NEW MEXICO ENVIRONMENT DEPARTMENT

PUBLIC HEARING

105 Albright Street

Taos, New Mexico

Wednesday, October 16, 2019

5:30 p.m.

VOLUME I

HELD BEFORE: Felicia Orth, Hearing Officer

REPORTED BY: REBECCA FELLA
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HEARING OFFICER ORTH: Good evening. My name is Felicia Orth. I'm the hearing officer appointed by the Secretary of Environment to conduct a hearing in the matter of the application of S & R Septic for the renewal of the septic disposal facility. This is discharge permit DP-465.

The hearing will be conducted in accordance with the Department's permitting procedures. That's 20.1.4 of the New Mexico Administrative Code, and the Groundwater Protection Regulations 20.6.2, as well as the provisions of the Water Quality Act.

We have a beautiful facility for the hearing this evening, and let me just mention a few things.

If you did not see the sign-in sheet on your way in, please do go back and sign in. We use it for correct spelling of your name -- no salesman will call -- and I also use it in order to call on people in the order in which they signed in when I get to public comments -- with a few exceptions.

We do have some tea and water coming to -- hot over there, with some cheese sandwiches and apple slices in -- in a little bit.

I typically go about an hour and a half to two hours -- depending on where the witness breaks are -- before we take a break. There will be no lengthy breaks

this evening, and we may go -- we may go quite late.

If we do not finish, the counsel for all parties and the hearing clerk and I will be back in Taos on Monday morning to finish the evidentiary hearing in this matter -- not tomorrow and not Friday, not this weekend, but Monday.

It was the first day we all had available again after tonight, but we're going to try to finish tonight even if it means going late.

The hearing is being recorded and transcribed by Rebecca Fella of Williams & Associates court reporting service. Please see her if you'd like to purchase a copy of the transcript.

It also becomes a public record after it has gone to the hearing clerk and can be viewed in the hearing clerk's office. The hearing clerk is right there. Cody, wave your hand, if you would. That's Cody Barnes.

If you have any questions about procedure or where we are in the process either tonight or after tonight, please do see Cody.

You can also -- tonight anyway -- catch me on a break if you'd like, but please see Cody for the administrative questions.

Oh, I think I just got louder.

So tonight is when we're making the evidentiary

record. No decisions will be made tonight or for a matter of many weeks.

We have a post-hearing procedure which includes receipt of the transcript, an opportunity for the parties to prepare proposed findings and conclusions, an opportunity for me to write a report, and an opportunity for the parties then to comment on that report, and then the Cabinet Secretary making a final decision, so that's usually a couple of months out.

We will be having -- receiving technical evidence tonight from those who submitted notices of intent to present technical evidence.

The Applicant obviously has several folks presenting technical evidence; the Groundwater Bureau also has folks.

I did receive two other submissions, one from Dion Smith and one from Jerome B. Hansen that are titled notices of intent or statements of intent.

Is there anyone else who believes they submitted anything along the lines of submitting technical evidence? No.

In that case, again, public comment will be received throughout the -- throughout the night. You can also put your public comment in writing and hand it to Cody, and it becomes part of the record as though you

spoke it.

Please know that if you speak during this hearing -- regardless of whether it is technical comment or non-technical public comment -- others in the room do have an opportunity to cross-examine you, to ask you questions based on your testimony, so just know that that's the case.

Thank you, Cody.

If you would, please reach for your devices and turn them off or set them on stun. They're quite disruptive when they ring during someone's testimony.

All testimony and comment is taken under oath, and as I said, it's subject to cross-examination.

We do have the administrative record with us tonight. If you'd like to see something in it, I'm happy to show it to you on a break. It's also available for viewing in the Groundwater Bureau back in Santa Fe when we're done here.

Let me ask if there are any purely procedural questions -- purely procedural?

Sir, tell us your name. Oh, please, everyone stand to speak, and I will ask counsel for their appearances, but in the meantime, please tell us your name.

MR. BROCKMANN: So let me start with that entry

of appearance. Jim Brockmann of behalf of El Prado Water & Sanitation District.

COURT REPORTER: I'm sorry; on behalf of what?

MR. BROCKMANN: El Prado Water & Sanitation District.

The question is, as a party who did not submit technical -- a Notice of Intent, but we will have one of our board members talk about concerns in terms of the -- the permit generally.

So I guess my request is, as a party, that maybe if you're going to receive all the technical evidence first, that we have an opportunity for Mr. Painter to go make a statement first as -- as a party that's been appearing in procedures previously.

HEARING OFFICER ORTH: Yes. All right. That's right. I -- I will call out parties as opposed to general public comment.

MR. BROCKMANN: Thank you.

HEARING OFFICER ORTH: Thank you. So since Mr. Brockmann has kicked us off, will the other counsel please make their appearances? Mr. Domenici?

MR. DOMENICI: Good evening, madam. Is this one working? Good evening.

MR. BARNES: Yeah, there's a button that you push.

HEARING OFFICER ORTH: Yeah.

MR. DOMENICI: Good evening, Madam Hearing Officer. Pete Domenici on behalf of the Applicant.

HEARING OFFICER ORTH: Okay. Thank you.

MR. JOHNSON: Hello, Madam Hearing Officer. I'm Owen Johnson on behalf of the Groundwater Bureau of New Mexico Environment Department.

HEARING OFFICER ORTH: Thank you. Any other counsel? No.

All right. So I have one -- so the general order set out in the permitting rules is for the Applicant to go first, for the Bureau to go next, and for everyone else then to go in some order after the Applicant and the Bureau.

I do have one request that was just made to go out of order based on some extenuating circumstances, and I am always inclined to honor that -- unless, of course, it's being abused, but that's not the case here.

So Mr. Domenici, I would ordinarily be calling on you, but I need to hear from Mr. Hansen before we get to you.

And while I'm doing that let me ask, is there anyone else who has extenuating circumstances and needs to leave promptly?

Okay. Again, I will ask for public comment in

between each of the party presentations, and if at some point it becomes extenuating for you, please see Cody, and he'll let me know. All right?

So I believe Cody has cued up the PowerPoint here by Mr. Hansen. Where is Mr. Hansen?

MR. HANSEN: I'm right here.

HEARING OFFICER ORTH: There you are. All right.

MR. HANSEN: Is there a pointer? Can I use a --

HEARING OFFICER ORTH: Is there a pointer?

MR. BARNES: I -- I'm sorry; yeah, I don't have one. I wonder --

HEARING OFFICER ORTH: I don't have one.

MR. HANSEN: I guess I'll just describe then -- try to describe what I'm looking at then.

HEARING OFFICER ORTH: All right. So we need to swear in the witness.

MR. HANSEN: And how do I change the slide?

MR. BARNES: So you can -- you can stay there and I can change it for you or you can come over here and -- and move the slides yourself on the computer. I'm happy to do whatever works for you.

MR. HANSEN: I would -- if you wouldn't mind doing that, if that's okay.

MR. BARNES: Yeah.

