be true and that water is to be protected when you develop these criteria, is that correct?

A. Yes.

Q. What is the significance of the fact that there is no water directly below the site, that you believe there's no water directly below the site itself?

A. Well, the fact that there is no water directly below the site, would make it very difficult to have the contaminants migrate vertically down and then laterally out through the water. And there's no water to contaminate if there's no water directly below the site.

Q. Let's look quickly at Mr. Kellahin's Exhibit No. 6, the map that was prepared.

A. This one?

Q. That's the one, yes. Now, looking specifically at Nos. 27 to 28, and then if you look at the tabulation behind--

A. Right. Those show the water to be at in excess of 500 feet in those wells.

Q. If you go to No. 26, you find it's considerably shallower than 500 feet, is it not?

A. Yes.

Q. And have you also examined the data from the monitor wells which we've never permitted Mr. Seay to talk about too much, the specific wells that are identified by C & C?

A. Right. The wells around the facility, yes.

Q. Does that help you confirm that there's probably no water under this specific site?

A. Yes, based on the monitor wells. And north of there, those wells, I would state that there's no fresh water underneath the facility, that there's no water at all under the facility.

Q. Based upon the information that you and the Bureau team--and I understand this is a collaborative effort and you're speaking, in a sense, for the rest of the staff as well--what is the most probable threat that contaminants could move to a fresh water source? How would it get there? How would contaminants get to a fresh water source from this site?

A. To get to the fresh water source of Mr. Stradley's well?

Q. Yes, for example.

A. They would have to migrate down to the

surface of the redbeds and then laterally out to the southwest.

Q. So as you designed the guidelines or the requirements for this facility, is it designed to prevent that?

A. That's how it's designed, yes.

Q. You heard Mr. Pierce's testimony about how the facility will be operated. Is that substantially consistent with what your conditions are based upon, with the cells, berm cells, and a berm facility?

A. Yes.

Q. And is his statement about the monitoring of the treatment zone correct?

A. Yes. It would be background sample, and then quarterly for TPH and BTEX, and annually for heavy metals and general chemistry.

Q. Do you feel that the background sampling that is proposed, and I believe I was looking for one site in the center area of the landfarm, is that going to provide you an adequate indication of the composition of the soil?

A. Yes. We've discussed that and we believe that one sample would be significant or

would be enough to represent the soils below the landfarm.

Q. In the Examiner hearing, there was discussion about putting the material into the pits that have been excavated for the caliche, and I believe the Division has come to the conclusion that that is probably not the appropriate way to do it, is that correct?

A. That's correct. Like I said, this has been an evolving process. We were concerned from the beginning with migration along the redbed surface, and that's why, in our first correspondence to C & C, we told them they had to propose some type of method to ensure that that would not happen. And that was when the redbed dike was proposed by them.

However, if that's how it would have been processed, the facility still would not have been operable until we had inspected the redbed dike and been assured, ourselves, that it was going to be enough of a guarantee.

Q. If my recollection is correct from the testimony in the original hearing and the Examiner hearing, is that one of the concerns is because of the topography, those would be low

points and gathering points for water which could cause migration, is that correct?

A. Yes.

Q. Are you satisfied that with the berming that is proposed around each cell, that surface flow of contaminants can be contained?

A. Yes.

Q. Now, explain to me how this treatment zone works and why you believe that that is an appropriate way to watch for and prevent the significant downward flow of contaminants such that it could flow along the redbeds to the water sources?

A. Well, we believe that the monitor zone is the most effective way to detect any movement of contaminants before they get away from you, as it has been put, because the monitor zone, you sample two to three feet below the native surface and analyze that, and right then you can tell if there's any contaminants that have reached that level. And if they have, then steps can be taken immediately to cease putting anything else on and to determine the extent it's gone, and then to increase, say, your tilling and microbes or whatever might be necessary to stop any further

leaching.

Q. You're talking two to three feet, taking the sample at two to three feet, but that would detect contaminants that might have only gone six inches, is that correct? I mean, would you see those? Are you going to wait until they get to two or three feet before you do something, or if you see it anywhere in the treatment zone?

A. Anywhere in the treatment zone; but the sample is taken at two to three feet below.

Q. Now, there was some concern expressed that there is no plan in the event that contaminants are found, is that correct?

A. No, there is a plan. I mean, if contaminants are found, the OCD is notified immediately. No more soils are put on there. The levels of the contaminants are looked at and we would proceed, then, with further tilling of the soils, determining the extent the contaminants have gone to.

Q. So, in other words, if I understand correctly, we don't want to build some specific thing into an order or conditions, but rather be able to respond to specifics?

A. Exactly. Right.

Q. But you have some idea what you would require, once you found out?

A. Exactly, right.

Q. It could be just stop adding soil, for example?

A. And determine the extent of how far down it's gone.

Q. So, if you've found some at three feet, you might have to drill further to find out if it went any further?

A. You would.

Q. Possibly stop, leave the soil in place, but stop adding water so that you would reduce the flow? I mean, the watering is part of the remediation process, is that correct?

A. Right. At that time you would stop any water addition though.

Q. Then you could increase tilling? That would increase the rate of bioremediation, is that correct?

A. Yes.

Q. You talked about bugs earlier, in terms of other facilities. You could add bugs to this one, microbes, that would actually enhance the bioremediation?

A. Right.

Q. Ultimately, is it possible that you could require them to remove it from that particular site?

A. Right. If it was that bad, you could have them remove that, and there are facilities in the area that it could be taken to.

Q. I'm going to skip around here for just a second and talk about bugs. This facility does not propose, at this time, to use an enhanced bioremediation, using micrcbes of any sort, is that correct?

A. Correct.

Q. Conceivably, that could be something that was used later if it was determined to be feasible and practical?

A. Right. They would have to submit all the materials, the specifics on the bug additions.

Q. Why not take samples more often, rather than once quarterly in each cell? Why not do it monthly, for example?

A. We believe quarterly is frequent enough to detect any contaminates. And also, the more holes you start putting out there, the more

possibility you could have for some type of conduit. So, we believe quarterly is a proper amount.

Q. And if you found something in one of these samples and took these remediation measures, are you satisfied that you could prevent, even in cases of extreme rainfall, you could remediate quickly enough the problem to prevent fluids from leaving the property?

A. Yes.

Q. When Mr. Kellahin was talking to Mr. Kelly, he was talking about a variety of tests that could be performed. I think you heard that testimony, is that correct?

A. Yes.

Q. Would those be particularly useful to you?

A. No, I feel like they're irrelevant, since the whole system is designed to detect any contaminants before they go below the monitoring zone.

Q. In other words, those would discuss flow rates and that sort of thing, and is it your intent that there be no flow--

A. Yes.

Q. --because there's not going to be contaminants in the soil, is that correct?

A. Yes.

Q. Let's talk about the test. There's some concern about the test. Would you just explain briefly what the various tests are going to look for that they're going to be required to run on a quarterly and annual basis?

A. Quarterly, they're required to test for total petroleum hydrocarbons and for BTEX. Total petroleum hydrocarbons pick up any of the heavier ends of the hydrocarbon spectrum, and the BTEX picks up the organics, the lighter ends.

Then annually they would be required to test for heavy metals and for general chemistry, and the general chemistry does include all the salts; the sodium, the chlorides, those that would be associated with produced water.

Q. Now, with respect to the hundred-foot buffer zone from the nearest cell to the facility boundary, do you have an opinion as to whether that provides an adequate buffer to prevent the migration of contaminants off the property?

A. I believe it does.

Q. What is the basis for that? Do you

have any scientific or measurement basis for that, or is it--

A. No, we don't. It was discussed at the Examiner Hearing. That number was thrown around.

Q. Has anybody done any measurements which would indicate how long it would take contaminants to move off?

A. Not to my knowledge.

Q. With that in mind, then, is it the Division and the Bureau-- Well, let me ask the background question. The Bureau would be responsible for enforcing the compliance with these conditions, is that not correct?

A. Yes.

Q. With that in mind, once you started to see contaminants get into the native soil, is it the Bureau's intent that they would prevent that from continuing to happen? That they would stop that infiltration of contaminants?

A. Yes, that would be the number one action of the Bureau, is to make sure those contaminants did not migrate any further.

Q. If I understood you correctly, those contaminants have to go down to the redbed before they go out?

A. Yes.

Q. Do you feel like it's a substantial safety zone? It's not just a minimal requirement?

A. Yes. I believe with all the conditions we've imposed that there's substantial, enough precautions that the contaminants would not migrate off of the site.

Q. The monitor wells, are there adequate monitor wells properly placed to determine, should you be wrong, that there might be some movement? Are they going to pick that up?

A. I believe that they would.

Q. Would you like to retain the authority to require additional monitor wells if there was some reason to determine that is was not adequate?

A. Yes, and we have that authority.

Q. Commissioner Carlson expressed some concern, and his question was, basically, how long do you keep putting dirt on here, on the contaminated soils on here, before you get too much? What's going to govern the limit of how much contaminated soil you can put on any particular cell or part of the cell before you

have to cease using--

A. Well, the height of the berm would determine how much soil you could put in there. You'd have to increase your berm height if you wanted to further increase within the cell.

Q. Now, given the requirement that you've got to reduce a lift to the stated levels of hydrocarbon and various other constituents before you can add to that cell, before you can put more on top of that particular lift, does that lift, in effect, become an additional buffer from the ground?

A. Yes, it does.

Q. In other words, contaminants from the new lift would have to go through that lift before they got to the ground? before they got into the treatment zone?

A. Right, so you're increasing your buffer zone vertically.

Q. What can be done with these soils after they've been remediated?

A. Various things. There's lots of pit clean-ups and closures, and they can be used to fill back into those pits. Lease roads. We do not give the authority for them to just take it

off site, though. Any time they would want to remove those soils it would be a site-specific case. They would have to have the analyses of the soils they wanted to remove and where they would be going to.

Q. In other words, different uses might require different levels below the minimum level here that we've talked about, before it could be removed?

A. Correct.

Q. Mr. Stradley talked a little bit about dust. Can dust be controlled?

A. Yes, through the addition of moisture.

Q. Is there a balancing process that you're required to make, tc make sure you've got enough moisture to control the dust to keep remediation, without having so much that you start a flow?

A. Yes.

Q. Can that balance be attained and maintained periodically, recognizing that there's not always the same volume of water involved?

A. Correct.

Q. Do you have experience with other facilities that are in operation that show that

this can be done?

A. Yes, we do.

Q. The ones you referred to earlier?

A. Yes.

Q. Assuming, and we don't assume, we take it as a given fact, that the water sources described by Mr. Stradley and Ms. Reeves are, in fact, valuable water sources, particularly in this part of the country; and given the fact, as Mr. Stradley has said, he's got a 16-section ranch which ruination of these waters could condemn, are you satisfied that this facility can be operated with these conditions without creating any significant risk to Mr. Stradley or Ms. Reeves, to their--

A. Yes, I am, to their water.

Q. Do you have anything further you would like to add to your testimony?

A. No.

MR. STOVALL: I have no further questions. I would pass the witness.

CHAIRMAN LEMAY: Mr. Carr?

MR. CARR: I have no questions.

CHAIRMAN LEMAY: Mr. Kellahin?

MR. KELLAHIN: Just a few, Mr.

Chairman.

EXAMINATION

BY MR. KELLAHIN:

Q. Ms. Brown, about the time Mr. Stogner was processing the C & C Landfarm application in that hearing, he was also processing the order for the Tierra Environmental Company Landfarm in San Juan County, New Mexico?

A. Yes.

Q. Are you familiar with that facility?

A. Yes, I am.

Q. To expedite this, let me share with you a copy of his order that included the conditions from the Environmental Bureau for the Tierra Environmental Company case.

You are proposing recommendations for C & C that are shown on the January 6, 1993, recommendations. Are there any material differences between the recommendations you have for this case and what was adopted by Examiner Stogner in Case 10539, Order No. R-9772?

A. Well, the Tierra Landfarm application had some other concerns that were brought out by someone who lived basically next to the facility, on air emissions, so those were incorporated into

their order by Mr. Stogner.

Q. Do you have any air emission control or monitoring procedures proposed for the C & C Landfarm facility that's under discussion here this afternoon?

A. No. We don't believe that air emissions are a problem at the landfarms. The landfarm is designed to remediate soils, not to have volatilization to be the primary method. So, we don't believe that to be a problem.

However, in the Tierra case, because of the closeness of the residents there, other precautions were taken.

Q. When we look at paragraph No. 1 under the recommended changes for C & C Landfarm, what materials do you understand are being approved to be placed in that facility?

A. Exempt oil field waste solids, hydrocarbon contaminated solids, or nonexempt nonhazardous oil field solids.

Q. Mr. Pierce said that he was limiting that material to contaminated soils. Are you approving, by this recommendation, more than contaminated soils for the facility?

A. I'm not quite sure what you're asking.

Q. Can you take tank bottoms and put in this facility?

A. No.

Q. Are you and Mr. Pierce talking the same language when you talk about materials that are going in this facility?

A. Yes. Well, I guess I should take that back. Tank bottoms, if they had no free liquids on them and were a solid, could be taken there. Those are an exempt oil field material.

Q. What other kinds of solids could be put on this facility other than that, that you just described?

A. What other kind of solids?

Q. Yes.

A. I'm not sure what you're asking.

Q. Well, he's applied to put contaminated soils on the facility?

A. Yes.

Q. Are you proposing to approve any other materials other than the contaminated soils?

A. No.

Q. It says, in paragraph 1, "A case-by-case approval of the Oil Conservation Division to put materials in the caliche pits."

What do you propose to mean by that paragraph? What's going to happen?

A. You're saying which one, No. 1?

Q. Yes, No. 1.

A. Our recommendation is that nothing is placed, no contaminated soils are placed in the caliche pit. At a later time, if it was proposed to place clean soils in there, we would not tell them they could not do that.

Q. How would you process that under this proposed change in the order?

A. That would be a modification to their permit.

Q. Is that a material modification to their permit?

A. I believe it would be, yes.

Q. Are you going to provide notice to the general public of that material change?

A. Yes.

Q. The buffer zone, the hundred-foot buffer zone that's set forth in paragraph 2, is there any scientific basis for that distance?

A. No. We don't have buffer zones at any of our facilities, and we don't have any scientific basis for it. That was discussed and

that was what had been discussed at the hearing, and that's what we chose.

Q. That was discussed by Mr. Pierce at the Examiner Hearing with regards to the setback?

A. Right, but we did not hear any technical evidence from either side giving us an option.

Q. As to any footage setback?

A. Exactly.

MR. KELLAHIN: No further questions.

MR. CARR: I would like to follow up on that.

EXAMINATION

BY MR. CARR:

Q. Ms. Browne, you participated in the development of the conditions for the Tierra application, did you not?

A. Yes, I did.

Q. And you developed these applications on a site-by-site basis?

A. Yes.

Q. And what is applicable to Tierra may or may not be applicable to C & C, is that correct?

A. Yes.

Q. And you participated in the development

of the conditions that you're recommending for the C & C facility?

A. Yes.

Q. In your opinion, if this facility is approved and operated in accordance with those conditions, will it pose a threat to fresh water in the area?

A. No, it will not pose a threat.

Q. If it is approved and operated in accord with those conditions, will it pose a threat to the environment?

A. No.

Q. Will it pose a threat to human health?

A. No.

MR. CARR: Thank you.

CHAIRMAN LEMAY: Commissioner Carlson?

EXAMINATION

BY COMMISSIONER CARLSON:

Q. C & C Landfarm would do their own testing under your proposal, is that correct?

A. Yes.

Q. Would the Bureau do any on-site testing at all?

A. That would be a good idea, to go out there as a Bureau and possibly take a random

check sample.

Q. But you don't envision doing it?

A. Sure, yeah. We get out in the field when we get through with the paperwork, now and then.

Q. The testing done by C & C would be, they would take the soil samples, submit it to a laboratory, and the laboratory would then forward it to the Bureau?

A. Yes. I'm sure it would probably come back to C & C, and then to us.

Q. The $25,000 bond, is that pursuant to statute, or regulation, or is that just--

A. Yes, that's pursuant to Rule 7-11.

Q. Is that the maximum under that rule?

A. Well, that's just the set--

Q. The set bond?

A. The set bond, yes.

Q. So, you have no authority to lower it or raise it, depending on the circumstances around a particular site?

A. Correct.

COMMISSIONER CARLSON: That's all I have. Thank you.

CHAIRMAN LEMAY: Commissioner Weiss?

COMMISSIONER WEISS: I have no questions.

CHAIRMAN LEMAY: I have one.

EXAMINATION

BY CHAIRMAN LEMAY:

Q. Is there Ogallala underneath this site?

A. I don't believe that's Ogallala under the site.

CHAIRMAN LEMAY: Are there any additional questions of the witness? If not, she may be excused. Thank you very much.

Anything in addition in the case?

MR. KELLAHIN: Mr. Chairman, the hour is late. I would propose to waive closing arguments and simply submit to you a proposed order setting forth the position of my client in this matter.

CHAIRMAN LEMAY: Mr. Carr?

MR. CARR: If Mr. Kellahin won't bore us with a closing, I won't either.

CHAIRMAN LEMAY: Mr. Stovall, any closing?

MR. STOVALL: I have no desire whatsoever.

CHAIRMAN LEMAY: Well, let's leave

the--is two weeks enough, or do you want more?

Let's leave the record open for two weeks to present a closing argument, preferably a draft order by each of you, and we shall take the case under advisement. Thank you very much.

(And the proceedings concluded.)

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Carla Diane Rodriguez, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL March 18, 1993.

Carla Diane Rodriguez

CARLA DIANE RODRIGUEZ, RPR
CCR No. 4

NEW MEXICO OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

CASE NO. 10507

IN THE MATTER OF:

The Application of C & C Landfarm, Inc., for a commercial surface waste disposal facility, Lea County, New Mexico.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

September 1, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

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I N D E X

I N D E X (CONTINUED)

E X H I B I T S

EXAMINER STOGNER: This hearing will come to order for Docket No. 27-92. There's three of them this week. Please note today's date, Tuesday, September 1, 1992. I'm Michael E. Stogner, Appointed Hearing Examiner for today's case.

At this time I'll call Case No. 10507.

MR. STOVALL: Application of C & C Landfarm, Inc., for a commercial surface waste disposal facility, Lea County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm, Campbell, Carr, Berge & Sheridan. I represent C & C Landfarm, Inc.

EXAMINER STOGNER: Thank you, Mr. Carr.

Any other appearances?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin, of the Santa Fe law firm of Kellahin & Kellahin, appearing today for two clients. The first is Mr. Trent Stradley, of S-W Cattle Company, in association with Mr. Gene Samberson, a New Mexico attorney. My other client is Elsie

Reeves, of the Laughlin Farms, and I'm appearing for her.

We have three witnesses to be sworn, Mr. Examiner.

EXAMINER STOGNER: Before we get started today, this application had been administratively determined to be approvable by the Division's Environmental Bureau. There were some objections filed. And it is our determination that a hearing was therefore scheduled, and that's why we're here today, is to allow the parties an opportunity to present technical evidence as to why this application should not be approved pursuant to the rules of the Division.

Gentlemen, is there anything further before we get started?

MR. CARR: I have a brief statement, but I think it might be appropriate to swear the witnesses. Whatever you desire, Mr. Stogner.

MR. KELLAHIN: I have a brief statement too. I think we're walking on new ground here, Mr. Examiner, and perhaps we need to have a discussion about procedure. I would like to raise some issues with you and then arrange to

present the technical information for your decision.

EXAMINER STOGNER: Let's go ahead and get those out of the way before we swear the witnesses.

MR. CARR: Mr. Examiner, as I'm sure you have noted, we filed an application for this landfarm back in October of 1991. On May 20 of this year, the parties were advised that it had been determined by the Division's Environmental Bureau to be approvable if certain conditions were complied with, and C & C has agreed to meet those conditions.