MR. HANSEN: Will I need a microphone or anything?

HEARING OFFICER ORTH: You do, and we need to swear you in. Would you raise your right hand, please?

JEROME B. HANSEN,

having been first duly sworn, testified as follows:

HEARING OFFICER ORTH: Thank you.

MR. BARNES: So we do actually have a clicker, so this -- so on the slides, that's to go next and then to go back.

DIRECT TESTIMONY

MR. HANSEN: Okay. Great. Thanks, Cody.

I'm Jerry Hansen. I would make a request that -- I've got a fair amount of data to present here tonight, and I would make a request that any questions be held till the end, if that's acceptable; if not, that's fine too.

HEARING OFFICER ORTH: That is fine. I will ask for questions at the end.

MR. HANSEN: Okay. Thank you.

HEARING OFFICER ORTH: But please keep -- keep this close to you.

MR. HANSEN: Will do. Thank you very much.

As I said, I'm Jerry Hansen. I'm a retired petroleum geologist. My wife and I have a house out on

the mesa, in the Stagecoach Neighborhood Association.

And my graduate studies and my career -- 33-year career -- were --

COURT REPORTER: I'm sorry, sir; you're going to have to speak up.

MR. HANSEN: -- were focused on the sedimentary basin sequences of rift-related areas in Nevada and Arizona, and these are highly similar to the sediments and sewage that's being discharged into the Rio Grande rift near Taos here.

I want to stress that I'm not a hydrologist or a civil engineer, but that I do have significant concerns about the integrity of these cells with regard to the contamination of the groundwater.

COURT REPORTER: Could you say that again? I need you to speak up.

MR. HANSEN: Say that again?

COURT REPORTER: Yeah. I couldn't hear you.

MR. HANSEN: Okay. I do have significant concerns about the integrity of the sewage cells, particularly in their relationship to their structural integrity and their relationship to contamination of the groundwater.

Although the septic cells that are shown in this Google Earth image in the upper right, you can see that

they are very brightly green compared to the rest of the area. It runs sort of northwest/southeast.

These are the -- these are the cells in which S & R is permitted to discharge partially-treated septage. They've been doing that since about -- since 1987 until the present.

I estimate that 500,000 gallons per year has been run through these cells. For the 32-year life of -- of the -- life span of the facility, that amounts to about 16 million gallons.

That is equivalent to 24 Olympic-size swimming pools full of sewage and sludge that's been run through this essentially four-acre area.

You can -- you can see that the -- the area has been subdivided into cells and that there's a number of businesses that impinge upon the cells at this point, and there are -- there are businesses that are nearby as well.

For reference, you can see down to the lower left corner, that's the intersection of Tune Drive and US 64 where that little red dot is.

In 1987, when the site -- site was first approved, it was remote. This is a 1991 Google Earth image, and you can see that there is just basically nothing out there. There's no -- no houses along Tune Drive. Certainly there was not any at that point.

There's no houses to the south or to the east. There's a rudimentary air -- air -- airstrip and then there's the landfill, and that's about it, but by '19 -- 2019 -- 32 years later -- there are 90-plus new homes and businesses in the area.

One other thing I want to point out in that last slide is, the little yellow dot that circles the cells, and I want you to note how it's built over a shallow arroyo.

One condition of the permit seems to be that the depth to the water is estimated to be greater than -- greater than 500 feet, and therefore it would literally take centuries for the surface effluent to reach the ground --

COURT REPORTER: For the -- I'm sorry?

MR. HANSEN: -- underground water source.

COURT REPORTER: It would take centuries for what?

MR. HANSEN: For the effluent to reach the underground water source.

There are two problems with this. Some nearby wells are actually less than 500 feet deep -- the water -- and it doesn't take into consideration the types of rock layers that comprise the 500 feet.

This is a cross section taken from Tony Benson's

work on the groundwater geology of the Taos region, and this is a one-well cross section through the Waste Management well, which is the nearest well to the septic field, and it's about 146 feet to the -- to the south of the -- of the sewage cells.

There are three types of rocks that this well penetrates. One is the alluvium -- 100 feet of alluvium -- then it penetrated 100 feet of Upper Servilleta Basalt, and then 70 feet of gravel -- sometimes known as the Agua Azul gravels -- and then another 230 feet of the middle layer of this area to the basalt.

So essentially, two-thirds of the section above the water -- the -- the groundwater table, which there's not really a table here, but the groundwater table is basalt.

Oh, the other thing I wanted to point out as well is that, note the way Tony depicts the bedding in the -- in this -- in and around this well bar.

This is a cross section that's looking north, so west is on the left and east is on the right, and Tony has the bedding dipping eastward into the fault, a very common way for faults and -- and sediments to form in the -- in these rift-type basins.

Well, in my experience, basalts are often highly permeable rocks. Some of the best water wells in this

area -- 50 gallons per minute -- are completely in fractured basalt. I personally have seen flow rates near 300 gallons per minute from a similar basalt in Nevada.

I actually checked the data on this before this hearing and looked at the engineer's report from that day on this well site. He reported 600 gallons per minute. That's essentially a fire hose coming out of -- coming out of the hole.

If -- if an rock can give up fluid at a high rate, it can also accept fluid -- like, for example, effluent -- at a high rate also.

The permeability of the basalt is from vertical fractures -- called columnar joints -- and from interbedded gravel.

As a result, if effluent percolates down to the top layer of the basalt, it encounters a zone of high permeability -- such as 50 gallons per minute -- it can move rapidly through the basalt and downward toward the water table.

The alluvium was studied by Duke Engineering and -- Services 2000 -- in a 2000 study, what was called the Taos Impoundment Site.

And what they did was essentially do some -- do some drilling and measured the concentration of -- of nitrate and used that as a proxy -- proxy for effluent,

and they then developed a series of mathematical models to predict where the depth of the effluent would be with time.

I've taken their -- their -- their model of course sand here, and the vertical axis of depth --

COURT REPORTER: I'm sorry; the what?

MR. HANSEN: I'm sorry.

COURT REPORTER: The what? It started with an R.

MR. DOMENICI: I think he said course sand.

MR. HANSEN: Oh, yeah, I'm sorry. This is their -- they did a number of models on silt, clay, sand, course sand, and that -- and that's where they added it.

And the nearest -- well, I -- I -- and on this graph the vertical axis is depth from zero at the top to 100 feet down at the bottom, and the concentration goes from high to low on the right side of the horizontal axis.

So I just interpolated -- and then they had a series of timing lines that were -- the upper one is 15 years, then 25 years, then 50 years, then 75 years, then 100 years.

I just took their data for course sand and interpolated the 32-year mark, and it comes out to the -- the -- saying the depth of the effluent would be about 84 feet.

Now, their own records say -- go through 30 feet of gravel in that, and if that's the case, if they run into gravel, it might have been deeper -- probably about 100 feet, which is about the top of the first basalt.

I -- I took a -- I tried to figure out what the -- how deep the effluent would get by looking at a pore volume model.