The case, as advertised, provided that it would be taken under advisement unless there were objections, and Mr. Kellahin's clients have raised these objections. And we believe we're here today to hear those and that the burden actually is on them to show why this application should not be approved.

I intend to offer, and I can do that now, simply a certified copy of the Environmental Division's file, which contains the application and all correspondence, including all prehearing statements that have been filed in this matter,

and would ask that that be admitted into evidence. And at that point in time we simply would rest in terms of a direct presentation and suggest that it's appropriate now for Mr. Kellahin to call his witnesses.

Depending on what happens, we would reserve the right to call representatives of the applicant, but at this time we are not certain that will be necessary.

EXAMINER STOGNER: Thank you, Mr. Carr.

Mr. Kellahin?

MR. KELLAHIN: Mr. Examiner, the process that has evolved for handling this case plows new ground for us, I believe.

EXAMINER STOGNER: No pun intended?

MR. KELLAHIN: No, sir.

The hearing today is to focus on a technical presentation. We propose to present three witnesses to you. Mr. Stradley will identify his ranch properties and provide some orientation plats for informational purposes. He has some photographs he's taken to give you a sense of the topography.

Ms. Reeves will make a similar

presentation for her ranch property. Each of those ranchers will identify the source and location of freshwater that they're taking from this area.

We'll then call Mr. Tim Kelly, who's an expert geohydrologist, who's appeared before this Division on numerous occasions. And he will present his comments and evaluations of the application.

I would like to preserve for the record the following objection to the procedure. It appears to me that this case should be processed very much like you would process an application for a saltwater disposal case that had originally been filed administratively.

Once that application is filed administratively and the engineers on the staff make a review, if there is no objection, then it completes its administrative process. If there's an objection, it's set for hearing and the burden remains that of the applicant to provide sufficient technical and scientific information to establish his burden that there is no impairment of freshwater sources or other impediments to approval of that application.

The process that's evolved for this particular case has shifted the burden of proof to me and my clients to prove that this application will not impair freshwater sources, damage the environment, or otherwise not be in the best interests of conservation. We think that's an inappropriate shift in the burden of proof, and we'll introduce our objection to that at this point.

Depending upon your ruling on that decision, we are prepared to go forward, Mr. Examiner, with the technical presentation.

MR. STOVALL: Mr. Examiner, let me clarify. There seems to be an uncertainty here, which truly this is a new process. And for your information, historically the way this has evolved is only recently have Environmental Bureau permit applications come to a hearing process.

The way they have historically handled applications for permits is considerably different than the way the oil and gas side, the Engineering Bureau, has handled its applications. They normally process and have an iterative process of permit review and

application approval.

What the Division determined, based upon the experience of one case, is that that was to go through that process and then come back and redo it at hearing was duplicative and to not go through that process and then to come back and do it at hearing was not the best way. The last time we did that, we ended up in a three-and-a-half-day hearing, which could have probably been resolved in a day-and-a-half.

The Division has chosen to use this approach rather than stop an administrative review when an objection is received -- is to proceed with it, to make the review, to do the iterations and determine whether or not an application is administratively approvable.

At that time then if objections are received, as in this case, the matter is set for hearing. It's my interpretation that it is not that the applicant -- that the burden of proof has shifted, but rather that the applicant has made a prima facie case on the burden of proof. It still rests with the applicant.

Hopefully, Mr. Kellahin, you've had an opportunity to review what has been submitted and

prepare your case in response to that. If that is incorrect, I think now is the time to get that on the table and have some discussion about it.

But it is not my interpretation that that burden has shifted, but it is still the burden of the applicant. It's a question of whether that has been -- as I say, a prima facie case has been established and then you can go forward to challenge that case rather than to have to prove the negative.

MR. KELLAHIN: One further comment before Mr. Carr responds. The process as presented to us creates a procedural due process issue in that the application is processed administratively without benefit of examination of the technical people or whomever presented this case to the Division on behalf of the applicant. And we have simply had no opportunity to examine those witnesses before this case gets to this point, and we're now faced with an approved application subject to some conditions.

MR. STOVALL: Let me ask you a question with that regard. I think it was the intent of the Division that the intervenors, as I'll refer to your clients, be involved in that iterative

process and have input during that process and have the opportunity to comment on matters that were presented through the administrative process.

Are you saying that has not occurred?

MR. KELLAHIN: No. That has occurred, and we have filed written objections and comments to the administrative processing. But having interrupted the administrative processing and now set it for hearing, it appears to me to be consistent with procedural due process that Mr. Carr and his clients now present their technical case to justify the application. And it should not be my obligation to go forward with my technical case at this time.

MR. CARR: May it please the Examiner, I think it's important to realize that we're here coming before you for hearing today for one reason, and that reason is that after reviewing what we submitted and we believe made a prima facie showing that this is an appropriate application and is approvable, that Mr. Kellahin's clients took a different position.

And we're here today not because our application has been determined to be defective;

we're here because they want to complain. And so we're here so they can do just that, complain, and we're ready to hear it.

I think what we're raising here is a procedural question just trying to complicate a hearing which is designed for one purpose, and that purpose is to hear them. And that's the reason the burden is on them. It isn't a shift. We've met the burden.

And once we've met the burden, if somebody is distressed about it or feels something else needs to be placed before the Division, they bring it to your attention. They have done that. And we're here to hear them today, and I think we should get on with the hearing.

We did -- we agree with Mr. Kellahin, this is new ground. And we also agree that review of environmental applications has taken a different course within the agency than other kinds of applications that have traditionally come on for hearing.

Initially we were prepared to make a full presentation. But after reviewing the application, looking at the file, and determining

that you have already concluded it was an approvable application, it seems appropriate to come in and respond to questions, any that they may have concerning the sufficiency of what we have presented to you.

We think the burden is on them, and they should go forward. We've been waiting a year to get to hearing, and the time has come, if they want to express their objection, we might submit the time is now.

MR. STOVALL: Mr. Kellahin, just again, because this is new, I want to take some time to explain how we got here. One of the reasons we've approached the case in this matter is, again, with some previous experience and a lot of cases is the opponents of an application of this nature have attempted to make their case through cross-examination of the proponents or applicant's witnesses.

And what we are encouraging and hoping today is that your clients, the opponents, the objectors to this application, will put some direct information into the record which will be more scientifically sound and beneficial and more helpful to the Examiner of the Division to make

the decision as to whether or not this should be approved.

Again I will emphasize it is not shifting the burden of proof, and I hope you have had the opportunity to review the administratively approvable file. And with that, I would recommend that we go forward on that basis.

Mr. Carr, I assume your technical people are available and can be called for --

MR. CARR: If needed.

MR. STOVALL: Probably the best analogy of this is almost a pre-file testimony type of approach in that the applicant's witnesses should be available and should be available for cross-examination on the matters that have been submitted.

The part we're really just leaving out is the direct examination of those people to redo that which they've already done in paper fashion. I think I'm going to recommend to the Examiner that we do play a little loose with how we actually conduct this hearing simply because we are evolving a new process, and we want to make it as efficient as possible. And we'll

learn some more things from this one.

I also want to make sure that your clients, Mr. Kellahin, get their full opportunity. But I assure you the burden is on C & C to prove that their facility can be operated in accordance with Division rules and regulations and would invite you to question their witnesses on any specific things that you have any questions about. But would hope that your objections can be presented in the form of direct primarily.

I think that's more useful to us than beating around on cross-examination. But it certainly is an opportunity which you have at this time, and we will swear Mr. Carr's witnesses just to make them available to you and give you the opportunity.

As a matter of fact, Mr. Carr, I suggest what you're going to have to have is to put one on to at least enter the administrative record and state that that is what they presented.

MR. KELLAHIN: I have no need to do that. I will accept Mr. Carr's stipulation as to what is marked as his client's Exhibit No. 1.

EXAMINER STOGNER: In that case C & C Exhibit No. 1 will be admitted into evidence at this point.

MR. CARR: Mr. Stogner, we were also directed by the Division to provide notice of the hearing to all owners within a half-mile of the facility as well as to all parties who had objected to the proceeding. And I do have an affidavit confirming that the notice of today's hearing has been provided. And I would move the admission of that as the C & C Exhibit No. 2.

And I have nothing further to present on direct. And we're prepared to hear the presentation of those who have objected.

EXAMINER STOGNER: Have you had an opportunity to review Exhibit No. 2, Mr. Kellahin, or do you have any problem with it?

MR. KELLAHIN: Mr. Carr is a truthful individual, Mr. Examiner. I will accept his attestation as to the mailing of notice.

EXAMINER STOGNER: Thank you. This Exhibit No. 2 will be also be admitted into evidence at this time. That's Exhibit No. 2 for C & C Landfarm, Inc.

MR. STOVALL: Anybody who thinks they

might offer testimony today, please, stand.

[The witnesses were duly sworn.]

EXAMINER STOGNER: Mr. Kellahin, I'll turn it over to you.

MR. KELLAHIN: Trent, why don't you come on up to the table.

W. TRENT STRADLEY

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Stradley, for the record would you, please, state your name and occupation?

A. My name is W. Trent Stradley, President, and my wife and I are stockholders of S & W Cattle Company, Hobbs, New Mexico.

Q. Do you reside in Hobbs, New Mexico, or in that vicinity, Mr. Stradley?

A. 419 Jemez, J-e-m-e-z, in Hobbs.

Q. Have you received notice of the application of C & C Landfarms for approval of this particular project by the Oil Conservation Division?

A. I received a notice from Mr. Carr. It was my understanding that it was a much different

application than what has finally resolved -- revolved. But yes, I did receive an application, notification.

Q. At my request have you taken copies of maps available to you, identified maps that you felt were relevant to demonstrate your acreage position in proximity to the project that C & C Landfarms proposes in Lea County, New Mexico?

A. Yes, sir.

Q. As part of your effort, did you take a United States Department of Interior Geological Survey map and then have that enlarged and then from that enlargement made notations about your properties?

A. Approximately 30, 45 days ago, I received copies of the map from the John West Engineering Company in Hobbs, and they in turn enlarged several portions of it. It was kind of an awkward situation in regard to the fact that the Section 3 and Section 4 are on different maps, so we had to piece them together in order to get the proper pictures.

Q. Let me show you what is marked as S-W Exhibit No. 1 and ask you if this is the quadrangle map that you utilized to then make

your notations?

A. Yes, sir.

Q. Mr. Stradley, let me ask you to turn to what we've marked as S & W Exhibit No. 2. What you have in front of you is my duplication of your original display.

If I might have the original for a moment, Mr. Examiner, let me have him authenticate that.

The Examiner has returned to me the original, Mr. Stradley. Would you identify that and tell me if that represents your notations taken on an enlarged copy of the quadrangle map that you've already identified?

A. It is. And I apologize to the Commission for the poor penmanship and the coloring, but this came at such an awkward time. And we were unable to get the engineering firm to go out and do some survey work for us. And so in terms, we had to use these facilities.

Yes, sir, it is.

Q. To orient the Examiner, Mr. Stradley, let me have you identify some of the information that you have depicted on Exhibit No. 2. Within this particular area, have you on past occasions

been on the actual surface of the ground within this portion of Lea County, New Mexico?

A. Yes, sir. I'd like to elaborate.

Q. Well, describe for me --

A. S & W Cattle Company is a cow-calf operation that has approximately 16 sections in this area.

Q. You have to keep your voice up a little, Mr. Stradley.

A. Yes. S & W Cattle Company is a cow-calf operation that operates -- either owns or leases approximately 16 sections in this area. We have in excess of 6000 acres of deeded land. We have approximately 1800 acres of BLM land, about 2200 acres of state land.

This land originally was the Weir Ranch in 41. It was purchased by my father-in-law, Billy Walker. We incorporated this ranch in 74 into S & W Cattle Company. I've been helping Mr. Walker, he's deceased now, work cattle on this place since I was 14 years old, which is in excess of 45 years ago. And I have probably ridden most of this country on a horse.

Q. When we look at Exhibit No. 2, if you look up in the upper right-hand portion of the

display, the word "Cooper" appears just below the elevation number 3573. Do you see that mark?

A. Yes, sir.

Q. What is the purpose of identifying this portion of the display with the name "Cooper"?

A. They have excavated a large hole in the ground in that area, and I assume that's where they expect to put this facility.

Q. At the location where the number 3573 appears, is that the approximate location of what you know to be the C & C Landfarm pit that you've described?

A. It would be approximately, oh, 200 foot south of that marking.

Q. The area shaded or hashed in pink, what is that identifying, Mr. Stradley?

A. That is state lease land.

Q. And who is the lessee of the state lease land?

A. S & W Cattle Company.

Q. When we move then to the south and west of the C & C Landfarm site, there is an area identified as BLM. What does that show?

A. That is a 40-acre tract of BLM land that we have a cow-calf allotment under.

MR. STOVALL: Mr. Kellahin, if I could interrupt you. Because we are primarily an oil and gas agency and we are used to dealing with underground oil and gas leases, I assume in this case we are talking about surface leases; is that correct?

MR. KELLAHIN: Insofar as the state grazing lease, that is a surface lease of the surface, and Mr. Stradley utilizes some of this area for cattle. And he has water in this area for those cattle.

MR. STOVALL: Mr. Stradley, I assume when you're talking leases, you're talking about the surface; you're not worrying about oil and gas, are you?

THE WITNESS: No, sir. That's right surface only.

MR. STOVALL: We've got to change our orientation here a little bit to what we're used to hearing.

THE WITNESS: As a cow-calf man, I'm primarily grass and water; that's my livelihood.

MR. STOVALL: That's what I thought.

Q. (BY MR. KELLAHIN) The area hashed in blue, in which there is a black square and a

green circle around the black square, it says, "S & W." What does that depict?

A. That is fee land, deeded land, and that is a windmill location. The black mark, that has served as a watering point in that area as long as I've been going to the ranch, in excess of 45 years.

Q. What do you utilize the water pump by the windmill for, Mr. Stradley?

A. To service the cow-calf operation. Our 16 sections are divided into four main grazing areas. We have a hub in the center where we have water. And then we take and rotate our cattle, depending on the time of the year, into these four areas. And in this particular area we have very limited water.

And this water plus two submersible pumps down in Section 9 are primarily our source of water for the cow-calf operation in this area. Without this water, these six to eight sections would be useless.

Q. When we look to the south of the area shaded in pink and blue, are we moving into Section 10?

A. Into Section 10 and then on down into

Section 16.

Q. In Section 10, who has the ownership of that land?

A. I own the north half with the exception of 40 acres. The south half of Section 10 is BLM land.

Q. As we move then to the west, there are three other locations also identified with green markings. If you'll start with the bottom two on the display and start then with the right one, what does that identify?

A. That is a submersible pump. This well was drilled two years ago. And it is a well that has a depth of 45 foot, of which 22 foot of water stands. I have a submersible pump that actually services two different livestock tanks. To the west of that, less than a half a mile, is an old well that we cleaned out. This well is 50 foot deep, and we have water standing in this well at 25 foot. It also is serviced with a submersible pump.

Q. I must tell you I have trouble with these sections. Do we have regular sections in this area?

A. I guess I don't understand your

question.

Q. Would a regular sized section of 640 acres be in a square?

A. They'll vary maybe anywhere from 3 to 10 acres.

Q. Am I looking in Section 9 when I look at the two wells that have submersible pumps in them that you have just described on the south end of the display?

A. Yes, sir. These wells are -- both wells are located in the north half of the south half of Section 9.

Q. Are those freshwater wells that you and your company own?

A. Yes, sir.

Q. And what do you use that water for?

A. To primarily water the livestock. The east well services two livestock tanks. Like I say, they are submersible pumps pressured with the pressure tanks. The west well services four livestock tanks. We laid a fast line from that location, working to the south-southeast, and we laid approximately three miles of fast line. And we have four livestock tanks on this line that service this area.

In the past two years we've probably spent in excess of $60,000 on laying fast lines and putting tanks in to service this area where it could be a viable cow-calf operation.

Q. When we move north of those two submersible pumped wells and move up to what appears to be a windmill symbol in the center portion of the display, what does that identify?

A. Well, if it's due north of these two in Section 9, I assume that that is water on the Laughlin place.

Q. As best you understand, that's the approximate location of the Laughlin windmill?

A. Yes, sir.

Q. Mr. Stradley, I'd like to direct your attention now to the map you prepared, which is going to be marked Exhibit 3, and to a series of photographs that you've taken, which I'm going to mark in a package as Exhibit No. 4.

Let me ask you to authenticate Exhibits 3 and 4 for me, Mr. Stradley. In looking at Exhibit No. 3, is this an enlarged copy of the quadrangle map that you've been utilizing to illustrate your presentation?

A. It's primarily a portion of that map.

It actually encompasses Section 3 and part of Section 4 -- part of Section 3 and part of Section 4, primarily the north half.

Q. On the Examiner's copy in red, have you made the notations on that display?

A. Yes, sir, the numerals from 1 through 17.

Q. Okay. In addition, the three green dots that are on the display, did you put those dots on the display?

A. Yes, sir, I did.

Q. When we look at the package of photographs that are marked 1 through 17, do these represent photographs that you took yourself personally?

A. The numbers 1 through 17 are the photographs that -- nomenclature of the photographs that I have taken.

Q. And you were the one that indexed the cover sheet to the photographs and numbered those photographs?

A. Yes, sir, that's right.

Q. And when you get on the ground and physically orient yourself to have the view that you had when you took the photographs, do the

photographs when reproduced give you an accurate and reliable depiction of the property as you would see it if you were there?

A. The black and whites are terrible. You can't tell anything by those, but the color photographs do. In essence, what I was trying to do is to show that the terrain of this country runs to the west-southwest. And, in essence, these photographs will verify that.

Q. Let's start with the plat, Exhibit 3, and the package of photographs. I apologize, we only have one colored set, which I've given the Examiner. And they're certainly available for inspection and review.

When we look at the Exhibit 3, there are some elevations and some contour lines on that display, are there not, sir?

A. Yes, sir.

Q. When you physically go out on the property, as you've done on numbers of occasions, do you find the contour lines to be reasonably accurate as you find the topography to be on the surface?

A. Well, this really to a layman is rather confusing. But there's no question, if you go to

this windmill, you can look in any direction, with the exception to the southwest, and everything is elevated above you. In fact, if you were to look directly to the northeast, which is in the direction of the Cooper facility, the engineering firm said that that is in excess of 30 foot higher than what my windmill is.

Q. The windmill you're describing is the one identified next to the number 17?

A. Yes, sir, that's right.

Q. When you're on the surface of this portion of this area of Lea County, describe for us what you see in terms of the topography and the relationship of the windmill to everything around it.

A. This area is referred to as White Breaks. In fact, as a kid, when we worked cattle, if we wanted to take our horses to the White Breaks area, it would be referring to this windmill. In essence, the Sections 1 and 2 and then south of that is a rocky type of white formation that is elevated above this draw, and it has no water in it.

Anyone that is familiar with this country knows that in Sections 1 and 2 there's no

freshwater. You actually don't get freshwater until you fall off this little old cap, which is referred to as the White Breaks, and then you pick up this shallow freshwater.

Q. Let me have you more specifically detail that. In relation to the windmill that you have and the C & C Landfarm, which is to the northeast of your windmill, if you were to move yourself farther northeast of the landfarm, are you in an area that you can find freshwater at shallow levels?

A. No. There's no freshwater in that area.

Q. As you then move to the southwest, come through the C & C Landfarm area down to your windmill, what do you find in terms of your ability to encounter freshwater?

A. Well, we have never drilled north-northeast of the mill, per se, in this particular area. But we do have in excess of 18 foot of water standing in this mill and have had water there in excess of 45 years.

Q. Let's follow the plat, Exhibit 3, with the numbered sequence for the photographs. And without specifically detailing what is apparent

in the photographs, tell us generally where you were located and what your point of view was as you move through the sequence of photographs.

A. The number one location is, in essence, in a county road that comes from a mile south of Monument that comes out over on the Hobbs-Eunice highway approximately 8 miles south of Hobbs. This road is being upgraded by the county at the present time. And I could be mistaken, but I believe this is County Road 58.

The location I was standing on was just on the east side of this county road. And I took the picture facing the west-southwest. My intentions were to try to show the decline in the terrain of the property.

Q. The gating arrangement shown in the photograph on Exhibit 1, what is that?

A. That is the entrance to this new facility.

Q. You mean the C & C Landfarm facility?

A. Yes, sir.

Q. As we move through Exhibits 2 through 6, what is your point of view, and what are you depicting?

A. I stood at the cattle guard that is at

the corner of this particular facility, the Cooper facility, or C & C. And I took pictures in each direction, north, east, west, and south, to try to show the terrain from that position.

Q. Photograph 7, identify and describe that.

A. This double line that is just above No. 7 is the existing fence line that separates the Cooper property from S & W Cattle Company property.

Q. Hang on just a minute. On the reproduced copies, that is a black double line. On the Examiner's copy, I believe it is a green line.

A. I drew it with a green pencil, I'm sorry.

Q. That green line on his display and the black and white line that runs east-west represents what, sir?

A. This is the fence line that separates S & W Cattle Company property from the Cooper property.

Q. When you identify the Cooper property, describe for us generally what you know that property to be.

A. It would actually be the north three quarters of the section in Section 3.

Q. Approximately how many acres are included within that area as best you know it?

A. Two hundred and forty acres.

Q. There are three green dots on the display just north of the fence line. What do those represent?

A. These are wells that have just recently been drilled and they have a PVC pipe extending above ground level. And they also have caps and locks on them. So I assume that these were either test wells or monitor wells.

Q. Okay.

A. They are located on the Cooper property.

Q. Identify and describe photograph 8 for us.

A. The No. 7 -- let me refer you to it, please, as a marking point. The No. 7 location, or I will call it a monitor well, it actually was approximately 200 foot west of the corner of this facility. If you go on west down this fence line, approximately another 500 foot is No. 8, is a photo of the second monitor well.

This photo was taken with me standing to the south of the fence line shooting back to the north-northwest.

Q. Photograph No. 9.

A. Well, I was at this same location. I shot back at the facility to try to show the incline in the terrain.

Q. And identify and describe then photograph No. 10.

A. No. 10 is the third monitor well. It is approximately another 500 foot west of the No. 8 facility. It actually lays further into the Cooper property than the first two monitor wells. The first two monitor wells were probably within 20 foot of the fence line. This third well probably lays 150 foot north of the fence line. This photo was taken from just to the southeast of that location shooting back to the northwest.

Q. Identify photograph No. 11 for me.

A. No. 11 is the spread support of the quarter mile fence line. In other words, it would be -- somewhere in that vicinity would be the quarter of a mile marker from the east to west of that particular section, 40-acre tract.

Q. Exhibit No. 12, photograph Exhibit No. 12.

A. From that same point, I took a picture due west down the fence line. And the fence posts would indicate how the terrain does drop. It also would indicate that back behind it that you can almost see to the Monument highway, which is over there approximately a mile-and-a-half.

It also would indicate that there is a draw that runs north and south through the Cooper property that goes directly down to this windmill.

Q. Identify and describe -- I'm sorry. I've lost track. Is it 13?

A. We can sure try that one.

MR. STOVALL: You just finished 12.

MR. KELLAHIN: That ought to be the next one then, if I remember correctly.

A. While I was at this same point, I took a picture from this same area shooting down towards the windmill that is in question here.

Q. All right. Then No. 14, identify your point of view and what you are attempting to depict.

A. I had taken a picture also of the

windmill whenever I was at this second monitor hole. And I just threw it in. The fact that it does show that the terrain does slope to that mill from all directions of that facility.

Q. As you move into photograph 15, identify and describe that photograph.

A. I actually took this picture from -- the No. 15 is a dry hole that Conoco drilled on the BLM land. And this is located on the marker. I believe it shows 2080 foot from the south line, 1980 foot from the west line. It is, like I say, an old location that has been abandoned by Conoco and is so marked. It is right next to the road that goes down to the windmill, and I felt like it would be a good position to take a picture to show the facility as well as the proximity to the mill.

So the No. 15 is actually from this location, which is approximately 560 foot south of the fence line that joins me and Cooper, and I've actually shot back towards the Cooper facility. No. 16 is the same location shooting to my mill.

MR. STOVALL: If I might ask a question at this point.

MR. KELLAHIN: Sure.

MR. STOVALL: How far from about this location is it to your water well, to your windmill?

THE WITNESS: From where I'm standing?

MR. STOVALL: Yes, in these pictures.

THE WITNESS: Okay. I'm confused. From the Cooper facility?

MR. STOVALL: No. From where you're standing in these pictures. I'm just trying to get spacial --

THE WITNESS: From the dry hole marker, which is from the north fence line, is 560 foot south of the fence line. And then from that point on down to the well, I'm going to say, is approximately 1100 foot.

MR. KELLAHIN: To the windmill.

THE WITNESS: To the windmill.

MR. STOVALL: Okay. That's what I wanted to know. Thanks.

THE WITNESS: I estimate, from the north fence line to the windmill, approximately 1700 foot.

MR. STOVALL: Okay.

Q. (BY MR. KELLAHIN) And then finally

photographic Exhibit No. 17.

A. 17, I went to the mill and shot back towards the facility. If an old cow and calf down there wanted a drink of water -- there's nothing there -- that's how she'd kind of look, kind of sad, looking back towards that facility.

Q. The last exhibit I would like you to discuss with me, Mr. Stradley, is what I've marked as S & W Exhibit No. 5. Again, is this a reproduction taken from the quadrangle maps that you've previously identified as Exhibit No. 1?

A. Yes, sir, it is.

Q. The information I want you to describe for us is with regards to the writing just below each of the freshwater sources on the display. If you'll start, first of all, with what we have described as the S & W windmill in a portion of Section 3, which is the windmill closest to the C & C Landfarm facility, there is a number 33 feet RB. What does that mean?

A. This well is the well that I have referred to that's been there in excess of 45 years. Whenever this hearing was scheduled, I went out and measured this well because I used to pull it by hand when I worked on this well, but I

had actually forgotten the exact depth.

The well measures from the top of the casing, which is approximately 2 foot above ground level, it actually measures to the Redbed 33 foot, of which 18 foot of water is standing. So if you're actually going from ground level, it would be 2 foot less than that. But 33 foot from the top of the pipe to the Redbed, 18 foot of water standing in the well.

Q. When we move to the next well in the southern portion of the display, the first well on the right that you said has a submersible pump in it?

A. Yes, sir. That's in the north half of section -- actually the northeast half of the south half of Section 9. This is a well that was drilled two years ago. It's 45 foot deep to the Redbed, of which approximately 22 foot of water is standing. I did not measure this well, but I had new pumps put in both of these wells less than 60 days ago. And the water well man is the one that gave me that information.

Q. As we move then to the next well to the west, identify and describe that information.

A. This is an old existing well that was

actually on this property whenever I bought it. I understand at one time that this was a homestead. This well is 50 foot deep to the Redbed, of which 25 foot of water is standing. This well is serviced by a submersible pump.

Q. And then finally there is a blue mark to the south and west of the last well you've described. It appears to be a windmill symbol. What is your knowledge about that well?

A. I'm really not prepared to make a statement about that. I did make the comment that just across the Monument highway, which is Highway No. 8, that runs north and south by this 50 foot well, just to the west side of the pavement, I understand that -- or in my opinion Mr. Cooper has a water station.

And the reason I think this, it is an earthen hole that is plastic lined, and I've seen water trucks in this area. So I assume that he has a water station there. I'm not for sure that it actually ties into this windmill.

MR. KELLAHIN: That concludes my examination of Mr. Stradley. We move the introduction of his Exhibits 1 through 5.

EXAMINER STOGNER: Exhibits 1 through 5

will be admitted into evidence at this time.

THE WITNESS: Thank you very much.

MR. KELLAHIN: Wait just a minute.

EXAMINER STOGNER: Mr. Carr, I want to turn the witness over to you at this time.

MR. CARR: Almost got away from me.

EXAMINTION

BY MR. CARR:

Q. Mr. Stradley, what is the distance between the proposed C & C facility and your water well in the southwest of Section 3 approximately?

A. If they take the whole 40 acres, which I understand they have proposed, it is approximately -- from that corner it's approximately 1700 foot down to the windmill.

Q. And then the current excavation there is about, what? half a mile away?

A. No. It would be less than 4/10 of a mile. I drove it in my car, and my car is not real accurate. But it was less than a 4/10 of a mile from the corner where the cattle guard is to the windmill.

Q. When you talked about your well, is 33 feet the total depth of the well?

A. Yes, sir.
Q. And then how much of that is -- you've got 18 feet of water in the bottom of the well?
A. Right.
Q. How much of that wellbore is open or has it got a pipe or casing all the way down to 33 feet?
A. Oh, I'm not for sure. We have worked on this well. Mr. Van Noy probably worked on it last. We've had in the past -- a lot of our old pipe has rotted out, and we have replaced it with PVC pipe. When we do this, we perforate that PVC pipe with a saw. So I'm really not qualified to say.
Q. Now, you use that well -- and I'm only really interested in my questions about the well in the southwest of 3. You utilize that well for watering cattle?
A. Yes, sir.
Q. There is a gravel pit indicated in the south half of 3 as well?
A. A gravel pit and a clay pit.
Q. Okay. Are there two pits there?
A. Yes, sir, side by side.
Q. Have they been there for some period of

time?

A. Yes, sir, as long as I remember. Let me correct that. The clay pit has been there as long as I can remember. The actual caliche pit was open, oh, probably 25 years.

Q. Do they also hold water periodically?

A. The clay pit will hold water, yes, sir.

Q. Does it have water in it often?

A. Yes, sir.

Q. What is the source of that water?

A. Rainwater.

Q. When you say "caliche," is that just constructed out of Redbeds, or is it a substance that has been brought in?

A. I guess I don't understand what you're saying.

Q. When you say it's a caliche pit, what is the source of that caliche? Is it just material from the Redbeds, or is it a substance that has been brought in?

A. It actually is the same type of substance that is in the area where the Coopers are digging this facility. There is no water in that particular area. This clay pit lays directly to the west of this caliche pit, and we

actually would have loved to have water there so we could use the clay pit as a source to hold our water. There is no water there.

But that is above what they call the White Breaks. As you fall off this White Breaks to the west, that is where you actually encounter the water.

Q. Have you ever had a problem with water moving from that pit down to the location of your water well in southwest of 3?

A. Not to my knowledge. We could have, and I wouldn't know it. The county recently was looking for some hard rock to work on the roads, and they went into this 40-acre track of BLM land. They took a backhoe, and they dug down 12 foot in several places. And they found no rock; however, they did find sand, gravel, caliche, and a little clay.

Q. When you say it's a caliche pit, it isn't lined with anything, is it?

A. No, sir.

Q. And it will hold the water?

A. I don't know that the caliche pit will hold it; the clay pit will.

Q. The clay pit holds the water?

A. Yes, sir. But this is how precarious this area is. These two entities are within a 100 foot of one another. One is completely sealed with clay; the other one has no clay.

Q. And -- I may have asked you this -- the source of the water is rainwater?

A. Yes, sir.

MR. CARR: That's all I have.

EXAMINER STOGNER: Thank you, Mr. Carr.

I've got some questions.

EXAMINATION

BY EXAMINER STOGNER:

Q. When I look in Section 9, your first water well, there's also another clay pit just north and east of there. It shows gravel pit and it shows up on the map of the road to it. Are you familiar with that gravel pit?

A. I'm sorry. Let's try it again, please.

Q. Okay.

A. In Section 9?

Q. Yes.

A. Yes, sir. I'm familiar. That pit comes all the way to our fence line, and I am familiar with the pit.

Q. How deep is it? Is it a caliche pit? Is it a clay pit?

A. Yes, sir, that is a caliche pit. And I would estimate it to be somewhere in the 10-foot depth. It's shaped kind like of like a cross. And the reason I'm quite familiar with it, we had some individual drive through our fence line just a couple of weeks ago and we had cattle mixed in with the cattle on the Laughlin place, so we had to get the cattle out of there. And we looked at the pit.

I also caught some people working in the area and cautioned them that -- I thought maybe they thought they were on my country, so I cautioned them it was Laughlin Construction Company, who are good friends of mine, and I cautioned them to be sure they knew where they were at. And they assured me that they had talked to the individual who controls that pit and had made arrangements to be in that pit.

But to your question, it does lay just to the north of our property line in Section 9.

Q. Does it ever hold water?

A. Yes, sir, I've seen water in it. I

don't know to what degree. We've had more water the last three years than I can remember. In fact, I have several buffalo waters in some of the areas where we have no freshwater. And I notice that even some of those are still retaining water.

Q. Like you said, this has been an unusually wet year, has it not?

A. Yes, sir, it certainly has. It's been great.

MR. STOVALL: Maybe not in downtown Hobbs?

THE WITNESS: No, sir.

Q. (BY EXAMINER STOGNER) When I look at your first exhibit, the words "White Breaks" appears, and this is what you were talking about where it seems to separate the water out there. And I want to make sure that I'm seeing it right.

If I go up to the north end of the map, I see several topo lines running parallel to each other running down to the south to the Monument cemetery.

MR. KELLAHIN: The witness is not with you yet, Mr. Examiner.

EXAMINER STOGNER: I'm sorry.

THE WITNESS: I believe maybe I can -- okay. Start again, please.

Q. (BY EXAMINER STOGNER) Okay. If I go up on Exhibit No. 1, that is that large scale map, the first map you gave me --

A. All right. Sir.

Q. -- and I see that the topography seems to fall off back to the east. And I assume that's probably part of the White Breaks, is what you're considering, that goes down to the cemetery, and then it kind of cuts back to the south and east before extending south again near the gravel pit there between Sections 3 and 10, and then you hit that White Breaks.

Is that a continuation of this White Breaks area, as you call it?

A. I would assume it is. And I suspect that it probably runs a mile-and-a-half to two miles south. Now, I know for a fact that four miles south of us is a Conoco water station, so there is some water on down four miles south of my south line, which is in Section 21.

Q. Now, when you say water station, you're talking about a water supply well that supplies

the oil and gas industry out there with freshwater?

A. Yes, sir. But they also furnish the ranchers in that area water. The McCasland, which lay to the south and southeast of me, they derive most of their water from the Conoco water station. And I also derive some of the water for the southeast portion of my ranch.

There is no water in Sections 22, 23, and 24 even into Section 18 of 38 east. And we actually have lines running from that Conoco water station that service us in this area for our cattle operation.

Q. How far do these water lines go into your property?

A. Oh, they service the ones -- the ones that Conoco works with me on, they actually service Sections 23, 24, and into 18 of 20 South, 38 East. So they actually service approximately three sections of land. But the pasture is divided up into about a five-section pasture, and we actually derive water from the Conoco people as well as having water at the center of the 16 sections that serves as the hub.

Q. Let's get back to my White Breaks

here.

A. Okay. Let me see if I understood your first question in referring to the topography. I believe you made the statement that the land actually went downhill from the point of origin to the south-southeast. And it actually -- it rises from the point of origin to the south-southeast.

Q. Okay. So I'm backwards. That's higher to the east, lower to the west?

A. This windmill actually looks like it's in a big tub. And everything in that area, anything that goes aboveground up in this Section 3 to the northeast will eventually end up down there at this windmill. And then it proceeds on further to the south-southwest; it actually goes lower.

In fact, at one point there I think there's probably a 40-foot discrepancy from the proposed site on down in there just to the south-southeast of Section 9.

Q. Do I find very many water wells back to the east of this general area?

A. No, sir, there is no water. We have looked in Section 1 and Section 2 and then also

south into Section 14, and we just don't have any freshwater. That's why we've had to go to the expense of laying these fast lines so we can utilize what freshwater we do have.

Q. Let's go back to your water well in No. 1?

A. This is the windmill?

Q. This is the windmill.

A. All right, sir.

Q. You've been familiar with that since you've been out there for the last 45 years?

A. Yes, sir.

Q. Has that well ever gone dry?

A. No, sir.

Q. Never gone dry?

A. It quits pumping once in a while, but the reason is that the old check will actually get trash in it. And my wife kids me, we used to call it the balking mill because if I'd go by and hit it with a sledgehammer, it would go to pumping.

Q. So it's never gone dry and it's always pumped unless you have some problems with the pump?

A. Yes, sir.

Q. There's always been water in that tank that it supplied?

A. No. Now, I cut that mill off. We're not utilizing that mill, but I have that problem. The dove hunters and the quail hunters love to hunt on our property, and we permit hunting. And if I don't provide them water, they shoot up my facilities, so at this type of year I have got my water on so they can hunt out there.

Q. So they may be shooting that windmill up today?

A. Right.

MR. KELLAHIN: As we speak.

MR. STOVALL: That's right, hunting season started today.

EXAMINER STOGNER: I passed a lot of hunters with shotguns on the road coming from Moriarty.

I have no other questions of Mr. Stradley -- or Stradley?

THE WITNESS: Stradley.

MR. STOVALL: I do have some.

EXAMINATION

BY MR. STOVALL:

Q. Just looking at photo No. 3 -- this is

more out of curiosity -- it appears to be some civilization in the background there. Is that Monument?

A. Monument would actually lay to the right of this picture. It wouldn't be in this picture, I don't think. But this picture is taken from the corner of the Cooper facility shooting directly to the west. And it actually shows the downhill incline of this property.

MR. KELLAHIN: Let me show you the original so that you can see what Mr. Stovall is identifying for you to describe.

THE WITNESS: All right.

MR. KELLAHIN: See out in the distance?

THE WITNESS: These facilities are probably on the other side of the Monument highway. And the trees that you see to the right are the little community of Monument, but I suspect they're just a little bit south of Monument.

MR. STOVALL: Okay.

THE WITNESS: You can actually go south of Monument about half a mile and you can see this facility laying back up to the

east-southeast from a half a mile south of Monument.

Q. (BY MR. STOVALL) Let me see if I understand what your understanding of the facility is just for -- I think you said so, but I want to make sure. On any of your exhibits where you've marked the Cooper facility --

A. Yes, sir.

Q. -- is it your understanding that that is going to be a quarter-quarter section in -- the entire 40 acres is going to be right up to essentially the fence line?

A. They're within 20 foot of my fence line now. I really don't know what the facility is. Because we wrote several letters -- I say "we," my attorney did -- trying to get some clarification. And every time we'd write a letter, we'd get one back that says that the OCD has no jurisdiction on adjoining property.

Well, we're not that concerned with adjoining property; we're concerned with the deterioration of that water in that area. So, as far as what the size of that will be, it's my understanding that we started out with maybe a 3-acre or 5-acre facility, of which I didn't give

too much concern because I always considered the Coopers friends.

But when they start talking they might just make it a 40-acre facility, and the fact that I've serviced the oil field for the last 35 to 40 years, it concerned me what might go in that facility, regardless of how cautious you are about trying to monitor it.

Q. To the best of your knowledge, did C & C or Cooper provide you with any sort of plat or information as to how they're using the entire 40 acres and how it's going to be laid out?

A. It's my understanding that we got one letter from C & C that said that they were putting the facility in and that there would be no tank bottoms, which would be impossible to actually keep the tank bottoms out of it.

But at any rate, it's my understanding that they give me one letter that was addressed to S & W Cattle Company. And I actually visited with Mr. Jimmie Cooper probably a week before he started this facility. I had an old cow that was trying to have a calf. Jimmie stopped, and we visited quite a bit, and he didn't mention this facility.