Basically, what I'm trying to do is explain how deep the -- you might have to go in order to get a pore volume of 16 million gallons, and without going through the math, I came up with a depth of about 100 feet -- very similar to what the Duke model did.

If it reaches the top of the basalt and it gets through it, the next thing it will hit is these Agua Azul gravels.

They are -- there's not a lot written about the Agua Azul gravels, but what I have read says that they can get, you know, fair to good water collection rates --

COURT REPORTER: I'm sorry; they can have what?

MR. HANSEN: Fair to good water collection rates -- up to 120 gallons per minute.

So there's really not -- not much in that section that really indicates that there's anything to retard the movement of effluent down toward the water table in any significant time.

And then looking at the shallow aquifer as a whole, based on tritium decay studies of the surface water and groundwater, Drakos concluded that the recharge of the shallow aquifer occurred on a time scale of less than five to ten years.

This indicates to me that the gross permeability of the shallow aquifer is relatively large, and like the -- like the groundwater, the effluent -- effluent can move from the cells quickly through the same formations down or toward the water table, so I think the permeability of this section of rock has been somewhat underestimated.

There are other permeable pathways for connecting the effluent and the water table. These include -- one important thing is faults and associated open fractures, and the other one is nearby wells.

There are faults that have been -- that are in the area that have not been mapped or published. This is what Tony Benson told me last year.

He had seen some recent aeromagnetic data flown by USGS, and you can see there are a number of north-trending faults to this area that are not shown on publications. One nearby fault is well exposed on Google Earth.

And this -- and I realize this is probably a

little bit hard to see in the back there, but the -- the trace of the fault -- that is, the surface expression of the fault -- runs along where the heads of the red arrows are. You can kind of see that delineation maybe best up at the -- up at the top of the figure.

The zone itself is -- in this fault is about 50 to 70 feet wide, and it's permeable. You can tell that it's permeable because it supports an increased amount of vegetation up in the swale zone.

Like where the second arrow up from the bottom, you can see a pretty solid line of vegetation that's more dense than on either side of the delineation.

Then up near the -- up near the upper arrow there's actually a bloom of the purple -- of the purple aster that we get this time of year along the fault as well as in the gravel, next to it as well. Plants affect the permeability of these things.

Well, this is actually the west edge of the Los Cordovas Fault Zone, and that's a zone about a mile wide that extends to the east of this particular fault and would encompass the area of the -- of the, you know, sewage discharge cells.

It was described pretty well by, actually, Jason Herman, I thought, in -- in the -- his -- the deposition of Owen Johnson for the -- and Jason said the faults may

extend thousands of feet downward.

The facility in an area where the fault is more extensive than previously recognized, and studies show that there is significant fracture in the bedrock, and in general, the fractures are not cemented.

To me, this argues that this is not really a good place geologically in which to have a septic cell system which is percolating down toward the groundwater table and can take advantage of fractures and associated permeable fault zones within the rock sequence.

Then another possibility for quick connection between the septic lagoons and the water table are nearby wellbores, and this, again, is -- it's a cross section looking northeast from the septic cells toward the Waste Management well.

And the reason for this is because of the completion practices of -- of water wells in this area. There's nothing wrong with it. It's a good practice. It's a fine practice -- except when you have potentially effluent flowing through the -- the system.

The problem is that -- that water well drillers come out and drill an eight-inch borehole and then they -- down to below the water table and to a permeable zone, and then they set casing inside that borehole.

In this case they set -- they set five-inch

Schedule 40 PVC pipe into the -- into the wellbore. That leaves a ring of void space -- what's called an annulus -- between the borehole wall and the casing, and a lot of times the drillers will fill this void space with gravel in what's called a gravel pack.

And then in the upper part of the borehole they'll -- they'll put impermeable Zenite about -- a thickness of about 20 feet to -- and then firm it up, and this is to prevent surface contamination of the wellbore on surface water.

The problem is, if you have effluent already flowing into the alluvium -- and remember from Tony's cross section that this bend dips toward the east -- if the effluent is flowing toward the east, then there's a chance it can reach this borehole.

And the gravel packing is essentially no -- has no effect on retarding the flow of groundwater down to the water table. It happens -- it happens fairly instantaneously.

COURT REPORTER: I'm sorry; it would happen?

MR. HANSEN: The effluent would flow toward the -- the borehole. If it's flowing down to the dip of the bed and it would have essentially no -- no retardation once it hits the borehole to movement down -- down toward the water table.

Now, I don't mean to pick on the Waste Management well here. I, in fact, do not know that that's the way the effluent is -- is moving, but I don't think anybody else is going to tell you, and this is -- this is the problem: It creates additional risk for assessing the -- the hazard in -- in this area.

This is the septic system as it looked back in 2018 from the south and looking sort of northwest, and you can see in the center of it -- of it is this lush green vegetation -- probably because the -- the cells are damp and they're full of nitrates, which the plants use as fertilizer.

In the -- in the right foreground, center foreground, you see a berm that's meant to contain the effluent inside the cells in -- depending on the horizon.

You can see the -- the rest of that berm, and in the center is the -- the middle berm, which is the roadway for discharging the effluent down into the cells.

Now, I've got a series of Google Earth images of the sewage discharge cells from 1991 to 2016. You can do this on Google Earth. They, in fact, are historical images.

And I want to stress that I have not field checked the following observations, and I believe that Department of Environment personnel should be responsible

for checking these observations during their site inspections.

The first image is from 1991, I believe, and it shows -- it shows that these cells are in the process of being built.

They are -- they are being built over this arroyo, which is the dark line that's running from northeast to -- or from the right side down to the left side.

And it looks like there was -- at this point there was a real attempt to make functional lagoon systems from these arroyos.

Let me go to the next slide. This is 1997 -- ten years after the -- the cells were first permitted -- and you see the cells above the -- the red box -- box there.

That's -- they have a sloping base to them. This is typically the way that many sewage lagoons are -- are constructed, and the idea is there's a sloping basin to -- to cut down on wave action.

The dark solid black above the arrow is fluid, I believe, and then the light white below -- below it is dry land.

So you can see there's no real -- the berm has no real hydrological -- there's a -- there's a hydrologic

connection underneath the berm between the two cells, because that line is collinear between the upper and lower cells.

That's essentially the edge of a pond, if you will, or -- or a contour level, indicating that it's a contour level on the arroyo and it's dipping in -- it's -- it's going from high on the right to -- to -- to low on the left. Again, you can see the arroyo running through that cell.

Now, by 2005 -- and I guess I missed that one -- by 2005, it looks like there had been -- they have kind of given up on any attempt to make shallow lagoons -- septic lagoons out of this thing, because all of -- all of the cells -- as in this image as well -- are completely vegetated over and full of lush vegetation.

These -- these cells are now -- instead of sewage lagoons, they're termed septic discharge cells.

In 2009, a dark spot appears in about the location of the -- the arroyo, just outside of the -- the cell -- cell wall, and that dark spot persists throughout the images up until 2016.

To me, this seems like it's seepage coming out of the -- out of the sewage cells, and that's the reason it's dark.

Note how the cars in the blocked off area for

the new auto salvage yard are parked to avoid this spot. I believe it's probably wet and kind of mucky.

This is the 2010 image; same thing, cars are parked to avoid this spot, and you can see the intense green vegetation that's occurring within the cell.

The same is true in this -- in this one for 2011. The cars are parked to avoid the spot. It's -- it's brown or -- or dark brown, suggesting it's -- it's kind of damp there.

Here's a 2013 image of the site -- of the site, and the dark spot, to my eye, has gotten a bit bigger. You can see it's got the same kind of green vegetation in it that the -- the cells do.

Also, if you look just outside the berm there's a line of greenery just below this, just to -- to the outside of the cells. It indicates the cells are leaking, the berms are leaking, and the cells are communicating with that dark spot on the -- on the northeast side.

At this point also I -- I noticed -- I start to notice that there's a bunch of hummocky ground within the dark spot. That, to me, indicates that there's some subsidence going on -- ground subsidence going on under here.

I studied ground subsidence over coal mines early in my career, and this looks -- this looks like it.

In the 2016 image you get the same thing. This is taken in the fall, so the vegetation is a bit more brown, but again, you get hummocky far, and within that area a little bit of a ring structure in the -- in the center of it.

Now, I was able to take the 2013 image and the 2016 image and use them as a stereopair, and you can see on -- in stereo relief that you can't see otherwise on the images.

And you -- you can see that the dark spot is actually lower than the rest of the cells at this point, and the cell just to the -- just to the left of the -- the dark spot -- it's kind of gray -- has some -- has been subsided as well.

The -- the cell that's white just to the northwest of that cell has got a really distinct shadow on one -- on the south side of it, indicating that there's a pretty good escarpment on that side of the cell, indicating that that cell has subsided too.

So what the -- what -- what I think is going on here is that they're getting subsidence in the -- in the old arroyo in which these cells were sited, and the -- the subsidence is indicative of either movement of dense water down through dry sediments, or perhaps it's an indication of some kind of deep-seated erosional -- subsurface

erosional flow that's going on -- say if the flow is going down through the basalt or along the top of the basalt.

At any rate, I think that the Environmental division personnel should determine for themselves whether or not near-surface seepage and groundwater subsidence out of the permit area has occurred, and if this is the case, it may be that the structural integrity of the cells is gone, or they may have been used beyond their original design capacity.

And it raises a series of other issues too. Number one, if that low spot is the -- is -- if that dark spot is now the low spot for the septic field, is the -- is the effluent -- essentially most or a good part of the effluent going -- being disposed of on the adjacent property, which would -- which is out of compliance with the permit, and B, I don't think you can really give a permit to -- to S & R to dispose --

COURT REPORTER: Give -- I'm sorry; give a permit -- what?

MR. HANSEN: -- to S & R -- the subject -- to dispose of effluent on adjacent property.

Also, if the sewage is being disposed of in a small area, has the effluent penetrated deeper -- that is, closer to the water table?

And some important things to note are, how deep

is the effluent, where is the plume located, and at what speed and what direction is -- is it moving?

I think some of these important technical questions can be answered better by -- by geophysical techniques than by drilling test holes.

I think that the effluent probably has fairly high conductivity and the surrounding dry dirt has low conductivity, and this would offer a good advantage for some geophysical techniques to take advantage of to map out the -- the effluent.

I think the sampling program that uses the drilling technique and taking samples is fine. It gives a pretty good characterization of the site, but it doesn't tell you anything of what's going on outside the site, and that is of critical importance for -- to -- to know to the community, for nearby landowners if they want to drill test boreholes in their area but need to know where this plume is.

To recap, the depth of the water could be less than 500 feet. I believe that the permeability is greater than has been assumed, which means the transit time from the surface to the water table is less than had been assumed.

One important thing, there are many possible vertical conduits -- faults of the Los Cordovas Fault Zone

especially -- and perhaps wellbores as well.

As I said, the location, depth, speed, and direction of the plume is unknown, and I think the cells appear to have lost structural integrity.

The effluent seems to be leaking off site. Once more, continuing discharge increases the risk of contamination of the shallow aquifer.

In conclusion, this groundwater is much more valuable to the public -- and will be more valuable in the event of climate change -- than the few dollars saved by not transporting the sewage to the Taos Regional Wastewater Treatment Plant, as do all the other sewage haulers -- septic haulers in Taos.

The quality of the water from the shallow aquifer -- as far as I know -- is still good; therefore, I believe that we have a window of opportunity to avoid contamination, and by we, I mean the community, S & R, and the Environmental Department.

If any nearby wells show evidence of contamination, it's too late. We can't wait for another five-to-seven-year permit period to come up on this. I think now is the time to act.

I think the -- the permit -- the permit extension needs to be denied and the cleanup and reclamation of the site commenced, and I believe that time

here is of the essence.

Thank you very much.

HEARING OFFICER ORTH: Thank you, Mr. Hansen.

MR. HANSEN: And I -- I guess I'll --

HEARING OFFICER ORTH: You can --

MR. HANSEN: -- I'll take questions.

HEARING OFFICER ORTH: -- you can continue standing there or you can sit right next to where you're standing for a moment while I ask people for questions.

MR. HANSEN: Okay. I'll just stand, if that's all right.

HEARING OFFICER ORTH: All right. Mr. Domenici, questions?

MR. DOMENICI: I'd like to stand too.

HEARING OFFICER ORTH: Yes, please.

MR. HANSEN: Okay.

HEARING OFFICER ORTH: Please, everyone sit or stand as you're comfortable.

MR. DOMENICI: Sir, I want to make sure you can hear me.

MR. BROCKMANN: There's a microphone.

MR. DOMENICI: Here's a microphone right here. Thank you.

CROSS-EXAMINATION

BY MR. DOMENICI:

Q. My understanding is you're not testifying as a hydrologist, correct?

A. That's correct.

Q. You're not testifying as a civil engineer, correct?

A. Right.

Q. When -- when did you review the New Mexico Environment Department file on this site to make sure you had all of the data available?

A. I asked Jason Herman about that last year, and that was the only thing he sent me.

Q. I'm not sure -- when you say that -- that, I'm not sure what --

A. The Duke -- the Duke study --

Q. So --

A. -- is the only thing he had available.

Q. So it's fair to say you haven't seen anything else in the New Mexico Environment Department file except the Duke study, correct?

A. That's right.

Q. Did you review the Notice of Intent filed by the hydrologist for S & R?

A. You know, I didn't get a copy of that. I -- I -- I was informed of that just on -- on the way in tonight, so I did not -- I did not get a chance to look at

the results of that sampling.

Jason showed me briefly what -- what the results were before the meeting. That's it.

Q. And have you -- do you understand what the proposal is?

A. As -- as far as I understood, it was to drill several wells -- four to five wells -- on the property and assess various -- take samples every five feet to a depth of sixty feet, I believe, and assess the presence of various chemicals within -- within those samples.