Q. Again, you've not actually seen something from C & C that lays out the 40 acres and says what's going to be where that on that 40-acre tract?

A. I have not seen that. However, we have been told, too, that this information was on record, that they weren't able to furnish it to us, but that we could hire somebody to come and get it. It's my understanding we do have it in our office.

It's also my understanding that my attorney was quite concerned, knowing the fact, like I say, having dealt with the oil field for the last 35, 40 years, what's going to happen to this facility when they get it full and go off and leave it. I know what will happen; it's going to pollute the water of Monument.

MR. STOVALL: I don't have any other questions at this time.

EXAMINER STOGNER: Thank you.

Mr. Kellahin?

MR. KELLAHIN: I'd like to excuse Mr. Stradley and call Mrs. Elsie Reeves.

THE WITNESS; Thank you very much.

EXAMINER STOGNER: Thank you, sir.

MR. STOVALL: Mr. Stradley, are you going to be around? I assume you're sticking around for the whole show here; is that corret?

THE WITNESS: Well, I surely can, yes, sir.

MR. STOVALL: Just in case there are any other questions that come up. Again, this being a new process, we may want to get you back and ask you a couple things.

THE WITNESS: I'll stay here from now on, if that's what it takes.

MR. STOVALL: Hopefully, we won't keep you here all day, but we'll see.

MR. KELLAHIN: Mr. Examiner, I'd like to call at this time Elsie M. Reeves.

ELSIE M. REEVES

Having been duly sworn upon her oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Would you, please, state your name?

A. Elsie M. Reeves.

Q. Mrs. Reeves, where do you reside?

A. Phoenix, Arizona.

Q. The property that Mr. Stradley

identified in this area as being the Laughlin Farms or the Laughlin Ranch area, do you have knowledge about that area?

A. Yes, I do.

Q. What is your family's ranch area within this vicinity? How is that called? What do you call it?

A. We call it the Laughlin Properties, M-E-D-L Laughlin Property and the W-H-B Laughlin Property.

Q. What is your relationship to the Laughlin Properties?

A. My grandparents and my father homesteaded our properties in the area.

Q. When we look at what Mr. Stradley has identified as Exhibit No. 5 -- and I want to show you another copy of that -- there is an area identified with a yellow marker on this display, Exhibit No. 5, what does that represent?

A. That outlines the Laughlin property in Lea County.

Q. Give us a summary of the history of this particular portion of the Laughlin property as identified on this Exhibit No. 5.

A. The south half of the northeast

quarter, the southwest quarter of the north -- pardon me, the southeast quarter of the northwest quarter and the south half of Section 4 together with the southeast quarter of Section 5 and the northeast quarter of the northeast quarter of Section 8 and the north half of Section 9 is all Laughlin property.

Q. Is this fee property that was homesteaded by your family?

A. That's correct.

Q. What do you do with that property now?

A. We lease the surface on a grass lease basis.

Q. And what does your lessee do with the surface?

A. He grazes cattle.

Q. Are you familiar with the surface of the Laughlin Ranch Properties?

A. Yes, sir, I am.

Q. And you have been on that property numbers of occasions, have you not?

A. In the past few years, I've eventually covered all of it.

Q. Within the area identified by the yellow marker, can you identify for us any

sources by which freshwater is produced?

A. Yes. The windmill, it's here designated by a blue dot in the southwest -- southeast quarter of the southwest quarter probably in Section 4 is the Laughlin windmill.

Q. All right. Describe for us what information you have on that windmill.

A. To the best of my knowledge, the windmill is approximately 50 -- the well is approximately 50 feet deep. There is approximately 15 feet of water in the hole, and it is 35 feet to water.

Q. How long has that windmill been in existence? Do you remember?

A. The windmill itself?

Q. Yes.

A. I would say from the 1950s, I believe, the windmill has been there. The water well itself has been there longer.

Q. How long has the water been produced from the freshwater aquifer at this location?

A. Since the late 1930s or possibly the early 1930s in that particular place.

Q. Do you and your lessee continue to use this windmill as a source of freshwater?

A. Yes, sir.

Q. What does your lessee do with that water?

A. He attempts to hold it in a holding tank and waters his cattle from it.

Q. Is there a continuous supply of water that's producible from a well at this location, or is this a periodic windmill that occasionally has water?

A. No. This has always been a water source on this property. There were -- in our original homestead, my grandparents' original homestead, there were two more water wells just north of this windmill, two more windmills, and that was in the early 1900s. And those windmills continued to supply water to the family up until 1920.

Sometime after 1920 the family moved away, and the windmills then deteriorated and this one was used.

Q. Without repeating for you Mr. Stradley's testimony or his observations about the topography in the area, consistent with your own observations?

A. Yes.

Q. Summarize for us the relationship of your windmill to the Cooper facility, the landfarm facility we've talked to in terms of the topography.

A. It is down-elevation.

Q. Which is down-elevation?

A. Pardon? The windmill is down-elevation from the proposed facility.

Q. When you look at this contour map, any of those that we've reproduced, do you find the contouring to be an accurate depiction of the surface as you know it?

A. As I know it, yes.

MR. KELLAHIN: That concludes my examination of Mrs. Reeves.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

Mr. Carr.

EXAMINATION

BY MR. CARR:

Q. Mrs. Reeves, your water well in the southwest of No. 4 is actually up-dip, is it not, from the water well operated by S & W in the southwest of 3?

A. According to this, yes, it is.

MR. CARR: That's all I have.

EXAMINATION

BY EXAMINER STOGNER:

Q. You mentioned the surface lessee. May I ask who that is?

A. Yes. The current tenant is Malcolm Coombes.

Q. C-o-n-e-s?

A. C-double-o-m-b-e-s.

Q. Are there oil and gas wells on the surface of your property?

A. Yes, sir.

Q. Approximately how many?

A. Total?

Q. Just approximately.

A. Fifteen.

Q. Fifteen. Okay. Are there any residential dwellings on your property at this time?

A. On our property?

Q. Yes.

A. No, sir.

Q. So nobody is living on it except cattle and windmills and oil and gas wells; is that correct?

A. And a few snakes.

Q. And a few snakes. And Highway 8 goes right across?

A. And Highway 8.

EXAMINER STOGNER: I have no other requests of Ms. Reeves.

MR. STOVALL: Just a couple.

EXAMINATION

BY MR. STOVALL:

Q. Do you know how far it is from the Cooper property to your windmill?

A. To the windmill it's slightly over a half mile. It would probably be closer to three-quarters of a mile to that particular windmill down to the caliche pit on our property, which also holds water occasionally. It's about the same probably. Just about three-quarters of a mile.

Q. That's up to the south, I guess, southwest corner of that Cooper property; right? Is that where you're measuring when you say three-quarters of a mile?

A. Three-quarters of a mile from the proposed facility over to the windmill on Section 4.

MR. STOVALL: Okay. Nothing further at this time.

EXAMINER STOGNER: I have no other questions of Ms. Reeves. She may be excused.

Mr. Kellahin?

MR. KELLAHIN: May we take a five-minute break, Mr. Examiner, and I'll get Mr. Kelly ready for his technical testimony.

EXAMINER STOGNER: Okay. Let's take about a ten-minute recess at this time.

[A recess was taken.]

EXAMINER STOGNER: Hearing will come to order.

Mr. Kellahin.

MR. KELLAHIN: Thank you, Mr. Examiner. I'd like to call at this time Mr. Tim Kelly.

T. E. KELLY

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Kelly, would you, please, state your name and occupation?

A. My name is Tim Kelly. I'm one of the

principals in the firm of Geohydrology Associates in Albuquerque, New Mexico.

Q. And you reside in Albuquerque, New Mexico?

A. Yes, I do.

Q. Do you hold any professional degrees, Mr. Kelly?

A. Yes, sir. I have a bachelor of science and a master of science. Both majors were in geology. I received my master's in 1961. At that time there were no curriculum being taught in hydrology, per se. I have taken subsequent graduate work in courses related to hydrology.

Q. Describe specifically what it is that your firm does?

A. Our firm does primarily water resource evaluations and environmental studies. Basically we do anything that has to do with water from the design of municipal wells to the remediation of contamination of various types.

Q. Did your firm represent the Four Corners Gas Producers Association in the vulnerable water hearings conducted before the New Mexico Oil Conservation Commission?

A. Yes, sir.

Q. On past occasions have you testified before the Commission and the Division concerning hydrology and groundwater studies that were impacted or affected by oil and gas operations in New Mexico?

A. Yes, sir.

Q. Did you testify before this agency with regards to the permitting of surface disposal areas for Laguna Gatuna and Laguna Quattro, I believe it was?

A. Yes, sir, we have.

Q. In addition, do you provide geologic and hydrology expert assistance to parties seeking approvals before the State Engineer's Office?

A. Yes, sir.

Q. In addition to approvals before the Environmental Improvement Division?

A. Yes, sir.

Q. Have you had an opportunity to review the C & C Landfarm, Inc., application before the Oil Conservation Division that is the subject of this hearing?

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Kelly as

an expert geohydrologist.

EXAMINER STOGNER: Are there any objections?

MR. CARR: No objections.

EXAMINER STOGNER: Mr. Kelly is so qualified.

Q. (BY MR. KELLAHIN) With regards to this particular area of Lea County that is the subject of this application, have you in the past ever conducted for any other client or for your own interest studies of the geology in the particular area?

A. Yes, sir, we have. We spent several years providing technical support for applications that were being submitted by Climax Chemical Company, which is located approximately four miles west of the proposed facility.

Q. As part of that study, in addition to other searches and research you may have conducted, are you generally familiar with the concept of the accumulation of freshwater within and above the Redbeds in this area?

A. Yes, sir, I am.

Q. Give us a general overview of the hydrology and the geology that's involved when

you examine the feasability of a project such as this in this kind of area.

A. Well, it's very complex because the proposed facility is immediately west of an extension of Mescalero Ridge, which is sometimes referred to as the boundary of the high plains where the Ogallala Formation is present. And below the escarpment of Mescalero Ridge, there is an area where the Redbeds crop out, the Redbeds in this case being the Chinle Formation.

And then, as you get away from the escarpment, there is an accumulation of rework Ogallala, which is in part alluvial in origin and in part windblown in origin. And then there are caliche deposits that have formed within this unconsolidated material.

So it is rather complex with large capacity wells to the north and east. And then, as you get off of the Mescalero Ridge to the south and west, small pockets of water form and gradually there is a widespread aquifer on top of the Redbeds.

Q. When you look at the particular feature that's involved around the S & W Cattle windmill and the proximity of that feature to the C & C

Landfarm, is there a way to describe or characterize what that feature is?

A. In reviewing that feature on the topographic maps in which the S & W windmill is located, I believe that's a collapse feature similar to Sand Simone Sink. And there are a number of other collapse features throughout southern Lea County.

And I believe that this is actually a faulted structure in which there has been a collapse so that it would form, as Mr. Stradley pointed out, a bowl into which groundwater will move.

Q. Can you look at the surface and the topography of this area and draw any relationship to what the subsurface may be?

A. Yes, sir. In this particular case it's very clear that that collapsed structure is to the south and west. And in fact there are several closed contours.

Q. Characterize for us the Redbeds as they have been generically identified and what that does in terms of its ability to hold water that can be utilized for freshwater purposes?

A. Well, in southern Lea County, the

Redbeds can actually be one of two formations. In the western part of the county, it's the Santa Rosa Formation, which is primarily a sandstone. And then as you get east and into this area, it's the Chinle Formation.

The Chinle has several members, one of which is the Petrified Cliffs Member, which is actually quite sand and gravel. It gets its name from the Petrified Cliffs -- Petrified Forest, I'm sorry, the Petrified Forest Member from Arizona. And there is a lot of sand and gravel in that particular formation.

Elsewhere there are zones, strata of siltstone and sandstone within the Chinle. And, in fact, it's not uncommon for stock wells in that part of the state to be completed in sand lenses or siltstone lenses within the Chinle.

Q. Let me ask you to direct your attention specifically to the proposed application. And while it is contained in Mr. Carr's Exhibit No. 1 for his client, I have separated out the original application and marked it as Exhibit No. 6, Mr. Kelly, and I show that to you.

Does Exhibit No. 6 represent the application of C & C Landfarm that I asked you to

undertake a review and evaluation of?

A. Yes, sir.

Q. Let me show you what I've marked as Exhibit No. 7. Again this is a cross-sectional diagram taken from the same information Mr. Carr has utilized. And for convenience I have separated it out and marked it as S & W Exhibit No. 7. Are you familiar with this cross-section?

A. Yes, sir.

Q. And then finally, sir, I want to show you what is marked as S & W Exhibit No. 8, which is the May 20, 1992, Conditions of Approval issued by the Oil Conservation Division.

Again for convenience, so that we have these documents in front of you for your reference, you have examined Exhibits 6, 7, and 8 as part of your review of this application?

A. Yes, I have.

Q. Let me ask you some preliminary questions about the criteria that you would apply as a hydrologist to analyzing this application or similar applications before other agencies dealing with this kind of topic.

I want to ask you to give us a summary of the adequacy, in your opinion as an expert, of

this application in context and within the administrative framework of the State Engineer's Office and the Environmental Improvement Division, as well as this type of application before the Oil Conservation Division, so that we can have some framework of your point of view on your opinions.

A. Well, in my opinion this application would not be approved under the guidelines that are established for a similar type of facility by the State Engineer's Office or the Environmental Department or the Bureau of Mines & Mineral Resources.

Q. When you apply that analysis and reach the conclusion that you've just expressed, describe for us the reasons that cause you to reach that conclusion.

A. Well, I think that the Oil Conservation Division is in the early stages of developing criteria and have not had the opportunity to experience the problems that some of the other agencies have experienced in the past.

Also, I suspect that many of the other state agencies, such as the State Engineer's Office and particularly the Environmental

Department, have the benefit of input from federal agencies such as the Environmental Protection Agency.

But, as a general rule, I just find that the material being required does not address all of the hydrologic problems that could evolve as a result of this type of facility at this location.

Q. Describe for us the kinds of problems that you see that may occur in this area if this application is approved.

A. Well, first of all, as I pointed out, the depression in which the S & W windmill is located, I believe, is a structural feature. If that's true and the contour maps are read accurately, there is one contour, it's the 3555 foot contour, which actually borders the western boundary of the proposed 40 acres.

It's quite possible that this is fault control. Therefore, the shale, even if it is impermeable, which seems to be the assumption made by C & C, may in fact be faulted. Even if the fault is inactive, it could act as an avenue along which contamination could move.

So this would not meet the

requirements, for example, of a sanitary landfill which have to meet certain seismic requirements and be so far away from any known faulted area.

Q. If you were the applicant or representing the applicant as an expert, describe for us the kinds of sampling, testing, or other studies that you would undertake in order to support and justify this type of application?

A. Well, first of all, they have based their application on the assumption that the Redbeds are impermeable. I think that's false. I don't believe they are impermeable. They may be very low in permeability relative to the overlying material. But, nevertheless, I believe that there is a permeability within the shales.

Also, they have not provided -- I would suggest, if I were their representative, that they need to determine what the cation exchange rates are of the shale. They need to determine the in situ permeability of the shale.

If in fact they're going to use this to build a dike, they can't determine what the permeability of remolded shale is if they don't know what the in situ permeability is to start with. So I would recommend that that information

be collected.

They have a 40-acre tract which consists of the Redbeds, which have an erosional surface, and then capped by unconsolidated material above. While the conditions of approval state that no free liquids will be allowed, it's highly unlikely that that the material that's going in will be bone dry. Therefore it will have moisture, which will create a leachate and will move down to the Redbeds.

Also, any precipitation on the 40-acre tract will create a leachate, and no facility has been designed to remove this leachate from the facility.

Likewise, they don't know what the configuration of the Redbeds are in the subsurface beneath the 40 acres, so they don't know where the leachate is going to go. So they wouldn't know where to put their recovery system. In other words, I would recommend that they drill a significant number of monitoring wells and draw a contour map on top of the Redbeds beneath the 40 acres.

And then there are another couple of things that I would suggest that perhaps in their

application they need to look at, and that is their drillers' logs do not appear to have been made by anyone with any technical background, so I don't believe their drillers' logs are dependable. And I think they need to get more information on that.

And then, of course, nothing is presented in the application -- and this would be something I'd recommend to them -- is while a monitoring program is specified, there is no information specified as to when this is going to be submitted to the OCD, nor is the closure plan complete.

There are things that they haven't addressed such as there's no bonding required. And if this facility was taken to complete -- well, to completion, who would be responsible for the monitoring after C & C walks away from it? I don't think the state is. Normally that type of thing is covered by bonding.

I think that I would recommend that they have a drainage plan. Almost any major engineering project in the state requires a drainage plan with the guideline being: How will this facility be affected by a 100-year flood

event?

Not only is this facility located just below the Mescalero Ridge, an extension of Mescalero Ridge, but in fact there is on this exhibit -- which I don't know what the number is -- but on this exhibit, there is an arroyo coming off the ridge which is aimed directly at the front gate of the facility.

Q. Take a moment and let's identify the display that you've used. It is Exhibit No. 3.

A. All right. The contour on the right-hand side above the elevation point 3573, this is a drainage system which is pointed directly at the facility itself. And in fact I noticed that the approval conditions do not require a dike on the east boundary. And that's the direction from which any flooding is going to occur.

So these are all things that I would recommend to C & C that they address, these and some others.

Q. When you look at the package of data and information supplied in support of the application, did you find any hydrology studies?

A. No, sir.

Q. Did you find any geologic studies?

A. No, sir. What they referred to was some published data. Well, an example was they used a contour map to show where the groundwater is. That map was part of -- was a photocopy of Plate 2 of the New Mexico Bureau of Mines Groundwater Report No. 6, published in 1961.

And a footnote on that same plate states that the data was collected in 1953 and 1954. So that data is 38 or 39 years old, and I certainly don't feel that that is representative of the groundwater conditions that exist today.

Likewise, their geologic map was taken from that same publication. And it should be pointed out that that publication was intended to show the general characteristics of the entire south half of Lea County and certainly was not intended to be used as a site specific document for a site such as this.

Q. Did you find evidence of composition samples or tests to support the application?

A. Well, there's contradiction in that. Their test logs, which I've already alluded to, simply show that below the soil, it's caliche or rock all the way to Redbeds in all five of the

holes that they drilled, and yet on the item No. 10 they referred to the presence of sand.

And this would certainly be in accordance with the findings that we had in our drilling in that area in which, while caliche is present, it is certainly erratically distributed. And there is a large amount of sand in the alluvial material above the Redbeds, and frequently there's a gravelly zone at the base, which would be expected on top of an erosional surface like that.

Q. Did you find any evidence of compaction testing, data tests, or samples?

A. No, sir.

Q. Did you find any evidence of permeability tests?

A. No, sir.

Q. There is indication in the report of water samples and at least analogies to water in the area?

A. They collected a sample, I believe, from the S & W windmill, which they refer to in their report as being approximately one mile southwest, but in fact I scaled it off, and I would agree with Mr. Stradley that in fact it's

less than half a mile. But that is where the sample came from, yes, sir.

Q. Do you see any evidence of any type of percolations tests or data?

A. No, sir.

Q. Any groundwater migration tests or data?

A. No, sir.

Q. Any contaminant mobility tests or data?

A. No, sir.

Q. I provided to you three well reports of wells that were up-dip from the facility that were supplied to me by opposing counsel. Did you have an opportunity to look at those?

A. No, I did not.

Q. Okay. When you look at the general migration of water in this area, if waste materials are introduced in a point in the vicinity where C & C proposed do that, will it pose any potential risk to the impairment of freshwater sources?

A. Yes, sir. I believe the direction of movement will be in the direction of the S & W windmill.

Q. Based upon the available data, is there

any way to determine how long it will take for that occurrence to happen?

A. Not on the data that was presented in this application. In the work that we did, which included digital modeling and projection of 40-year rates of movement at Climax Chemical four miles west, I would have to make the assumption that it would probably take a year, perhaps a little longer, and it may be less. But that's based on that information from several miles away.

Q. Let's turn to Exhibit No. 7, which is the north-south cross-sectional diagram --

A. Yes, sir.

Q. -- that was presented by the applicant. Give me your observations, comments, and opinions concerning this diagrammatic demonstration of their facility.

A. Well, there are several things. It's interesting in their application that they state that the depth -- this is in Roman numeral VI -- describing the diagram, they state that the top of the Redbeds is approximately 10 to 12 feet. And yet, according to this diagram, it's 13 to 14 feet. And then elsewhere in the documentation, I

believe it refers to the depth as much as 16 feet. So you have to take the diagram as it's presented here and not as you read in the documentation.

Also, you'll notice the property line is shown on both the north and the south boundary. So I conclude from this that in fact the entire 40 acres are going to be utilized since this is a north-south cross-section of the pit facility.

Two-foot dikes are shown, Redbed dikes are shown. And I've already referred to the fact that, if you don't know what the permeability is of the formation in place, then there's no way you can determine what the permeability of a dike composed of this material is likely to be. It would certainly be less than the in situ permeability.

But I question whether or not a dike, which is 2 feet wide and 16 feet -- 16 or 17 feet deep and 5280 feet long could even be constructed. I don't think physically you could construct such a facility, and I certainly don't know how you could compact it.

And also something that wasn't

addressed in the facility -- or in the report, this indicates a caliche berm, which is presumably going to be constructed from the material that's removed. But I calculated that they're actually going to remove approximately 1 million cubic yards of fill, and once they remove that they're going to change the volume to about -- excuse me, 2 million yards.

And once they remove that they're going to have a volume of approximately 2.2 million yards, so they're going to have plenty of caliche for a berm. In fact, they're going to have enough caliche to grade any road in Lea County. And if that were true, that volume of fill under the State Mining Act would have to be reclaimed.

So I have a number of problems with this diagram. Also the monitor wells are shown here, but as I pointed out, they've drilled five, and they haven't really determined the top or the configuration of the top of the Redbeds. And they haven't drilled a monitor well on the east side, although that's what their application states. They drilled -- there is no monitor well on the east side as shown by their drawing. It may have been put in later.

[A discussion was helf off the record.]

Q. Regardless of the size of this facility, is this particular proposed plan for an excavation and a dike with monitoring wells an appropriate one for this type of material?

A. Not in my opinion as presented here, no, sir.

Q. Referring back to Exhibit No. 3, Mr. Stradley identified what he thought were wells, he characterized as monitor wells, identified as he found them on the surface to be in the general area of those three green dots. If that in fact is the purpose of those wells, are they properly located in your opinion to act as appropriate monitor wells to detect potential contamination of materials leached from the pit area as they might move and migrate to the south and southwest?

A. No, sir, I don't think they are.

Q. In summary then, Mr. Kelly, summarize for us your conclusions and your recommendations to this Examiner.

A. Well, my conclusions are that the material as presented for the application are seriously lacking in technical support, and I

think that as presented that they don't -- there is not sufficient evidence to justify the approval of this application.

Q. In your opinion will approval of this application, under the conditions the Division has applied to this application, those conditions being 1 through 10, if that is how the Examiner resolves this, will the Division have protected human health, the environment, and avoided a risk to the contamination of groundwater?

A. Not in my opinion.

Q. Has the applicant proposed, as best you can find in the information provided, a means to detect the migration of contaminants with the monitoring wells to afford an adequate assurance of detection of those contaminants?

A. No, sir. I don't think as presented it would be adequate either during operation and certainly not after operation.

Q. In your opinion does the applicant's proposed plan put at risk shallow freshwater sources that are located down-dip from the proposed facilities?

A. Yes, sir.

Q. In your opinion will the applicant's

plan prevent the migration of contamination down-gradient along the Redbed surface?

A. No, sir, not on the basis of the data that's presented.

MR. KELLAHIN: That concludes my examination of Mr. Kelly.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

Mr. Carr, your witness.

EXAMINATION

BY MR. CARR:

Q. Mr. Kelly, when did you become involved on this project?

A. Friday afternoon.

Q. And so you've been working on it just that length of time?

A. Yes, sir.

Q. If I understood your testimony, you were concerned that the standards that have been developed by this agency are in fact at this time inadequate?

A. What I said -- I believe my testimony is that, in comparison with other regulatory bodies, they do not -- they are not as stringent.

Q. Are you aware of the efforts that are

being made by this agency to develop new and additional requirements for projects of this nature?

A. No, I'm not.

Q. Wasn't it your testimony that they're sort of behind the curve when compared to, say, the State Engineer or EPA in terms of monitoring these facilities?

A. I think my testimony was that the other agencies had the benefit of more time and other agencies to provide input to them, which the Oil Conservation has not had the benefit.

Q. If in fact this application were approved, wouldn't it be appropriate to require that the facility be kept in line with new and additional requirements imposed by the agency?

A. Yes, sir.

Q. Now, you talked about the potential for faulting in this area. What's the problem with the fault? Is that a channel for the migration of fluids? Is that why a fault would be of concern?

A. Two reasons: One -- that's correct, that is Item No. 1. It could act as an avenue through which the contamination would move. And

the other is, when you do have subsurface faulting, you don't know what the configuration of the Redbed surface is, and it is the Redbed surface which is faulted. So we don't really know what direction the groundwater might move in the vicinity of a fault.

Q. Well, without more information you can't tell the location of any faults in this particular area; isn't that a fair statement?

A. Yes, sir, that's correct.

Q. You're just concluding that from the topography there is a potential for faulting?

A. No. I'm basing it on my knowledge of the area and the reports that have been published in which the faulting is well documented. And this particular site is geologically identical to those others where there has been more study made.

Q. If you couldn't right now tell me or point to where any fault might be in this particular area.

A. If I were mapping it with aerial photos, I would draw a fault along the White Breaks.

Q. Can you tell us that there is a fault

there?

A. Not without going down there.

Q. Okay. Now, you were, I believe -- and correct me if I'm wrong -- involved with the development of the facility at Laguna Gatuna; is that correct?

A. We've done several projects at Laguna Gatuna.

Q. Were the kinds of tests and studies that you recommend be utilized here conducted on the facility at Laguna Gatuna?

A. No. It was a totally different geologic and hydrologic environment.

Q. So the tests were not required there?

A. No. In that case the discharge was going into the lake and into the liquid itself; whereas, in this case it's going into the sediment.

Q. And so if these tests that -- if I understand your testimony, you were saying that this kind of testing and additional information would be necessary to satisfy you at least that this was a safe facility. Is that what those recommended tests would do?

A. Yes. And I would presume a regulatory

agency would want those tests also.

Q. And if those tests should be required by this agency and conducted, then would you have no objection, I would assume, to amending this application for the disposal of fluids at that site?

A. I might have a problem with the disposal of fluids no matter what was done in view of the presence of the S & W windmill. But if those tests were done and the facility was used as described in this Conditions for Approval for solids and the numbers were adequate, then I could not object to that, no, sir, as least not as far as the permeability is concerned, the in situ permeability.

Q. When we talk about Laguna Gatuna, in fact, you own an interest, do you not?

A. No, sir, I don't.

Q. You don't?

A. No, sir.

Q. Isn't that also a collapse sort of feature down there as well as what we're talking about here?

A. Yes, sir.

Q. So there would be faulting and

potential problems there too?

A. Yes, sir.

Q. Different kinds of testing and data would be required there that would be required here?

A. In that area it's a totally different geologic environment. That is all part of Nash Draw, which is a well-known collapse feature in Eddy County. And in fact there is evidence that the groundwater in there is moving upward along the fault rather than downward because of the amount of brine that's been discharged by the potash industry and the potash refinery over the years.

Q. Isn't it fair to say our concern is that liquids will migrate from this pit subsurface and that that will become the source of contamination of freshwater in the area?

A. Yes, sir.

Q. And you understand we're not proposing to dispose of any liquids in the field?

A. I understand that.

Q. And you understand, do you not, we've already had the 100-year flood in the last few months?

MR. KELLAHIN: It just went through Mr. Carr's house.

A. Well, the 100-year flood is a statistical analysis. And the 100-year flood can occur two years in a row.

Q. Are you aware that after that the Oil Commission went out and checked the monitor wells and inspected them and they remained dry?

A. No, I am not. I have not seen any water level information or reports on that.

Q. You told us what you think we ought to do --

A. Yes, sir.

Q. -- the kind of tests that ought to be required. And I recognize you've only been on this since Friday, but what sort of test data do you have or tests have you conducted? Any?

A. On this site?

Q. Yes.

A. I have conducted none.

Q. Are you aware that there is a requirement and that C & C, if this is approved, will have to post a $25,000 bond that could be used to close this facility if they walked away from it?

A. I have seen no reference to that.
Q. The material that you've reviewed, I guess you got from Mr. Kellahin?
A. That's correct.
Q. And this was material that, at least from the diagram, would include apparently the entire 40 acres?
A. Yes, sir.
Q. So you don't have any problem with being kept in the dark that we were only looking at 2 acres. I mean, you understood from this diagram that 40 acres were being looked at, did you not?
A. There are contradictory statements. Some say 2 acres and some imply 40 acres. So I have to make the assumption based on this diagram you're going to dig a 40-acre hole.
Q. If we were going to talk about adequate monitor wells to keep an eye on this facility, wouldn't the most appropriate place to locate these wells be down-dip from the pit itself, down-structure from that facility?
A. Well, what you're talking about is an erosional surface on the top of the Redbed, and we don't know what down-dip is on that. We know

what down-dip is on the surface, but that's not necessarily what happens in the subsurface.

Q. And if in this continuing review by the agency they conclude that they don't have a handle on this, then it would be appropriate for them to require additional monitor wells, wouldn't you think?

A. Yes, sir.

MR. CARR: I think that's all I have. Thank you.

EXAMINER STOGNER: Any redirect, Mr. Kellahin?

MR. KELLAHIN: Yes.

FURTHER EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Kelly, you were hired on Friday because of the death of the wife of my prior geologic witness, were you not?

A. Yes, sir.

Q. Did it take you more than a weekend to discover the serious flaws in this application?

A. No, sir, it didn't.

Q. When we talk about liquids, hydrocarbons, and this project is confined to solid waste materials, and this pit is subject to

the accumulation of rainwater, will there be leaching of hydrocarbons into the subsurface and into the aquifer even if the applicant attests to the fact that he's not putting liquid hydrocarbons into this pit?

A. Quite probably there would be. And certainly the application also refers to sediments that are high in salt content. And the salt content would actually be more mobile than the hydrocarbons.

Q. Whether this facility is 40 acres, 2 acres, 5 acres, does it change your conclusions that you've reached concerning this application?

A. I believe that regardless of the size, there's a danger to the S & W windmill and other water supplies down-gradient, yes, sir.

MR. KELLAHIN: That concludes my examination Mr. Kelly.

MR. CARR: I just have one follow-up.

EXAMINER STOGNER: Mr. Carr.

FURTHER EXAMINATION

BY MR. CARR:

Q. You were retained just in the last week. Who were you contacted by? Mr. Kellahin?

A. As a matter of fact, I was out of town

on Friday, and one of my associates, Mr. Kilmer, was contacted by Mr. Kellahin. Mr. Kilmer and I met on Saturday and discussed the contents and worked on this. But it was Mr. Kellahin.

Q. And did you agree on Friday to assist him with this?

A. No. What we agreed to do on Friday was to review the file over the weekend and then call him on Monday and give him our assessment of the application and see how he wanted to proceed.

Q. You've worked for Mr. Kellahin in the past, have you not?

A. Yes, sir.

Q. And you knew, when you were reviewing this application, that he was representing people in opposition to the application, did you not?

A. Yes, we did.

MR. CARR: That's all I have.

EXAMINER STOGNER: Thank you, gentlemen.

Do you have any questions, Mr. Stovall?

MR. STOVALL: Once again I venture into geology and technology. Always a risk.

EXAMINATION

BY MR. STOVALL:

Q. Mr. Kelly, just so I can focus on what you consider the greatest potential threat or the potential threat -- I shouldn't say greatest -- what is the potential threat to the freshwater zone, particularly the windmill in Section 3? Is that the most likely to be affected? I would assume because it's the closest it's the --

A. Yes, sir. Not only is it the closest, but the surface contours indicate that it's in a depression. So that's the direction the groundwater is going to flow first. Where it goes beyond that, we don't have enough subsurface information to know.

Q. Given what you know about the nature of this operation, being that it is not for the disposal of fluids, and any creation of fluids is basically going to be rainwater or runoff or natural water coming into the area; is that correct?

A. Well that, plus the fact that undoubtedly the materials that are put into the facilities will have some moisture content. If that's not completely abated, then there will be an accumulation or -- and certainly it will hold

some moisture, which would increase the likelihood of precipitation accumulating. In other words, it's going to hold moisture in the soil or in the sediments.

Q. What would likely cause the moisture and in particular the concern about the hydrocarbons, the contaminants that would presumably be present in the soil, what would cause that to move? Would it be the moisture content of the soil itself, or is it going to be the addition of rainwater or drainage water?

A. No. It would be the addition of rainwater. Or if they happen to bring up a particularly wet load of contaminants, whatever it happened to be, that might contribute to it. But it would be in general the rainfall and perhaps the runoff.

Q. Recognizing that you've only had a short time, but -- well, let me ask you first as a preface, Mr. Kellahin had another geologist -- or the opponents had another geologist hired who was evaluating this material apparently -- presumably as it was going along or at least looking at it. Have you had the opportunity to review any of that person's work?

A. No, I have not.

Q. So you don't know if there have been any calculations made by somebody else as far as movement of the water and how much volume it would take, time, et cetera?

A. No, I don't. I'm not aware of any, although based on the information presented in the file, I see no information which would enable you to make those calculations. So if he were making calculations, he would do the same thing. I would have to take the data from some other source. So it really wouldn't be site specific to this facility.

Q. And, to best of your knowledge, nobody has requested that type of information from the applicant to enable that type of calculation to be made?

A. No, sir.

MR. KELLAHIN: Mr. Examiner, we have made that request.

MR. CARR: May it please the Commission, Mr. Kellahin requested the information that we had. We provided what we had.

MR. KELLAHIN: We requested that

information. They had none, Mr. Examiner.

MR. STOVALL: What type of information did you request, Mr. Kellahin? Is it in the packet of materials here?

MR. KELLAHIN: No, sir. It's outside the record. Here's Mr. Carr's response. Let me find for you the request. This is the list of the information each party requested from the other. Mr. Carr made a similar request as I made to him. But that letter at least itemizes the data that we sought to have the applicant provide.

MR. STOVALL: In other words, this is Mr. Carr's request to you for comparable data to which you had requested from him; is that correct?

MR. KELLAHIN: That's right.

MR. STOVALL: This is your August 5 letter, Mr. Carr?

MR. CARR: That's correct.

MR. STOVALL: Would you say that was a fairly accurate statement?

MR. CARR: That's an accurate statement. It's verbatim what Mr. Kellahin sought from me.

MR. STOVALL: Not original material; is that what you're telling me?

Q. (BY MR. STOVALL) Back to the question then, Mr. Kelly. Are you able to, based upon your experience and what knowledge you do have of the area, form an opinion as to what volumes of fluid might need to be present to cause the migration to freshwater sources that would potentially contaminate or length of time?

And the reason I'm asking this question is -- with an eye to help you structure your answer, with an eye to saying, okay, what can be done to prevent it from occurring?

A. I don't believe that it can be prevented from occurring. I believe that it could be minimized by a drainage study being required by the Division.

But also I think that the best way to resolve the problem would be, first, to define the configuration of the Redbeds in the subsurface and at the low point, based on the drilling, to install a leachate recovery well so that, as water accumulated in this well, it could be removed and disposed of in a proper manner.

Q. Presumably you'd have to know where the

-- well, let me back up and fill in my geologic knowledge here. I am concluding, from what little I know about geology and also from the exhibits which the opponents have presented, that the Redbed really represents the base of the aquifer or water storage formation; is that pretty much true?

A. That's the conclusion they have reached. And while I would agree that that is certainly a formation of low permeability, it's not necessarily impermeable. That's why I'm saying additional tests are needed.

However, even if some did infiltrate into the Redbeds, the bulk of the movement of the leachate would move along the top of the Redbeds to the low point beneath the facility. And at that site a recovery well could conceivably be installed.

Q. All the wells that have been identified, particularly, I think, Mr. Stradley is the one with the knowledge of those, it appears to me he's indicated that those wells have drilled to the Redbed and that the water table within the wellbore sits on top of the Redbed, which would lead me to the conclusion

that the movement of leachate or contaminated fluids that you'd be concerned about would be that which would occur above the Redbed or on top of the Redbed because that's how it would get to the water wells; is that correct?

A. Yes, sir, that's correct. That's where the greatest amount of water would go. In a sanitary landfill, for example, where virtually no liquids are put in place, the individual cells have to have an impermeable liner just because of the possible accumulation of leachate.

And also what we're talking about here is degrees of permeability. Mr. Stradley has a well which has 18 feet of water, and, as you've accurately described, the water is in the sand and gravel above the Redbeds.

But there are also wells in the area where that particular unit is dry and wells have been drilled into the Redbeds and completed in the Redbeds. So it's a matter of relative permeability encountered by the drilling operation as to where the water comes from.

Q. Are you familiar with the location of the wells that are drilled in the Redbed and get in the water from the Redbed?

A. Yes, sir.
Q. Where are they in relation to this?
A. West.
Q. How far?
A. Well, we found several like that in the vicinity of Climax Chemical, which is a maximum of four miles west-northwest. Also --
Q. I'm sorry. Go ahead.
A. Also Mr. Stradley pointed out that all of his wells are completed in the Redbed, but -- I mean, excuse me, in the shallower formation, but they haven't drilled into the Redbed. And since when you're drilling a well you're paying for it by the foot, the ideal thing is to try and get water as shallow as you can.

So if you can get the shallow water, that's the logical way to go. Plus the water quality is generally better.

Q. I understand that. Again, I guess, that restates the point that primarily the water we're concerned with protecting is in the water which would be most threatened by this facility, to the extent there is a threat to freshwater, would be above the Redbed level?
A. That's correct.

Q. And the wells which you've talked about which are in the Redbed are some distance away and probably, am I correct in concluding that that would mean if any contaminants from this location got there, it would have to be through some sort of fracture system most likely; that the low level of permeability of the Redbed would probably mitigate any migration over a four-mile stretch?

A. It would greatly reduce it, yes, sir.

Q. Again, recognizing that you've only been on this a fairly short time and really are looking at a lot of other peoples' evaluations and drawing your own conclusions, could you -- and also understanding your comment that just because you know what the surface does doesn't mean you know what the Redbeds 12 to 30 feet below it do, or whatever depth they are at this particular location -- any particular recommendation, again you're saying, put a well, a leachate well at the low point. Would one be enough? What do you have to do as far as identifying it?

A. I would think initially one would be enough. And in the event that more leachate was

present than could be handled by that well, you might want to put in additional recovery wells.

Q. I think you also expressed some concern with respect to the placement and number of monitor wells; is that correct?

A. Yes, sir.

Q. Again any specific recommendations as to what would be necessary with respect to those to adequately protect the freshwater?

A. Well, I'm somewhat confused about the size of the facility. If you look at this document, this particular map here, which is part of the application --

Q. Was that in your Exhibit No. 6?

A. It's -- yes, it is.

Q. Okay.

A. And this shows --

Q. Is that the one with the page 3 on the bottom?

A. Yes.

Q. Shows a road in the middle --

A. Yes, sir.

Q. -- kind of that arrow-like?

A. Yes, sir.

Q. Okay.

A. I conclude from looking at this that this is a 40-acre tract. And there are 5 wells that are shown here, 2 on the south, 2 on the west, and 1 on the north. If only 2 acres are going to be developed, then logically the testing and evaluation should be limited to those 2 acres, not the 40 acres.