Q. So that would be the proposal by the Environment Department?

A. Yeah, that's correct.

Q. Now, have you seen the proposal by S & R?

A. Well, if it was in that same publication or same statement of intent testimony, then I didn't get it, no.

Q. So let me explain it to you and see if this addresses any of your concerns.

A. Okay.

Q. So what S & R has proposed is to drill a single borehole to the basalt -- not stopping at 60 feet, but all the way to the basalt -- and to characterize the soil at -- where -- where the soil changes, to take a physical sample so they have an actual field sampling-based lithology to the basalt.

A. Every five feet or so?
Q. Every --
COURT REPORTER: I'm sorry; what did you say, sir?
THE WITNESS: Every five feet or so?
BY MR. DOMENICI:
Q. Every time the soil changes.
A. Okay.
Q. So --
A. The soil changes?
Q. Yes. So they feel like five feet -- and will testify to this -- is not useful whatsoever, but that --
A. Okay.
Q. -- where the soil changes, that would be useful.
A. Yeah. And that would be established by the geologist on site?
Q. Correct. So -- and then at 100 -- therefore, even if they drill out the contamination at 40 feet, 50 feet, there will be a baseline lithology below wherever they drill out all the way to the basalt.
A. Okay.
Q. Would that be -- well, you would agree that actual information on this site would be better than any data that you have on the site, correct?
A. Yeah. I -- I didn't have any data on the site.

Once again, when I asked Jason for data last year, I didn't -- I wasn't able to get any of the monitoring reports. And I don't know why that was, but apparently -- apparently they -- he does have them now.

Q. And the monitoring reports would provide actual data on the site that would show whatever was monitored, correct?

A. Yeah. I think that would be real helpful information to have in terms of knowing where the -- this 16 million gallons of effluent went.

Q. So would you agree, based on what you understand from either discussions or from your aerial photos or your -- your knowledge about this permit, that at some point in time -- most likely in the late '90s -- the lagoon system was discontinued and a series of cells -- as were depicted on your aerials -- with shallow effluent disposal was -- was used from that time forward?

A. Yeah, I think that's -- I think that's what happened.

Q. And if I understand correctly -- and if you could put up number six.

MR. DOMENICI: Or if you could?

A. Which -- which one?

Q. I think it's number six. It's the -- it's the one that shows the effluent moving sideways.

A. Is it that one?

Q. Yes. So that -- and I want to compare that with the statement you made about sort of your assumptions, if you will.

This is on your Exhibit 1. It's the rough estimate of depth of effluent based on pore volume.

A. Right.

Q. And you have a statement that, evaporation equals precipitation.

A. Yeah. I didn't know how to quantify that. All I know is that there are no lakes being created now and -- and no lakes are drying up now, so evaporation roughly equals precipitation.

Q. Do you know what the evaporation is in Santa Fe -- the annual evaporation is?

A. No, I don't.

Q. Do you know what it is in Angel Fire?

A. It's probably less than Angel Fire. I don't know.

Q. Correct. And would -- do you know if Taos -- if Taos is less or greater than Santa Fe?

A. I -- I wouldn't know about that. I presume Santa Fe would have a greater evaporation rate than -- than Taos would.

Q. And does wind affect evaporation?

A. Sure.

Q. Does vegetation affect the amount of loading that -- from the cells that goes into your rough estimate of depth of effluent?

A. No, I don't think so.

Q. So you don't think plants using water that is applied at a shallow level -- less than three inches -- and the aerial you have shows plants that I noticed; is that correct?

A. Right.

Q. So you don't think that those -- the water that those plants take deprives or limits the water that's going into the subsurface? Is that your testimony, sir?

A. I think it would transpire some water out through plants, yes. I don't have an idea. They're pretty lush plants. I'll tell you that much.

Q. So we have lush plants. We have -- I want you to assume there will be testimony that the evaporation in Taos is 15 inches per year.

A. Okay.

Q. What --

A. And -- and what's the rainfall?

Q. I was going to ask you, because you're using it. Do you know the rainfall?

A. I would assume it's about 14 inches a year.

Q. So if -- if you -- so if you're saying, just based on that testimony -- well, I'm asking you to assume 50 inches of evaporation and 14 inches of precipitation, that --

A. Fifteen and -- fifteen and fourteen, right?

Q. Not 15, 5-0.

A. Oh, no, I -- you asked me what the --

Q. I'm asking you to assume there will be testimony that evaporation in Santa Fe is 60 inches per year -- 6-0.

A. No, no, no. I meant 15, 1-5 --

Q. Okay. Well --

A. -- not 5-0.

Q. Okay. Well, you're an expert. I'm entitled to ask you to agree with my assumptions and then answer the question, so assume there is 50 inches of evaporation, please --

A. Okay.

Q. -- and there's 14 inches of precipitation.

A. Right.

Q. Okay. There is more than three times the amount of evaporation than there is precipitation.

A. That's right.

Q. And then if there's plant uptake from these lush plants that you just described, that would further reduce the amount of effluent that goes into the subsurface,

correct?

A. Right.

Q. So your --

A. May I ask you what the actual evaporation and -- and transpiration rates are --

COURT REPORTER: I'm sorry --

THE WITNESS: I'm sorry --

COURT REPORTER: -- the actual evaporation --

THE WITNESS: -- and transpiration --

BY MR. DOMENICI:

Q. The testimony will be --

A. -- and -- and precipitation? Excuse me.

Q. Well, I -- I'm not really testifying, but I can tell you what people will say, since you're -- you're going to have to leave early, I guess.

So there will be testimony that the evaporation is 50 inches per year from an expert witness --

A. Okay.

Q. -- who -- and let me ask it this way: When in your career have you calculated evaporation as opposed to precipitation?

A. I -- I have not done that, no.

Q. So you're not qualified -- oh, excuse me -- you're not qualified to make a statement on your fundamental estimate of depth of effluent that evaporation

equals precipitation, correct?

A. That was an assumption, yes.

Q. And if that assumption is wrong, the rest of your calculation would be impacted, correct?

A. Right. But it's just a rough calculation too, you know. I mean, I assume a bunch of other things in that -- in that as well, like a quarter of this -- of the section is permeable, effectively -- excuse me, effectively permeable, so that -- that's another factor that could be dealt with as well.

Q. Meaning it's an assumption that -- that is --

A. It's an assumption, yes.

Q. -- that is not based on data or analysis?

A. No. I looked at the air photos, the imagery, and said about a third of the -- the area of the mesa -- or about a quarter of the mesa is arroyo -- channelized arroyo, and that's -- you've probably got like 25 percent.

COURT REPORTER: I'm sorry; that's what?

THE WITNESS: Is channelized arroyo, which would be effectively permeable.

A. The rest of the 75 percent will not.

Q. Okay. So in that one you had some data.

You were analyzing photographs?

A. Yes.

Q. But on the evaporation equals precipitation, if

I understand correctly, you don't know either of those two items, evaporation or precipitation?

A. That's correct.

Q. So if the volume -- so, of course, you would agree with me if the evaporation is higher, then the amount of effluent that would move into the subsurface would be reduced?

A. That's right.

Q. And if the evaporation and -- and the -- the transpiration is as high as 70 percent, then that would reduce your volume that you've used -- calculated over those 32 years by 70 percent?

A. That -- that's correct. There -- as I say, there are a number of different factors in there which requires an estimation on.

Like I also estimated that a quarter of the -- the septage doesn't go vertically --

COURT REPORTER: I'm sorry; a quarter of the what?

THE WITNESS: The sewage.

A. -- does not go vertically but goes horizontally. That may be -- that may be -- not be right as well.

Q. In order for the septage to move horizontally -- I think you used the word flow -- it would have to -- the amount of effluent that would have to be flowing, it would

have to be sufficient to create a flow for there to be lateral movement, correct?

A. Right, and -- and I think there has been some lateral movement just based on what -- what I've seen on the air photos --

Q. And that's --

A. -- in the channel.

Q. And -- but nowhere else but the channel, correct?

A. No, I haven't seen that.

Q. This -- so really when you're -- this is the -- this is the view of -- the depiction -- if I understand correctly -- so you are showing -- if I understand you correctly, you're showing that because there is brown sand and clay acting as a barrier, the effluent would --

A. No, I'm not saying that. The brown sand and clay is -- are the Agua Azul gravel, and they may be quite permeable.

Q. Then why would the effluent not go vertical if there -- if it's flowing into permeable material?

A. You know, the situation is complicated in the alluvium. It's not just one alluvium. It's not just one particular grain size of -- of stuff.

It has clay layers in it which, you know, are impermeable and might direct the flow laterally. There

are a number -- a number of things like that.

I thought the alluvium might be the -- the thing -- the most impermeable thing that might retard the -- the sewage moving along, but both I and the Duke study say that it will move down to somewhere close to the top of the first basalt.

Q. But you drafted this chart and you've expressed some level of alarm or concern that this -- what I would contend is significantly less effluent than you've -- you've identified because you -- of evaporation.

You've drawn a chart that basically seems to have -- be inconsistent with the rest of your report.

This chart is showing lateral effluent movement; this table on Exhibit 1 and the Duke study is showing vertical, correct?

A. That's correct, and I think this is -- this is hypothetical. I think nobody really knows where the effluent is going, and that's part of the risk of the -- the continuation of this project.

I mean, it's one thing to -- to develop some hypothetical models to try and explain what -- what -- what you think is going on there and another thing to get some actual data to find out what truly is going on with the effluent.

To my knowledge, nobody else has even made an

estimate of how much effluent has gone into the ground.

Q. How much what?

A. Of how much effluent has been discharged, excuse me.

Q. Well, I think we're going to hear testimony from the witness who I interviewed recently that he's using the same assumption as you -- as you, that all effluent goes into the ground, and then I want to read you testimony from his --

A. And how -- how much is that?

Q. I don't think he gave a number, but I -- we have the monthly numbers, so it's -- I think you're about right from my view of --

A. Well --

Q. -- of -- of the total effluent that's been put on the site.

A. Yeah. It's difficult to -- to ascertain that, because the only records that I could get ahold of were records from Jason about -- and they were from the first part of -- the first half of last year, and I -- I -- I think he told me that records before that were not really available.

Q. Well, I have the records from 2014. They show the -- what they do is they calculate by the tickets --

A. Sure.

Q. -- how much is done on a monthly basis, and then they -- they add those up semiannually, and then you have the semiannually and you get an annual.

A. Right.

Q. And that -- did you see that --

COURT REPORTER: Sir, could you speak into the microphone a little?

BY MR. DOMENICI:

Q. Did you see that data from 2014, sir?

A. I didn't. That was the only data that Jason had available at that -- at that time. Do you have more data besides just 2014 as well?

Q. Well, I chose which data I wanted to bring, because -- because it's -- because it's not my job to summarize the data.

I'm going to cross-examine the State as to why they haven't summarized the data, but I will tell you and I'm going to read you the testimony of the predecessor of Jason who testified under oath that in 2002 most of the water was dealt with mostly by evaporation.

And I assume you're not aware of that and you're not aware that that -- that determination was actually accepted by the hearing officer in her report and was then used as a basis for that permit and every one since.

A. That was 2002?

Q. Yes.
A. No, I didn't hear that. I'm sorry.
Q. So are you familiar with Fred Kalish?
A. No.
COURT REPORTER: I'm sorry; with who?
A. No, sir.
BY MR. DOMENICI:
Q. Are you familiar with Fred Kalish?
A. (No response.)
Q. I'm going to hand you my book of exhibits.
MR. DOMENICI: And -- and -- and what I'm doing on these, Madam Hearing Officer, so I listed a large number of Bates numbered pages as possible exhibits for cross-examination, and I'm assuming you have a copy of that, because I have one if you don't.
HEARING OFFICER ORTH: Okay. Do I need it right now? I'm --
MR. DOMENICI: If you -- if you need it.
HEARING OFFICER ORTH: Okay.
MR. DOMENICI: If you feel like you need it.
HEARING OFFICER ORTH: Okay.
BY MR. DOMENICI:
Q. So -- so let me ask you, for example, to take a look at NMED 955. So, for example, that has a cell number.

Can you see the cell number?

A. Yeah.

Q. So -- and then it has monthly reports, and that particular cell received no water --

COURT REPORTER: No what?

MR. DOMENICI: No water.

BY MR. DOMENICI:

Q. -- so that verifies that that cell received nothing in that time period.

A. Okay.

Q. Now, if you turn the page --

A. This is cell 14?

Q. So turn it again. Actually, go back, if you will. That's where the bigger cells are.

HEARING OFFICER ORTH: So that I have it, Mr. Domenici --

MR. DOMENICI: One more.

HEARING OFFICER ORTH: -- 955 was cell 13?

MR. DOMENICI: Yes, ma'am.

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: And so we're moving backwards to find the -- the cells that received.

BY MR. DOMENICI:

Q. There's cell 11.

How many gallons did that receive in 2018?

A. It looks like around about 49,000. Forty-nine thousand it looks like.

Q. Okay. And if I understand correctly, you haven't seen these documents?

A. I have not, no. I didn't know they existed.

Q. Cell-by-cell information as to how much is disposed of over a year, correct -- you haven't seen those?

A. Right. And then these run for -- you just picked 2014 as an example?

Q. Correct.

A. There is data for --

Q. There is -- well, I have 2018, and supposedly we can compare those two years and see how the cells might have been used differently.

A. What I meant was, do you have data from the beginning, from 1987?

Q. Well, no, because they started using the cells when they got a -- they -- that wasn't part of the original permit. The original permit was lagoons, as you've stated.

A. Right.

Q. So the cells came in somewhere between '99 and 2002, and I can't tell if NMED has that data or not either.

A. Yeah. What -- what -- I'm sorry; I don't mean to derail you here, but why was the decision made to -- to convert them into sewage discharge cells from septic lagoons?