So what I'm saying, sir, is that it depends on the size of the area as to how much drilling might be required. And I think that certainly it would require fewer holes to define the configuration of the Redbeds beneath 2 acres than it would beneath 40 acres.

Q. Just to make sure I understand the copy I'm looking at, it appears that the left side of the paper, as you hold it vertically, I've got what may be a cutoff end. Are you assuming that's north?

A. Yes, I'm assuming that's the north there.

Q. Okay. So if it's actually a 2-acre facility, am I again correct in assuming what you would recommend is they don't need as many wells, but should they be closer to where the actual pit facility is, or should they be that far out?

A. If they're trying to define this subsurface configuration, the hole should be drilled throughout the test area itself.

Q. Monitor wells or just test wells?

A. No. Test wells to determine the configuration of the Redbeds unless, as it's stated in the documentation, they're going to strip all the way down to the Redbeds. If they were going to do that, then they wouldn't have to do any drilling because they would be exposing the Redbeds. And so at that point you would know exactly where you're going to need your recovery wells.

Q. Okay. Now, I'm back on the monitor well question.

A. Okay. On the monitor wells it's simply a matter of putting the monitor wells down at the top of the Redbeds. And I believe that it states that they will take weekly measurements, although there's no statement in here that they will be reported weekly.

So, you know, all you can do is drill enough holes that the Division is satisfied that it's adequately covered and then take their weekly measurements and see if there's a change.

And what we have found in this area is that in areas of very low permeability -- or actually you can have what we call an ephemeral aquifer; it can be there at certain times of the year due to rainfall, and then it dries up. So just because you drill a monitor well today doesn't mean it's going to be dry six months from now or six years from now.

Q. Well, presumably if you're putting in a monitor well, as I'm seeing it, it would be a well which would remain in place and you would constantly watch both the volume and the make-up --

A. Yes, sir.

Q. -- of the fluids in that well?

A. Yes, sir, that's correct.

Q. If the applicant were required to contain their facility within a certain distance from the property, assuming that we're more than 2 acres and something less than 40, you have an area which is not a buffer zone, if you will, a test zone, a monitor zone from the edge of the property, and to maintain an adequate, however it's defined when we finish up here, monitoring system to determine if there's any leachate

moving towards the property edge, would that provide some protection, even if you just determined there were volumes, you could get in there and get a leachate recovery well fairly quickly to recover if you started seeing fluids moving in the wrong direction, so to speak?

A. Yes, sir, it would, but it would have to be site specific based on the aquifer characteristics that you're dealing with. And from that you could calculate the rate of groundwater movement. This would give you a better concept of how big a buffer zone should be.

Q. We clearly don't have those calculations. Nobody appears to.

A. No, we don't.

Q. Would that be the best containment method to use? You seem to be concerned about the dikes either, A, the feasibility of the construction of those dikes, but are you also concerned about the effectiveness of the dikes in terms of retaining any leachate or fluids within the property?

A. Yes, sir, I am.

Q. Do you have any recommendations that

you would make with respect to that construction which would retard if not prevent the flow of fluids from the property?

A. The Division could specify that the dike reach certain compaction levels such as those that are specified for a sanitary landfill. And that's really about all you could do is specify that during the construction, assuming that it was possible that the compaction reach an acceptable level.

Q. Would that reduce or eliminate the need for monitoring and recovery wells?

A. I don't think it would simply because if it doesn't work, and there's some question in my mind as to whether or not such a dike would be impermeable, without monitor wells nobody is going to know it's not working until Mr. Stradley finds out, and he'll be the first to know. And I don't think that's an acceptable alternative.

Q. If there are adequate -- and again we haven't defined what "adequate" means exactly -- but adequate monitor wells and identification of low point and leachate recovery wells, would that obviate the need for the dike? I mean, could

they go with the monitor wells and recovery system and eliminate the necessity for a dike? Would that provide adequate protection?

A. Conceivably it could, yes, sir.

MR. STOVALL: I don't think I have any other questions.

MR. CARR: Mr. Stogner?

EXAMINER STOGNER: Mr. Carr.

FURTHER EXAMINATION

BY MR. CARR:

Q. When we talk about these leachate recovery wells, how long does it take to install one, to drill one? Could it be done in a matter of weeks?

A. It could be done in a half a day.

Q. Is there any reason to install one before you discover you've got any leachate?

A. How would you discover you had it if you didn't have a well in?

Q. Wouldn't you use a monitor well to determine if you have it, and then is this a separate kind of a well from a monitor well?

A. No. You could use a monitor well. A monitor well could serve as a leachate recovery well. Frequently a monitor well is installed

with a 2-inch casing. And you can't -- it won't be adequate for a pump. So, you know, if the monitoring wells were, say, 4 inches or greater, then presumably you could use these.

Q. But it's conceivable if you're monitoring and you discover the problem, you could convert and address the problem at that point in time?

A. Yes, sir.

MR. CARR: Okay.

EXAMINER STOGNER: Mr. Kellahin?

MR. KELLAHIN: No, sir.

MR. STOVALL: Just one last question.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. If they don't excavate to the Redbed where they physically observe it, would they be able to make a determination as to where the low point most likely was if, say, they put wells toward each corner to find out the general terrain of the Redbed?

A. No.

Q. Not monitor wells but --

A. No. This is just a test hole to determine the top of the Redbeds? My suggestion

to the Division would be you have competent technical staff members who could sit on the wells. And, as far as I'm concerned, in order to do that it would simply be a matter of hiring a rig and drilling enough holes until your technical staff was satisfied that they had found the low point.

And this may take -- you know, they may get lucky and do it with 4 or 5, and it may take 12 or 15. But again it would depend on whether you're talking about 2 acres or 40 acres.

Q. Well, let me ask you another question then. It appears from all of the evidence that we have seen that the freshwater that we're concerned with that needs to be protected is to the south and west of the facility. Would it be adequate to come up with a number of monitor wells on those sides of the facilities where we know where the water is, where the stuff to be protected is, and have your recovery system or potential recovery system there?

A. I would think that the recovery system should be on the facility itself.

Q. I do mean on the facility, but I'm talking about in terms of which side of the

facility.

A. Well, I think you would want it, as you suggested, a buffer zone. I think that the recovery system should probably be inside a buffer zone so that in the event that you found out that it was getting past, you'd still have some room to go out and do some additional work.

The other thing that would probably be appropriate as part of the monitoring system would be to monitor some of the existing wells in the area, such as Mr. Stradley's wells or the other wells that are in the area, and perhaps even put monitoring wells on his property.

Q. I guess my question -- let me go back to my question again. If they're building a 40-acre tract in Section 3, assuming some buffer zone, it appears that the freshwater in the area is to the south and west of that 40-acre tract.

It also appears to me, looking at Mr. Stradley's well, the Redbeds are at 33 feet. Again, I'm not sure of the surface, so that obviously throws it off a little bit. But it appears that the well, where they know the Redbed on the facility is somewhere in the 12- to 16-foot range. I think you're not exactly sure

what they're saying, but it appears to be there. It would appear to me that the dip of the Redbed probably is to the south and west towards where the water is.

My question is, if we build a monitoring system or require a monitoring system and a buffer zone, would it be adequate to do that to the south and to the west where it appears that both the dip and the water is located, focus on that side of the facility rather than on the north and east?

A. Based on the information we have, that would be the logical place to put it. But since we don't know what the configuration of the Redbeds is, it could also be moving straight west.

Q. Yes. That's why I say south and west.

A. Right.

Q. Okay. I assume you've not been out in this area and done any visual inspections of the general area; is that correct?

A. No, I haven't.

MR. STOVALL: Okay. Nothing further.

EXAMINER STOGNER: Thank you, Mr. Stovall.

Are there any other questions of Mr. Kelly at this point?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: If not, he may be excused.

Mr. Kellahin, do you have any --

MR. KELLAHIN: That completes my presentation, Mr. Examiner.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

MR. STOVALL: I would like to recall either or both of your landowner witnesses just for one question. Start with Mr. Stradley. It will only take a moment.

W. TRENT STRADLEY

Having been previously duly sworn upon his oath, was examined and testified further as follows:

EXAMINATION

BY MR. STOVALL:

Q. Preliminary to that, do you have any oil or gas wells on your property within this immediate area?

A. When you refer to "immediate area" --

Q. Let's say it's on your exhibits that you've prepared.

A. You'll find several dry holes. There is some producing wells. It's a real strange situation. The old Van Eaton lease lays in Section 9, south of the Laughlin, and this was an old Getty lease. A lot of contaminants down there. The old ground is soaked with oil where in years past -- I'm talking back, you know, in the early 50s and 60s. A lot of the contamination.

I complained to Texaco, who bought this lease from Getty, and they felt like that time had probably taken care of this. However, I have been contacted by Enron, who says that EPA has made them go in and do some test work in this area. So we don't know exactly where it's being done, but there is test work being done by the EPA at the present time.

In regard to your question on the 16 sections we have, there may be 300 wells producing in that area and probably another 40 or 50 that have been plugged over a period of time.

Q. One of the areas I'm particularly concerned with in Section 9, Section 10 --

A. In the section -- okay. In the Section 9, the Van Eaton lease at one time had 32 wells

in that area. To my knowledge they have all been plugged except for maybe 3 or 4 by Texaco. I was contacted before I left home, which has been a couple of weeks ago, that they intend to drill a new well in this area. So it's a real strange situation.

Q. Do you happen to know -- as I know, you've ridden over quite a bit of this over the years. Are there any unlined disposal pits for these wells in any of these areas? Do you understand what I mean by unlined disposal pits?

A. Yes, sir. But this is a strange situation whenever you see a drilling company -- and let me say this. I qualify this by saying that I've run a trucking company for in excess of 35 years and have probably moved in excess of 1000 drilling rigs, so I've seen a lot of pits.

And it's amazing, they'll go in to drill a small pit for their trash, and they'll end up taking caliche out of it to make the pad. And you have a huge pit that they throw trash into, and you actually don't know what's been in there.

And as of right now I have one company, Greenhill, who has left open pits in the area

The same thing with Conoco and Texaco. These people are very good neighbors. But they have these blowouts, and they'll cover maybe a 5-acre tract with oil. They're sorry about it; they'll offer damages. But there's just nothing they seem to be able to do about it.

MR. STOVALL: Okay. I don't have any further questions. Thank you, Mr. Stradley.

THE WITNESS: Thank you.

MR. STOVALL: Mrs. Reeves, if I could, I want to do the same kind of questions with you, if I might.

ELSIE M. REEVES

Having been previously duly sworn upon her oath, was examined and testified further as follows:

EXAMINATION

BY MR. STOVALL:

Q. You specified there were a number of wells and you knew the number, and it doesn't really matter. But do you know if any of these wells have open, unlined pits into which oil well or gas well fluids are going at the present time?

A. Not at the present time.

Q. Okay. They're all either lined pits or tanks, or are all those wells abandoned?

where they have worked on wells, and they don't seem too concerned about covering it back up. And now they are within the requirements of the OCD, so I'm sure they're in compliance as far as the size. But these are open pits that theoretically stock could get into or migratory fowl.

So there's a lot of pits in the area that have remained open and have not been closed properly.

Q. And now when you say remained open, are there fluids in them?

A. I'm sorry?

Q. Fluids in those pits or just depressions?

A. There has been, especially when they work on a well, the Cross Timber people are a good example. They're over on my fee land in Section 6. They'll go out on my property and just dig a hole and run their blewey pipes out there. And their contentions are when they're working on a well that has pressure on it, they have no recourse besides just go ahead and blow their oil out there on my pasture. So I just have to live with it.

A. No. They're not all abandoned. And the last time I saw an open pit on our property, it was lined, and they were just doing some repair work at that time.

MR. STOVALL: That's all I have.

EXAMINER STOGNER: You may be excused.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: May it please the Examiner, at this time I don't intend to call a witness. I have a closing statement. If the witnesses are here, they're sworn. If you have questions, they're of course available.

MR. STOVALL: Mr. Examiner, I think it would perhaps be useful for you and I to spend a few minutes and see if we do have any questions. Take a 15-minute break?

EXAMINER STOGNER: We'll take a 15-minute break at this point.

[A recess was taken.]

EXAMINER STOGNER: This hearing will come to order.

Mr. Kellahin, before we get started, again, do you have anything further on your portion?

MR. KELLAHIN: No, sir. We've rested

our presentation. Thank you.

EXAMINER STOGNER: Mr. Stovall?

MR. STOVALL: Mr. Carr, we've discussed this application. I think the opponents have raised some specific concerns which certainly need to be approved or resolved by the Examiner.

First, let me make it clear, so that we all understand this, that the approval by the Division, the administrative approval does not bind the Examiner. If the Examiner approves the application, he may impose some conditions upon the application as he determines are necessary based upon this record that is made today of which that approval is only a part.

And so we, in order to determine whether this application can be approved under any conditions and what those conditions might be, we would like to ask you to identify the expert or witness with the applicant who is prepared, having heard all the testimony this morning and the questions, to be able to answer some specific questions about design and alternatives and other concerns that are raised by the opponents.

So I don't know which of your witnesses

that would be or both of them.

MR. CARR: We would initially suggest that Michael Pierce take the stand.

MR. STOVALL: Okay.

EXAMINER STOGNER: Mr. Pierce, I might remind you you're under oath at this point.

MR. STOVALL: I'm going to ask, Mr. Carr, would you identify and qualify the witness because you probably know a little bit more about this, so I don't go blindly wandering through it to find out why he's on the stand.

MICHAEL L. PIERCE

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

Q. Would you state your name name for the record, please?

A. Michael L. Pierce.

Q. By whom are you employed?

A. Peak Consulting Services in Hobbs, New Mexico.

Q. And in what capacity?

A. I'm owner.

Q. Have you previously testified before

the New Mexico Oil Conservation Division?

A. I have.

Q. And were your qualifications as an expert -- did you testify as an expert witness?

A. Yes, I did.

Q. And how were you qualified? As a petroleum engineer or geologist?

A. I'm a petroleum geologist.

Q. Were your qualifications as a geologist accepted and made a matter of record at that time?

A. They were.

Q. Could you briefly review for Mr. Stogner your educational background and then review your work experience?

A. I received a bachelor of science degree from the University of New Mexico in 1979 in geology. I have for the past eleven years worked in Hobbs, New Mexico, as a petroleum geologist. For a time, five years, for an independent, and for the last six years I have been on my own.

Q. Are you familiar with the application filed in this case on behalf of C & C Landfarm, Inc.?

A. I am.

Q. In fact, you participated in the preparation of that application, did you not?
A. Yes, I did.
Q. Are you familiar with the proposed disposal facilities?
A. Yes.
MR. CARR: Are the witness' qualifications acceptable?
EXAMINER STOGNER: Are there any problems?
MR. KELLAHIN: No questions.
EXAMINER STOGNER: Mr. Pierce is so qualified.
MR. CARR: At this time, Mr. Examiner, with your permission, since I understand the Division has some questions, I will tender the witness so that he may respond to those questions.
EXAMINER STOGNER: Thank you, Mr. Carr.

EXAMINATION

BY MR. STOVALL:
Q. This being a new proceeding, the basis upon which I am proceeding is that, again as I stated at the beginning, Exhibit 1 is really the

applicant's pre-filed testimony in which you have had a part in preparing, Mr. Pierce, and you are familiar with the packet that's in Exhibit 1 and the information contained therein?

A. Yes, sir.

Q. You understand that the essential criteria which must be satisfied for the Division to approve this application is that it must not cause any contamination or harm to freshwater supplies in the area?

A. That's correct.

Q. And you were present this morning during the testimony by the various opponents and their expert; is that correct?

A. Yes, sir.

Q. Do you have any comments with respect -- particularly with respect to the location of freshwater supplies, do you substantially agree with what they've stated as to the locations of water wells and depths, et cetera?

A. The S & W Cattle Company water well is somewhat less than half a mile from the facility.

Q. Have you had an opportunity to determine whether Mr. Stradley's testimony

about the depth of the well and the water is accurate, or do you have any reason to question it?

A. We, in the course of our research, we went to the New Mexico Engineer's Office in Roswell to try to obtain a drillers' log of this well and to ascertain the top of the Redbed, and we were not able to obtain that. It was not on file there. So there's no way of knowing, for us to know what the top of the Redbed is. It's a relatively shallow well as far as the top of Redbed.

Q. Is it in a range that you would find -- that's probable to be acceptable?

A. Yes. Yes.

Q. Would you agree then that the White Breaks area that he identified on his exhibits probably is the cutoff of location of water in that area? Do you know what I'm--

A. Yes. I think the -- I think probably the location of water is somewhat to the east of the White Breaks -- I mean, as Mr. Stradley testified in Sections 1 and 2 -- I believe he said in Sections 1 and 2. He's drilled water wells in the past, and they have come up dry.

And that is going to be somewhat to the east of White Breaks.

Q. Are you in a position where you'd have an opinion as to how far east you could go and still find water?

A. I know at some point back east there is some water. I don't have, without looking at a map, you know, any idea of how far that might be. But there is water back to the east.

Q. Do you have an opinion or knowledge as to the orientation of the dip of the Redbeds in your facility?

A. Well, I found it interesting that just from our monitor wells, it looks like we have a dip to the south and west and including even if you go further north, you know, there looks like there could be a little saddle to the west of us where we have a dip that can go to the southwest or one that could go to the northwest. We just don't have the control to figure out which way it goes.

To the direct south of us, southeast, the clay pit that Mr. Stradley mentioned, the top of the Redbed is two-and-a-half feet from the surface. So from our location, C & C Landfarm, a

quarter mile to the south, we move up-dip as far as the Redbed top goes. And that surface is exposed in that clay pit.

Q. Would it be safe to say that the Redbed probably dips to the south-southwest in general there rather than to the east?

A. Well, I have another thought here, and I don't know if I understood Mr. Stradley correct. I believe he said that he took a backhoe out to the BLM location that is southwest of the C & C Landfarm and found red sand, clay, and some caliche within the surface to 12 feet. Was that his testimony?

Q. Okay. Well, if that's your understanding of it --

A. If that's what happened, then there is a definite -- the Redbed continues to be high from the clay pit to the BLM location. And if that is the case, then the dip is not to the southwest.

Q. More to the west?

A. Correct.

Q. More directly to the west. Okay. And you understand, again as I say, that this application can only be approved if there is no

-- if it won't endanger and harm freshwater?

A. That's correct.

Q. First, let me ask you, what is the purpose of the facility? What does the facility hope to accomplish? Describe in general what it's going to do.

A. **The facility, as we originally permitted it or as it still is permitted or the application, is to bioremediate oily soil. Material from around wellheads, tank batteries, flow-line leaks.**

Q. What does bioremediate mean? I don't necessarily mean the process, but what do you get as a result of bioremediation?

A. A soil that is not contaminated with oil, hydrocarbons.

Q. In other words, this is not intended to be a dump for dumping oily soil --

A. Oh, no.

Q. -- to be disposed of?

A. No. Our intent is that, after this facility is closed, at some point in time that you can go in there and using established OCD requirements not have any contamination at this site. I mean, the way the rules read that we are

not allowed to add any additional material until the prior lift tests less than certain levels.

So ultimately that when this facility is closed there will be nothing in there that is hazardous or capable of contaminating anything. That's been the whole premise of this.

Q. So, in other words, as I read the permit issued by the OCD, it's Mr. Kellahin's -- the conditions are in Mr. Kellahin's Exhibit 8, S & W's Exhibit 8. First of all, you're allowed to spread on the contaminants in 6-inch lifts --

A. Correct.

Q. -- is that correct? And then once you have spread the contaminants, you have to disk this on a weekly basis?

A. I think the rule said biweekly.

Q. Biweekly. Excuse me.

A. Uh-huh.

Q. Am I correct that once you have place a lift on a particular -- I guess you refer to it as a cell of the facility; is that correct?