Q. To evaporate. Exactly the assumption that you've discarded, that was the exact reason was to enhance significantly the evaporation which had been taking place since 2000 or so, and your aerials will verify that there are cells since that date.

A. That's correct.

Q. And the requirement in those permits was no more than three inches of disposal at a time in these cells.

A. Yeah. It's hard for me to understand why that stuff was not buried from a -- from a public health standpoint.

Q. But I think -- I think we can agree now, can't we, that there's been a deliberate effort for almost two decades to evaporate significant portions of the septage, and your assumption is that there's been no evaporation, correct?

A. The evaporation equals precipitation --

COURT REPORTER: I'm sorry; you're going to have to state --

THE WITNESS: Evaporation equals precipitation. That's my assumption.

BY MR. DOMENICI:

Q. Which zeros out and makes it -- effectively means there's no evaporation of any of the material put in the cells; that's your assumption?

A. That's right. It pretty much goes down in the cells.

Q. So that -- your assumption is based on something that was deliberately targeted -- more evaporation -- for two decades; your assumption is directly contrary to how this facility has been regulated, permitted, and operated for two decades, correct?

A. That's correct, but I don't think there's anything in the permits that say anything about evaporation or plant life or anything like that. They don't say that you need to have plant life in the permit, as far as I know.

Q. They don't prohibit it, though?

A. They don't -- they don't prohibit it, but there's nothing in there to say that these cells are meant to be evaporative -- evaporative cells, as far as I can tell. This isn't the permit.

Q. I'm talking about testimony here, and just like today, the witness comes and states -- it's under oath -- and testifies this is mostly evaporative.

A. Okay. Why doesn't it say that in the permit?

Q. Well, why would it need to? What -- do all the -- do you think all the backup analysis should be in the permit?

I -- I don't necessarily disagree with that.

A. If that was the case, it would seem to me that they would disallow cells without vegetation in them.

Q. Cells without?

A. Yeah. If they didn't have any -- if they didn't have any vegetation in them, then the effluent would -- would not evaporate and would go straight into the ground.

There's no provision in the permit for something like that.

Q. Sir, I know we're getting far afield of maybe what your expertise is, so I won't --

A. Got you.

Q. -- go into it with you too much, but is it your testimony that there cannot be evaporation if there's not plant growth?

A. No, I think you're right about that.

Q. So --

A. Have the plants been selected to -- to -- for optimal transpiration?

Q. Do you think it would be a good idea to put a condition that says the cells need to be vegetated?

A. If that's the purpose of the cell is to

transpire stuff out, I think it would be.

Q. And would that address your concerns about the amount of effluent that's flowing into the subsurface if there was a study, for example, that shows 75, 80 percent of this material never goes below the surface? Would that address most of your concerns?

A. I'd like to see it, sure.

Q. But it would, correct?

A. It -- it would help. I think you also still have to explain the subsidence in the ground that's going on, for example, as well. It suggests there's some fairly deep-seated movement of the material underground.

Q. Well, you haven't measured the subsidence, correct?

A. I -- I made it a point not to go out to any of these sites, but just looking at the airflow --

COURT REPORTER: I'm sorry; could you --

THE WITNESS: I'm sorry.

A. -- just looking at the airflow because it looks like it could be significant.

Q. So let me ask you to turn to page 771 out of my numbers, so it's going -- it's going to go this way. If I could help you.

A. Sure. Right.

Q. There it is. I'm looking at the second full

paragraph, this paragraph, sir.

Do you see the sentence second from the last -- there you go -- in that paragraph that says, loss is primarily evaporative, and that says, Mr. Kalish agreed?

A. Yes.

Q. Do you know any reason why he would have been incorrect in that statement that he made under oath after having been in charge of this site for many years?

A. I -- I don't know of any reason why. He could be incorrect. I'm just surprised that there is no mention of it in any of the permit stuff.

So that's -- these are primarily evaporative --

COURT REPORTER: I'm sorry?

THE WITNESS: These cells are primarily not septic discharge cells but evaporative transpiration cells.

BY MR. DOMENICI:

Q. Well, you would agree if they are, in fact, primarily evaporative -- or the losses are primarily due to evaporation -- which is what the statement says -- you would agree that would make it much more difficult for there to be sufficient effluent to flow in the upper part of the wellbore?

A. It'd make it more different -- difficult, yes, but I think it only has a flow rate of 32 feet a year to

reach that wellbore, and it hasn't --

COURT REPORTER: Reach that what?

THE WITNESS: To reach that wellbore.

BY MR. DOMENICI:

Q. But it has to be enough water or liquid to, quote, flow, and so my question is, how much water needs to be in that upper section that you depict effluent moving laterally, how much water needs to be in there for it to move laterally, or are you qualified to answer that?

A. No, I -- I -- I'm not a hydrologist on that point.

Q. So that slide number six is really without scientific basis, correct, because you can't -- you don't know how much effluent went into the -- those upper layers and you don't know how much would be necessary to flow out of it, correct?

A. That's correct. I don't know any of those -- any of those terms, but it's -- it's -- it's hypothetical as well. You -- you can't say that it hasn't happened.

Q. So most of your analysis, it would seem to me, would be hypothetical and worse case; would that be correct?

A. I am concerned about the damage to the shallow aquifer by -- by 16 million gallons of effluent over a period of 32 years.

Q. And if the testimony is it's four million or -- as opposed to sixteen, your concerns would be greatly reduced, correct?

A. Greatly reduced, but not -- not unconcerned.

Q. So if you could look at some of your aerials that you are using to show -- this is Figure 16 -- to show various things.

A. This one -- that one right there.

Q. Right. So looking at that, because you -- I think you testified businesses grew up around this site?

A. They did.

Q. And the business -- what I see are a lot of cars. On the -- on the right side and on the left corner, I see a lot of cars.

A. Right.

Q. Are those salvage businesses -- salvage auto-type businesses?

A. Yes, they are. And then to the southeast is the Waste Management stuff.

Q. So the businesses you're talking about -- just so the record is crystal clear -- are two salvage yards and a Waste Management -- is that a transfer station, or do you know what Waste Management does there?

A. No.

Q. Okay. And then have you looked at the storm

water plans for each of these salvage yards to see where they direct the flow of -- of rainfall as pursuant to some type of storm water plan that has grades, directs flow to certain places?

A. I have not.

Q. Do you know if the store -- the salvage lot on the right would be required to have an area within its property to impound storm water in order to operate?

A. I assume it probably would.

Q. Do you have any reason one way or another to know whether or not the place that's dark green with -- it has an arrow -- red arrow -- pointing at it, if that is designated as their storm water retention area pursuant to their storm water management plan?

A. I don't know that.

Q. Are you able to tell from this photo if that is lower than -- than the dry portions of the salvage yard?

A. With stereopair --

COURT REPORTER: I'm sorry; could you say that again?

THE WITNESS: Excuse me.