A. Correct.

Q. -- that then you bioremediate until the contaminants within the soil that you put there drop below a certain level, a specified level?

A. Right, for total hydrocarbons, BTEX.

Q. Do you know how those levels were arrived at? Do you know what they are?

A. Not --

Q. Do you know the scientific significance of those levels? I guess that would be my question.

A. Well, it's a measurement of how much hydrocarbon is still in the soil essentially.

Q. When those soils are brought in and those lifts are applied initially, they are going to be 6 inches, as I say, are left. Are the contaminants we've talked about, leachates and leaching -- do you think those contaminants are going to be at a leachable level, do you think? Or do you have an opinion?

A. I would think that most of the material that will be brought to the facility, most of the light ends of the hydrocarbons will already be gone, the gaseous members. So we're going to be left with the oily phase, the heavy ends.

If there was a sufficient amount of fluid available, then there could be leachate.

Q. I guess what I'm saying is that when you bring it in, let's say you got a good rain

and there was some fluid applied to it, there would be sufficient levels of contamination there that could be leached down into the soil initially; is that correct?

A. Well, the way our application requested is that we would only bring in dry material. I mean, there will be moisture in it, but I mean it's not going to be wringing wet.

Q. Right. I understand. It's not going to leach of its own accord, but if rain were added to it, in the early stages of a lift, it potentially could get some movement of that lift; is that correct -- I mean, of the contaminants?

A. Yes, it's possible. With the process of tilling it biweekly and being in 6-inch lifts, I think that the probability of any leachate migrating is probably very small.

Q. Do you have the expertise to be able to identify how we can assure that that reaches a non-leachable level?

A. Well --

Q. How to determine it?

A. In the rules for adding a new lift is that we would have to test the lift that is in place. And if it was not at the levels

prescribed by the OCD, then we would not be allowed to add any material on top of this lift. So only once a lift is below acceptable levels would we be able to allow or to add additional material.

So we would be testing this material on a fairly regular basis in each one of these cells before new lifts could be added.

Q. So the objective then is to create a soil in which there is such a low level of hydrocarbon constituents and that that soil itself doesn't present a hazard even on the site that it's located on; is that correct?

A. That's correct. I mean, this is not a dump.

Q. If that result is accomplished -- and let me back up first and ask you, since we've talked about testing and the conditions of approval, talked about testing to measure the levels of petroleum hydrocarbons and aromatic hydrocarbons, it is determinable, it is capable of determination as to whether or not these results are being achieved; is that correct?

A. Oh, yes, by all means.

Q. So if additional measures are

necessary, those can be instituted to ensure either reducing the lift size or increasing the tilling frequency or whatever is necessary?

A. Oh, yeah. I mean, if we find that, you know, the material needs to be tilled more often or the lifts need to be less or even more, you know, we will abide by anything the Commission decides we need to do.

Q. So assuming the facility is approved, we can set some sort of performance standard to which you must bring the soils?

A. Certainly.

Q. And you'll do whatever is necessary to get to that standard?

A. That's correct.

Q. Now, of course, if you accomplish that, then I would assume all the other concerns about the potential of contamination of freshwater supplies nearby would be virtually eliminated; is that correct?

A. I would think so, yes.

Q. If there's nothing there to contaminate them, then they won't be contaminated?

A. That's right.

Q. The concern then becomes, because there

will be some contaminated soil on the site during the use of it, how to to deal with the potential of some leaching and migration of that soil off of the facility?

A. Well, yes, sir. What are we doing now? We have this contaminant, this oily contaminated dirt spread all over the countryside on Mr. Stradley's 300-plus wells, plus the 40 that's been plugged. We have it all over the country. Everytime it rains we have the potential for it to leach further into the ground. Every flow-line leak we have the potential to leak further into the ground.

Q. How did you happen to pick this particular site for your facility?

A. The lack of groundwater.

Q. You have knowledge there's no groundwater underneath your proposed --

A. We've drilled 5 monitor wells on the 40-acre tract, and we have -- all 5 wells are dry.

Q. One of the questions that's come up in the course of the discussion is nobody is quite sure how big your actual leaching -- or, excuse me, your bioremediating area is going to be. And

apparently you have chosen to do it using a pit rather than surface remediation; is that correct?

A. Right. We've always -- we've always been in the contention it will be 40 acres. When we started this process, our pit was approximately 2 acres, when we originally tendered the application. In the last 8 months it's grown to approximately 6 acres because we are constantly hauling caliche out of the pit for oil companies to build locations and roads.

Q. Is that why you've chosen to do a pit rather than surface bioremediation --

A. Yes.

Q. -- so you can use the material?

A. That's right.

Q. And then fill in the hole from the material?

A. That's correct.

Q. Now, you say you intend to use the entire 40 acres. Does that mean you intend to make the entire 40 acres a pit?

A. At some point in time. Obviously we would not be able to excavate all of the caliche out of this 40 acres at one time. But we would like the option of having the entire 40 acres

permitted. That way we could expand as we need.

Q. One of things that came up in the discussion with Mr. Kelly this morning was the creation of what we referred to as a buffer zone which, to make sure we're clear, I would identify as an area surrounding the perimeter of the facility which is undisturbed and which would serve to prevent the migration of fluids and to be an area where perhaps you could put monitor wells and have some opportunity should the unexpected happen and should there start to be a migration where there could be some remediation before it left the property. Did you understand that?

A. Yes, sir. That's the way the pit has been constructed so far. We have a property line. We have monitor wells on the south side too, and then we have the pit. So the monitor wells are in an undisturbed area.

Q. How wide is that area between the property line and the actual excavation area?

A. Forty to fifty feet, I believe. And the monitor wells are approximately twenty feet -- on the south they're approximately twenty feet from the fence line within C & C acreage.

Q. What would be the minimum, again using the term buffer zone, that you would recommend would be necessary to give you the opportunity to determine if there was any unexpected migration of contamination and the ability to recover it before it left the property? The width of it from the property line to the excavation?

A. Right. I really -- I don't have a good answer for that. I mean, because the only way in my mind that we could have migration of fluid off this property is to have fluid on the property. And our monitor wells show dry.

Back in May we had a 100-year flood. We went back on two different occasions and tested these wells again. On the first occasion they were dry. On the second occasion the test was witnessed by OCD Representative Chris Eustice, and all five monitor wells were dry again.

So we have -- and like Mr. Kelly said, I mean, a 100-year flood is a statistical thing. It can happen again next week. I don't doubt that. But it looks to me that if we were going to have migration at such a rate, we would have seen it in the monitor wells.

So I think if something shows up in the monitor wells, we're only looking at 15 -- or I'm guesstimating numbers now -- 12 to 20 feet to top of Redbed. Okay. So it would not take a very long time to put in some type of drain, a French drain, or something to collect any leachate that was starting to migrate off the property.

And we can do that in the room that we've got between the property line and the edge of the pit now. We can certainly do that within 50 feet.

Q. And your monitor wells are 20 feet so presumably you're not going to go any closer than that?

A. Right. That's the idea behind the monitor well, was to leave it undisturbed.

Q. The rain you had in May, was there any sort of -- first describe to me the surface topography of your 40 acres.

A. We are on, like Mr. Stradley said, there's a high to the east of us, the White Breaks high. And that is -- I don't know the exact elevation how much higher, but we are on the slope. And the surface topography slopes to the southwest.

The way the county road that runs -- and the Billy Walker ranch road and I think Mr. Stradley said 58 runs, it is cut into -- the road is cut lower than the interests into the facility. So any runoff that came from the slope above us went down the county road either to the north or to the south of us. So we had no runoff from the slope.

Q. In this major rain then, the water essentially drained off the property in one direction or another?

A. Well, what happened is we didn't have any water from off the property get into the pit facility, is what happened.

Q. But the rain that hit the property moved off the property?

A. Right.

Q. Now, I would assume if there's going to be migration of any hydrocarbons, it would require some sort of hydrostatic head to actually put pressure on it to cause it to flow; right?

A. Or just a continual --

Q. Or a gravity flow?

A. Right. Just a continual level of moisture. And, you know, we don't seem to have

that.

Q. When you drill a -- dig a pit now, you're going to have actually have an area for water to collect --

A. That's right.

Q. -- which could change that condition; is that correct?

A. Well, the clay pit that is southeast of us, like Mr. Stradley has said, it has had water in it for a number of years. There's some fairly large trees growing in it to attest the fact there's been water in it forever -- or, you know, long enough to grow fair-sized trees anyway. And the water is not going anywhere. It's in the pit.

So the only -- I think you're not seeing -- you're seeing -- you're probably not seeing any migration from that pit or, at least Mr. Stradley said he hadn't seen any in his water well that's down-dip from that pit. And about the only way they're losing water is through evaporation out of that pit.

Q. What happens in your facility when you dig a pit and you get rain in it and you get water? What does that do to the bioremediation

efforts that you've got?

A. Generally moisture enhances bioremediation, makes it go faster.

Q. Is there a level well which it ceases to --

A. Yeah.

Q. I'm assuming if you get standing water in there, if you've got a low area in that part of the country --

A. Right. Well, you know, hopefully in the areas of the lift, where we're actually doing the landfarming, there's not going to be low areas. It's going to be a fairly flat area where if you get a tremendous amount of rainfall, you know, it's not going to sit there and stand and leach -- you know, leach through the material.

There are certainly going to be low areas in the pit where we're excavating, but it's not going to be leaching material that has been contaminated. I mean, it will be running off the caliche or the walls of the pit or something.

Q. Where is it going to go?

A. Just like this pond that's south of us, in that clay pit, it's going to evaporate.

Q. So we've got, let's see, Mr. Kellahin's

Exhibit 7, which is part of your exhibit that shows the cross-section --

A. Yes, sir.

Q. -- you've got the pit area. If it rains, does this pit not contain rainwater? Is it not going to hold it?

A. Yeah, there was water in it after the 100-year flood that fell in it.

Q. To the extent that there are contaminants, is that not the type of water that is going to tend to cause potential migration? That's what would be the source of real danger to causing migration; is that correct?

A. Right. But, like I say, after this 100-year flood, we checked our monitor wells, and they are still dry.

Q. How deep is your pit now?

A. Within 2 feet of the Redbed. The excavated area.

Q. Okay. As this grows bigger --- I mean, my concern is as this grows bigger it's going to become like a pond or a bathtub and be a potential place to hold water for a while and as the water is sitting on, say, you've got a freshly dumped lift, isn't that the potential?

Where is the water going to go? It's got to go down; right?

A. Well --

Q. If it can't flow off, it's got to go down?

A. Right.

Q. And it can't flow off a pit; is that correct?

A. Right. Yeah, it can't flow off of a pit. I mean, we're not in an area of high rainfall.

Q. I understand that.

A. I mean, our evaporation rate of rainfall is, like, plus-19 inches.

Q. So you think it will evaporate more quickly than it will eventually reach--

A. With the process of tilling, you know, the lifts too. I mean, you're going to have water and moisture in there, but it's not like you're letting it sit for months at a time. You're continually turning this soil over.

Q. Do you have an opinion as to whether or not the monitor wells which you have drilled would adequately show whether or not there is a migration of hydrocarbons if you follow a

monitoring program?

A. We have never contended that we have enough monitor wells. We were -- the purpose of the first five wells was to, you know, determine the top of the Redbed and to install monitor wells.

We have told the OCD that we will add additional monitor wells if they think they are necessary and at a choice of their location. In fact, we were told by the OCD not to add any more wells until we consult with them.

Q. Of your own, given that constraint, but just on your own, did you have any particular opinion as to how far apart monitor wells should be or where they should be located on this facility to again assure that you would identify the flow of hydrocarbons before it could ever leave the property and do something to recover them?

A. Just like everybody else's concern, we don't want to mess up anybody's water well. And given the surface topography and the -- we really don't know what the Redbed top is doing just because, you know, either lack of data or incomplete data, the most logical place for

additional monitor wells would be the south and west sides of the facility.

Q. If the Division determined that to be necessary, you'd be willing to drill those?

A. Most certainly.

Q. There's been some discussion about the size of pipe, whether to put a 2-inch well or a 4-inch well. What's your opinion?

A. The monitor wells we have right now have 3-inch PVC.

Q. Does that give you enough room to pump out if you discovered there was some contaminants in there?

A. Yes. And if the OCD required 4-inch PVC, we could do that.

Q. Now, your proposal also, as I understand it, it appears that your containment method is to actually go down to just about the Redbeds, you say you're within 2 feet of them now?

A. Right.

Q. You're proposing to actually go down to the top of the Redbed?

A. We don't want to get into the Redbed, per se, because in the event that it does get

wet, you can't work in the Redbed. I mean, it's very sloppy. You can't get equipment in there and out of there. We would have just as soon to leave some material sitting on top of the Redbed so that we don't get into a mess.

Q. Now, this morning I came to the conclusion that the primary flow of water horizontally would be along the top of the Redbed. Would you agree with that?

A. I don't know that I would agree with that.

Q. Where would you expect the horizontal flow of water to take place or fluids, I should say?

A. Well, if that's where the flow of waters is, why is there water in the S & W cattle well?

Q. I'm talking about horizontal as opposed to --

A. Right. If the flow of water was along the top of the Redbed, wouldn't the water that's in the S & W well right now migrate further to the south and west along the top of the Redbed?

Q. Why doesn't it?

A. I don't know. Probably --

Q. Is there a water table there that's holding it there?

A. Probably because it doesn't flow along the top of the Redbed as easily. That may not be as good a conduit as what people think.

Q. Are you saying it doesn't flow at all then?

A. Well, I can't say that. I don't know that. But it appears that it doesn't act as readily as a conduit as we might believe.

Q. Well, let me back up and ask you another question then. Is my understanding correct that, if you've got water moving in an area like this, the first thing it would do would be to tend to go vertically down until it found some surface that would cause it to move horizontally? Is it primarily going to go down first; is that correct, through permeable material?

A. The only reason it would come up is if you had pressure on it.

Q. I don't mean so much up as I mean laterally.

A. Well, yeah, I mean, gravity works. It's going to go downhill.

Q. It's going to go down and then out rather than out and down simultaneously; is that correct?

A. Well --

Q. To a certain extent anyway?

A. Yeah. There's going to be some lateral movement too.

Q. Now, the purpose of your dikes as they show up on this Exhibit No. 7 is to contain any fluid movement; is that correct?

A. Right, that's correct.

Q. Mr. Kelly raised some concerns about that, and I think one of the ones I would certainly share is can you construct a 2-foot wide dike as deep as you're talking about, 14 to 16 feet deep, and sufficiently compact it to make it an effective containment mechanism?

A. You know, I think the dike was fairly much a contingency plan. I mean, that was one option that we presented to the OCD. We talked about a French drain type system where we dig a ditch and line it with a material or into the Redbed and collect any material that would flow into it. You know, that was just an option that we could do that we discussed with the OCD.

Q. Would it be easier actually to ensure that no fluids were going down to where they could flow? For example, I think the Division discussed with you at some time having a 3-foot treatment area, I believe they called it, below the lowest lift?

A. Well, we learned about that yesterday.

Q. That was the first time you heard about that discussion, about that concept?

A. I believe it was. I have not heard about it prior to this.

Q. My understanding of how that would -- the purpose of that would be to enable you to monitor undisturbed soil and say, all right, if leachable levels of contamination are going down below a certain depth than this, then we need to stop putting contaminants in until those levels become non-leachable?

A. That's correct.

Q. And that would eliminate the potential for lateral migration for the water; is that correct?

A. Yes. That sounds like a very good system to me.

Q. Would that be acceptable to you, to do

something of that nature?

A. Most certainly. I mean, we have tried to make the OCD an integral part of this application. They have visited the facility, you know, several times. We're trying to make this a process where we both work together to develop a facility that works and that we're not going to have problems with. And to me that sounds like a very doable and practical application.

Q. So, as I understand, the discussion of how that would work is that you would maintain a level of undisturbed soil of at least 3 feet above the Redbeds, which we've identified as being the most impermeable barrier in this area?

A. That's correct.

Q. You would begin your landfarm remediation operation on top of that with the 6-inch lift limitations?

A. Yes, sir.

Q. And then, according to some schedule approved by the OCD, you would monitor that undisturbed soil down to a specific depth -- I think the discussion is 2 feet -- and if it was determined that there were leachable levels of hydrocarbon contaminants starting to get to that

depth, then you would have to cease adding any contaminated soils until you had remediated both the lifts of contaminated soil and allowed the elimination of that level of contamination in the undisturbed soil. Does that make sense?

A. Oh, definitely. I mean, that way you never get to the point where you have migration off the property.

Q. So then if you get the 100-year flood and water is there and the water starts to move, it's not going to carry contaminants with it; is that correct?

A. I mean, you're on a testing schedule, and, you know, it's independent of how many lifts you've added. If you've added one or you've added ten, you still have this testing schedule. And if you don't see any migration, fine. If you do see some migration, you have to take some type of action to make that migration cease.

And so it's an ongoing process. It's never going to get very far ahead of you. It's never going to get to the point where it's a half a mile down-dip, you know, to get to a water well.

Q. Well, hopefully our objective here is

we're not going to even see it at the edge of the property?

A. That's right.

Q. If we put in something that said, for example, put in this treatment buffer area or treatment zone below where you're treating the soil and then identified the locations for some monitor wells so that -- am I correct in concluding that that would actually provide a double layer of protection?

A. I think so.

Q. That you would first say, don't let it get into the soil where it can migrate, and then if you should happen to miss that, you've got another way to determine --

A. Right. You've got a backup system on the soil testing, yes.

Q. And if you were to determine that that were to happen, that there were to be some contaminants, say, get to one of these monitor wells, is it possible then to be able to pump it out and get it out of the --

A. If you have enough fluid, you can pump it out, and/or you can do something else, you know, outside of the contaminated area to keep it

from spreading any further while you're pumping it out.

Q. The other thing Mr. Kelly suggested would be to make sure you had a well on the lowest point on the property area. Have you done that? Are you willing to do that to try to identify where the Redbed is the lowest?

A. If we go with the treatment zone idea, that's not useful information, is it? I mean --

Q. I'm asking you. I don't know.

A. I don't have a problem with finding the low spot on the Redbed. I don't know, given this treatment zone idea, what valuable information that will give us, though.

MR. STOVALL: Mr. Examiner, I don't think I have any further questions at this time. I guess I certainly want to make the witness available to Mr. Kellahin for any additional cross-examination.

But I guess, Mr. Carr, would you rather wait --

MR. CARR: Yes.

MR. STOVALL: -- until Mr. Kellahin is through before you ask any direct, redirect, or however you want to identify it?

MR. CARR: Yes.

EXAMINER STOGNER: Mr. Kellahin, your witness.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Pierce, I'll try not to repeat areas that Mr. Stovall engaged you in.

Point of information. Mr. Stradley was generally describing what he characterized as the Cooper property within a portion of the northwest quarter of Section 3. I want to share with you what was marked as his Exhibit No. 3, on which I have taken his information and outlined in yellow what he tells me is to be the area he characterized as the Cooper track.

Would you look at that for me and see if that is consistent with your understanding of the Cooper tract within this area?

A. I am not familiar with all the land that Mr. Cooper owns here. I know that he does own the 40-acre tract in question and that he has access to the 40-acre tract immediately north of that. The rest of of this I don't have any knowledge of it.

Q. Let me find another colored pen so that

you could on that display draw me in in a different color, if you will, an approximation of the 40-acre tract that's involved in the application as well as the additional 40-acre tract that you've just identified as being accessible to Mr. Cooper.

MR. CARR: I have a blue pen if that's what you're looking for.

MR. KELLAHIN: Yes, let's try a different color. Here's a better color.

MR. STOVALL: We will not hold you to surveyor qualities of drawing. Even if Mr. Kellahin tries to --

MR. KELLAHIN: No, sir. That certainly wasn't my intent. I wanted an approximation from him.

THE WITNESS: The tract for the landfarm will be located in Unit letter G. And the 40-acre tract immediately north, Unit letter B, is the other tract that Mr. Cooper has access to.

MR. KELLAHIN: Share that with the Examiner.

MR. STOVALL: That's been identified in the pink; is that correct?

THE WITNESS: Correct.

Q. (BY MR. KELLAHIN) The criteria that you applied for the selection of the site, I think in response to Mr. Stovall, was the absence of groundwater?

A. Right, the lack of groundwater at the site.

Q. Okay. How did you investigate the presence or absence of groundwater at either one of those 40-acre tracts that you've identified as being Mr. Cooper's?

A. In Unit letter G where the facility is we drilled five monitor wells.

Q. Those five monitor wells, are those shown within the application?

A. Yes, sir.

Q. Did you drill test wells or monitor wells in any other portion of the Cooper tract?

A. I'm not aware of any that we did. An offset landowner, I don't recall his name, drilled three, attempted to drill a monitor well to the north along this county road, Billy Walker Ranch road.

And he drilled, my understanding, was three wells, and they were all three dry and they

went in a north-south line, the southernmost well being right there on Billy Walker Road. And those are the three drillers' logs that I sent to you.

Q. Okay. Did you determine whether the north 40-acre tract met your criteria for the absence of groundwater?

A. No, we have not.

Q. Why didn't you do that?

A. Because we are permitting Unit letter G.

Q. Why?

A. This was the location that Mr. Cooper said he wanted to do this project on.

Q. Did you make any examination of any alternative site for this facility?

A. Well, this was a fee lease, and this was the location that he gave us.

Q. Will the north 40-acre tract satisfy that fee criteria?

A. I don't know.

Q. Would the use of the 40-acre tract north of the proposed facility provide a distance of safety between the project area and those properties controlled by Mr. Stradley?

A. I don't follow your question.

Q. The direction of greatest potential risk to groundwater is to the south and west; correct?

A. Okay.

Q. Yes? No?

A. I don't know that. I mean, I'm assuming, just like everybody else, that that is the direction of groundwater flow. And without any information, I can't make that assumption. But --

Q. Were you able to reach any conclusion about the potential impact on the property to the south?

A. Well, that is why we've drilled the monitor wells there, is to protect that property.

Q. And despite the monitor wells, if contamination should occur, wouldn't it be more appropriate to locate this project on the north 40-acre tract and provide an additional 40 acres as a buffer so that the area of contamination remains confined to the interest owners that are going to economically benefit from this project?

A. Well, following your line of reasoning,

why don't we move it to Roosevelt County then and get it further away? I mean, I'm not trying to be smart, sir, but this location is a good location. It has good access to the roads. It doesn't have a lot of oil producing facilities on it. And the monitor wells are there. The -- it's just a good location where it sits.

And, as a matter of fact, geologically a better location might even be the 40-acre tract to the south, direct south. I feel that it will share pretty much the same geological characteristics as the track we're doing now.

MR. STOVALL: May I interrupt and ask a question, Mr. Kellahin?

MR. KELLAHIN: Sure.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. Did you participate in the selection of the tract, or was that Mr. Cooper's decision?

A. He came to us and said this is the area I want to try and do this in. Is this a good area? I mean, he already knew that there wasn't any water there.

Q. So he is the landowner that made that decision? Is that what you're telling me?

A. He designated the spot, yes. And we collected what data we could to substantiate the area would be a good candidate.

Q. So your job was to confirm the site he selected was adequate?

A. Right. Part of this process was that he was wanting to sell caliche out of this pit also. It was two-fold: Sell the caliche and then fill the pit up with this material eventually so we're not left with a hole in the ground on this pasture, where this pasture could eventually support cattle again instead of just having a hole in the ground that tends to collect trash and what all. So there was a two-fold.

MR. STOVALL: Back to you, Mr. Kellahin.

CONTINUED EXAMINATION

BY MR. KELLAHIN:

Q. Describe for me this method of bioremediation. What does that consist of?

A. The method that we're looking at right now is that it's going to be fairly natural. We're not going to introduce any type of bugs or fertilizer or anything to this oil-contaminated dirt. And we will evaluate this process as we go

along to see if this is working well enough or up to our expectations.

Q. Describe for me the testing procedures that you utilize for the 40-acre tract in monitoring the levels of contaminants that remain in these various lifts as you move through the project.

A. We will have to monitor BTEX on the -- you know, prior to adding a new lift. We'll have to measure BTEX and total hydrocarbons, TAC, and they're going to have to be less than certain levels.

Q. The BTEX levels, to what standard or criteria are you accountable?

A. Whatever the OCD says we need to be.

Q. Are you aware that the EPA has standards of levels for the BTEX --

A. I think they're the same as the OCD standards.

Q. That method of bioremediation does nothing about the salts, does it?

A. No, it doesn't.

Q. What's going to happen to the salts?

A. They will still be there.

Q. In response to my request for data, did

you assist Mr. Carr to provide him all the technical data that you had available in response to my request?

A. Yes, sir.

Q. Okay.

A. And like that response, we had none of the tests that you asked for. The only thing that we did have was the addition of the three drillers' logs to the north.

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

Mr. Carr.

FURTHER EXAMINATION

BY MR. CARR:

Q. Mr. Pierce, Exhibit No. 8 sets forth certain OCD requirements that came with their determination that the application was approvable. Are you familiar with those requirements?

A. Yes, sir.

Q. Is C & C prepared to comply with all those requirements?

A. Yes, sir.

Q. Would you also be prepared to comply with additional or amended requirements?
A. Yes, sir.
Q. And as their procedures evolved, you will stay in compliance with those procedures?
A. Absolutely.
Q. As you've developed this proposal, you have worked with the staff of the Oil Conservation Division; is that correct?
A. Yes, sir.
Q. Both here and in Hobbs?
A. Correct.
Q. You indicated you had drilled five monitor wells and been advised not to drill additional ones until after the OCD had reviewed it; is that correct?
A. Until after we got permission to drill additional wells by the OCD.
Q. Are you prepared -- I believe you've indicated you are prepared to drill such additional wells as they require?
A. We are.
Q. Would you be prepared to drill those in a fashion that they could be converted to a leachate recovery well if that becomes necessary?

A. Yes, we will.

Q. Have you made adequate arrangements to secure a $25,000 bond to assure that the facility is closed in an appropriate fashion?

A. Yes, sir.

Q. All lifts that you're going to operate are going to be below-grade, are they not?

A. Yes, sir.

Q. In view of the kinds of precautions that you're willing to undertake to assure that should contamination start to occur, it can be caught, in view of the way you tend to operate this facility, do you have an opinion as to whether or not there is any threat posed by this proposal to freshwater in the area?

A. No, I don't think there's a threat to freshwater in the area.

MR. CARR: That's all I have.

EXAMINER STOGNER: Thank you, Mr. Carr.

MR. STOVALL: One last question, Mr. Pierce.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. Do you understand that in a facility of

this nature, when the Division writes an order, it also contains a provision that future requirements may be imposed if determined necessary by actual experience and conditions?

A. Yes, sir.

Q. And you are prepared to meet those requirements?

A. We are.

Q. I understand you can't know what they are because we don't know what they are at this time?

A. That's correct.

Q. But again the objective is that there will be no contamination leave the C & C property?

A. That's correct.

Q. And the Division will require you to do whatever is necessary to prevent that from occurring?

A. That's right. And we understand that.

EXAMINATION

BY EXAMINER STOGNER:

Q. With that line of thinking, if you're 20 foot from that property line, you're not going to have much a chance to protect that other

property line, are you?

A. From when we see --

Q. Contamination of some source, if it should occur?

A. I think, without a continual source of moisture moving through this facility, we're not going to have any migration of fluids. And if some unforeseen circumstance happens, I think we would be aware of it through the testing of the monitor wells on a regular basis or if we have a 100-year or 500-year flood, we would be aware of that so that we could take the precautions necessary.

MR. STOVALL: Let me follow up with that.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. Is the monitor well which is closest to an external boundary of this facility, is it 20 feet or is it the one that is furthest from the external boundary of the facility?

A. The two on the south edge of the facility are approximately 20 feet from the property line.

Q. I mean, just back on this map that you

have marked --

A. That would be --

Q. The two on the right that have been marked with the green dots?

A. Yeah. That would be, I guess, pictures 7 and 8. If a larger buffer zone is needed, if we would rather have 50 feet, I mean, that's not a problem.

EXAMINER STOGNER: What would be a problem?

MR. STOVALL: Let me back up and rephrase that. Maybe it would be helpful. We always like --

MR. KELLAHIN: I thought the Examiner was doing fine without the help, Mr. Stovall.

MR. CARR: I would say 660 feet would be a problem or 1320.

FURTHER EXAMINATION

BY MR. STOVALL:

Q. The 20 foot is the well location, and if you're going to maintain those monitor wells, obviously you can't excavate right up to them?

A. Right. We had no plans to excavate up to those. If you're looking at the berm, from where the pit is, that's probably -- and in that

picture that's the south edge of that.

Q. In that one?

A. Right.

Q. Okay. That's the south edge. How far is that from the fence line?

A. Approximately 50 feet.

Q. Okay.

A. I mean, I'm guesstimating that one.

MR. STRADLEY: I'm sorry. What was that?

MR. STOVALL: About 50 feet he said.

THE WITNESS: From the fence line to the berm.

MR. STOVALL: We accept that as a guess.

THE WITNESS: Right.

EXAMINER STOGNER: I'm going to go back to my original question. What would be a problem?

MR. STOVALL: Somewhere between 20 and 660 is acceptable.

THE WITNESS: Well, the more buffer zone we have, the smaller the facility gets and the less, you know, we can put in that.

EXAMINER STOGNER: Mr. Kelly had

already brought up some mine reclamation. I'm not too familiar with those particular --

THE WITNESS: We're not stacking the caliche there on that. I mean, he's selling it for use on roads and locations. And the operators that we have spoken with, who want to use the facility, when they remove contaminated dirt from around the wellhead, they're going to have to have something to fill in the hole. So they're going to use the caliche that they excavated out of this pit to replace wherever they --

MR. STOVALL: You're trading dirt; is that what you're saying?

THE WITNESS: Correct. I think, you know, up to 100 feet -- to get back to Mr. Stogner's -- would be more than enough.

MR. STOVALL: If you were representing Mr. Stradley, how much would you say that he would want to have between him, his property line, and your facility?

THE WITNESS: I'm not in the cattle business and -- I mean, I don't know what --

MR. STOVALL: We're talking about the water issue.

THE WITNESS: Right. I think that, to be honest with you, he's going to want it in Roosevelt County.

MR. STOVALL: Let me rephrase.

MR. KELLAHIN: That's unfair, Mr. Examiner.

MR. STOVALL: Yeah. I withdraw the question, and you don't have to answer that. Your objective is to have as much of the surface available for your facility as possible --

THE WITNESS: Right.

MR. STOVALL: -- because the more you can bring in, the more revenue you can generate.

THE WITNESS: Right.

MR. STOVALL: His objective is to have his water adequately protected?

THE WITNESS: Right.

MR. STOVALL: What is the minimum buffer that you think is necessary to adequately protect his water and can be installed to give your facility an economically viable operation?

THE WITNESS: I think a 100-foot buffer from the property line would probably satisfy most people. That would give us -- you know, if we're required to drill additional monitor wells,

we can put them further into the property. And that way, if a problem ever does develop, we will have, you know, the remaining distance to go in there and do something to alleviate the problem.

MR. STOVALL: That's a number that I think we were trying to get to through a series of better and worser questions.

I don't have any others.

EXAMINER STOGNER: Does anybody else have any questions of Mr. Pierce?

If not, you may be excused.

EXAMINER STOGNER: Does anybody else have anything further at this time?

MR. STRADLEY: May I clarify?

EXAMINER STOGNER: Yes, sir.

MR. STRADLEY: And it may have been my fault, I may have misstated. In regard to the excavation that was done on the BLM 40-acre tract, this was not done at my insistence. This was actually done by the county road department. And the reason for this, they were actually hunting rock to crush to put on top of pavements. And they were not able to find the rock they wanted. And they are the ones that said they dug in areas there 12-foot deep and

actually found gravel, caliche, and some clay.

I might also add that, in regard to the clay pit that has been mentioned, this clay pit does go dry. And at some point in time I have had cattle get in there and get bogged down. So I really have no way of knowing if the water does leach down toward my windmill. But at some point in time the clay pit does go dry. At the present time it is holding water.

I might also add one more thing. In between this proposed site and the clay pit, there is areas where the clay does come directly to the top of the ground. So, in my opinion, I don't see how a monitor well could ever be efficient because if in fact it is blocked by clay to where it can't pick up the contaminants, I just don't see how one would work.

Thank you very much.

EXAMINER STOGNER: Thank you, sir.

Does anybody else have anything further?

MR. KELLAHIN: Closing statement.

EXAMINER STOGNER: Closing statements.

Mr. Kellahin, I'll let you go first.

MR. KELLAHIN: Mr. Examiner, this is a

particularly troublesome case. I've done hundreds of cases before you. And Mr. Carr and I are usually fussing over oil and gas production and how one company is going to resolve a particular issue.

I find dealing with the potential contamination of very valuable freshwater sources to be absolutely petrifying. It scares me to death to consider what Mr. Cooper has proposed for his neighbors. I think he's treated Mr. Pierce unfairly by dealing Mr. Pierce a stacked deck, by which he limits Mr. Pierce to a consideration of the 40-acre tract out of some 200-plus acres of property he has available in this area in which to propose this site.

Mr. Cooper enjoys the opportunity not to put at risk his groundwater because he has none. But in order to derive the economic benefit realized from this project, he intends to put the risk of contamination entirely upon his neighbors. I think that's unfair and unworthy, and we deserve better.

I can find nothing in the information provided to you to give us an excuse or an explanation why this project can't be located

farther north within an area provided by this particular individual.

The concept of a buffer is only a partial answer. Mr. Pierce tells you an approximation of a number that makes him comfortable as to a buffer. He provides you no science, no water movement calculations, no predictions, no even scientific guess as to how long it will take for these contaminants to leach through the water and contaminate the groundwater.

This is a project that is designed to fail. The unfortunate part of it is when it does fail, the only party that's going to know about it is going to be Mr. Stradley and his neighbor, Ms. Reeves.

To suggest that a $25,000 bond is somehow going to make this all right is a drop in the bucket for these ranchers. Mr. Stradley has some 16 sections at risk, which he operates with these particular wells, and simply as a matter of luck, if not good fortune, for reasons unknown to anyone, oil field operations in this area have yet to contaminate the groundwater.

I don't know why we have to invite the

opportunity to put at risk this water that thus far has not been jeopardized. It's unfair and inappropriate to put these neighbors at risk with Mr. Cooper.

Mr. Kelly has brought to you on very short notice a very thorough and comprehensive analysis of the problems he sees with this project. In response to my requests and his questions, the applicant brings to you no science.

Mr. Carr is very fond of characterizing my comments to you as simply being lawyer's comments without any science, but I'll tell you there is no science in this case. There is nothing to give you any comfort that this case ought to be approved. And there's simply no justification in the record to put at risk this groundwater.

We request that the application be denied and the applicant seek a project area somewhere else. It is not fair to suggest that we ask them to move to Roosevelt County. That's facetious. What we're looking for is a fair chance to have Mr. Cooper develop his property as he chooses but to put the risk of failure of his

project where it belongs, and that is on him and not upon my clients.

Thank you Mr. Examiner.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

Mr. Carr.

MR. CARR: May it please the Examiner, C & C Landfarm is before you today seeking approval for a landfarm for contaminated soil. Mr. Kellahin is here telling you how frightened he is about this proposal. We're not frightened. For we submit to you we stand before you taking a realistic approach to what is going on out there, not a hysterical one.

We come before you with a program that is not only technically sound, but that is going to be efficiently and effectively monitored. We're proposing something which is economical, which is environmentally sound, which is needed, and which will be implemented and operated in a fashion that will assure that environmental problems do not occur. We will meet current and future standards imposed by this Division.

It's a good location. It's a good location because of the thickness of the well

beds, because of the proximity to the sources, and because of the absence of freshwater at this site. It is a good plan. All of the lifts will be below-grade, and we're going to constantly monitor the effort.

We have worked on this proposal for many months with the Oil Conservation Division and with the OCD staff, and they found this application approvable.

We gave notice as required, and the return receipts are here. No one hid the ball. We were talking about 40 acres. We gave notice to everyone who had raised an objection, everyone in the area, and they have come in here today and expressed their concerns, and that's appropriate.

As Mr. Pierce said, the last thing we want to do is contaminate somebody's water well. We simply submit that when you look at this record it's simply not going to happen. The basis for their objection is contamination, leachate contaminates that will result from the migration of liquids.

No liquids are going to be disposed. The evaporation rate dramatically exceeds the

rainfall. There's no aquifer at the site. And we've had one 100-year flood since the facility was implemented and the monitor wells were drilled, and they remain dry, monitored by us, monitored by you.

These wells are placed where even Mr. Kelly thinks they should be, south and west. And we've stood before you and said we're prepared to drill more.

Now, Mr. Kellahin has come in, and he has pointed out that Mr. Kelly had a limited time to review this, but S & W has not had a limited time. Ms. Reeves has not. They've had an opportunity to come in here and present a technical case and there is no technical case from them. This hearing is to review their objections.

They have not tested anything. They have done nothing but come in here and say, golly, we don't have any data, and if we did everything in the world, maybe it wouldn't even be safe then.

Well, the only thing that they've really done is tell us that everything you can find in a textbook on Saturday ought to be done

and that we ought to move the location far away from where we've proposed the facility from the site we have studied, have worked with the Division on, and are proposing to you.

We simply can stand before you and tell you that we have done all that we can to bring what we think is an appropriate application to you; that we stand before you ready to do what you want us to do now and what you want us to do in the future.

And we believe that in that situation there is no threat to freshwater. There is none with the proposal itself and the operation itself, and if we're surprised, we're going to monitor it and then be in a position to take remedial action, whatever remedial action is necessary.

We would urge you to take the case under advisement. We think when you look at the record, not just the testimony here today such as it was, but the full application, which is contained in our Exhibit 1 and the supporting data there, you will find a technical presentation that supports the application, that supports your Environmental Division.

And we've been waiting now for a year to get this thing going, and we would request that the application be expedited.

EXAMINER STOGNER: Thank you, Mr. Carr.

Before I take this under advisement, I appreciate everybody's patience today. This went a lot easier than the last one I had. I'd like to remind everybody, people in here that are royalty owners, there were some things brought up on these lease pads and tank bottoms that are sitting out there. We're going to have to go forward and do something.

And this perhaps -- it may be, may not be the best answer, but we're going to have to do something to change some of that that has been going on for years without shutting down the oil production, where the royalty owners aren't enjoying that aspect of the industry.

I appreciate it. And with that, I will take --

MR. STOVALL: If I might, one other thing I might add, that should this be approved without expressing an opinion, we would always invite the assistance of landowners and people

who are concerned to assist in the process of keeping us informed as to what's going on in any situation.

I think that's important. It is ongoing, any facility, whether it's this one or any others. We appreciate Mr. Stradley and -- I'm drawing a blank, I'm sorry -- Mrs. Reeves, your coming in here and participating, because that is what helps us make a good, thorough evaluation to ensure that interests are protected.

EXAMINER STOGNER: With that, I will take Case No. 10507 under advisement at this time. With that, this hearing is adjourned.

[And the proceedings were concluded.]

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10507 heard by me on September 1992.

Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL SEPTEMBER 7, 1992.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3