A. With -- with stereopair photographs, you can tell that it's lower than the rest of the salvage yard.

Q. So runoff from the salvage yard, unless something blocked it, would tend to go to the lowest spot

on the salvage yard, correct?

A. Yes, it would, as would some of the sewage from the -- from the cells as well.

Q. Do you know how many acres this salvage yard is?

A. No.

Q. Do you know how many acres annual -- this is a question you asked me, so I'll ask you -- do you know how many annual inches over how many acres of that salvage yard could be directed to flow into the area that you have your arrow pointed to?

A. No, I don't.

Q. And you would agree -- or do you know if the salvage yard on the right -- left side would also have to have a storm water management plan?

A. I assumed it would.

Q. And I understood your earlier aerials, you were concerned with an arroyo that ran across sort of the -- the bottom edge of the cars on the -- on the left side and then it went underneath the site and came out where the dark spot is on -- on the right, correct?

A. That's right.

Q. And -- but as the photos continued, I don't see any of that indication of that arroyo or that green visual that you relied on to claim there was an arroyo.

They don't continue into this time period,

correct?

A. Well, they've been -- they've been bleeding off, so it's hard to tell, but I think the gravels that are underneath that still remain, and that's the stuff that would be permeable.

Q. There's nothing that you can tell off these photos to a scientific certainty that there is any kind of impact on the -- on the area to the left of the site that previously showed dark coloration and you described as a lagoon, there's nothing on these aerials to show that there continues to be any impact there from the site, correct?

A. The only thing might be kind of a green strip outside the berm, and there -- there -- on the next -- on -- on the next slide there's a round spot that's in the area of that arroyo, but that looks to me to be a mound instead of a pit.

Q. So that wouldn't have any -- is that the 2013 one? That's the next --

A. Yeah.

Q. So that's --

A. Or that's the 2016 one.

Q. Okay. Well, you were looking at 2016. The -- the one that that is -- that's --

A. That's 2013.

Q. Okay. So on --

A. There's 2016. I guess the other question is, on the later air photos of this area, it looks like they're filling that in. Why would they be filling that in if it's their wastewater impoundment site?

Q. When you say they, I just want to be clear.

Who's they?

A. The operator.

Q. And --

A. And I'm sorry I don't have a --

Q. That's fine.

A. -- photo of that.

Q. Why would the salvage yard build itself on top of an arroyo? Do you have an explanation for that?

A. It's -- it's not a well-defined arroyo. I'll say that much. It's more of a swale in the ground, but I -- I do think it controls some of the downward movement of the sewage.

Q. Earlier I thought you testified this was a channelized arroyo. That was your testimony.

Are you changing that?

A. No.

Q. Why would the salvage yard build upon a channelized arroyo?

A. You know, I have no idea. It's their acreage.

Q. Maybe it's not channelized and maybe it's not an arroyo.

Is that possible?

A. Well, it certainly looks like an arroyo on some of the earlier images.

Q. And it disappeared on the --

A. As they --

Q. -- later ones?

A. -- as they developed it and planted it over and put in an evapotranspiration sewage cell set on top of it, yes.

Q. Where did that -- what does that -- I mean, in my mind, an arroyo captures a certain amount of flow based on the hydrology. You probably know that. That's kind of basic.

Where does that water go on the later -- in the later years? Where did that water -- which direction did the arroyo flow, first of all?

COURT REPORTER: I'm sorry; which direction --

MR. DOMENICI: -- direction is the arroyo flowing.

A. Southwest.

Q. And how does that -- how does that show up on this chart? That would be from left to right?

A. No, no, it flows from right to left.

Q. Okay.
A. It's flowing southwest.
Q. Okay. So this is -- this is north?
A. That's right.
Q. Okay. So where did that -- where did that water go that was shown in the earlier photos?
A. (No response.)
Q. That was a -- I think you put -- you showed it as an arroyo before anything happened here, right?
A. Right.
Q. Which would mean the natural state of things, that water would need to go through that direction and through that arroyo?
A. Right.
Q. Where does that water go now -- if you know?
A. Well, it looks like it impounds -- that would be a consideration -- it impounds against the sewage site.
COURT REPORTER: I'm sorry; it --
THE WITNESS: It would impound against the sewage site.
BY MR. DOMENICI:
Q. Which would account for why there's a green area on the salvage yard, because the arroyo is being impounded, if that's how I understand your testimony?
A. Yeah. There are -- in some of the cells it

looks like there's some subsidence there as well. They are not -- I don't -- I don't believe there are --

COURT REPORTER: I'm sorry --

THE WITNESS: I'm sorry.

COURT REPORTER: -- I didn't hear your answer.

A. There are -- it looks like there's subsidence within the cells as well, and that's not -- doesn't have anything to do with the impoundment of water on -- on the -- on the salvage yard.

And specifically the one I'm talking about is the one without vegetation on the left-hand side in the center of the septic cell.

Q. Sir, are you challenging the stipulated finding that the New Mexico Environment Department presented to a hearing officer with all testimony under oath that states, site conditions, depth to groundwater at the site is approximately 500 to 600 feet below the surface?

Are you challenging that, and do you have a technical basis to do that?

A. I think that if you conjure up the data on the water table or potentiometric surface, you can make a case that it's less than 500 feet. It doesn't mean that that conjuring is -- is right, but you can make a case that it is.

Q. Where is it less than 500 feet?

A. In the area of the septic cells.
Q. And what is the depth?
A. Well, that contour -- contour set said 475.
COURT REPORTER: That contour what?
THE WITNESS: Set that I gave.
BY MR. DOMENICI:
Q. So --
HEARING OFFICER ORTH: So Mr. Domenici, you -- you established at the beginning of your cross-examination that Mr. Hansen is not testifying as a hydrologist, and so I'm just not inclined to pursue this any further.
MR. DOMENICI: Let me see if I have anything that wouldn't be hydraulic -- hydrologic.
HEARING OFFICER ORTH: Thank you.
BY MR. DOMENICI:
Q. Where did you get the brown -- the brown sand and clay that you used on Figure 6?
COURT REPORTER: I'm sorry; where did you get the brown --
MR. DOMENICI: Get the depiction of the brown sand and clay here.
Q. Where did that come from?
A. Probably from the groundwater geology of the Taos region from Tony Benson's paper in 2004.
Q. Which you have relied on, correct?

A. Yes.

Q. You've mentioned his name several times.

A. He's sort of the expert on groundwater geology around here.

Q. So your testimony -- well, let me skip that.

To your knowledge, there's no soil data on the -- the area below the red line up on your Exhibit -- your Figure 16, so we don't know if there's any nitrates in that soil or not, correct?

A. That's correct. And as -- and I think the inspection of the site -- and particularly stuff like that -- should be done by the Department of Environment personnel.

MR. DOMENICI: That's all I have. Thank you.

HEARING OFFICER ORTH: Thank you, Mr. Domenici.

I trust some of the rest of you might have cross-examination questions, but we need a break, so let's take a ten-minute break. We'll return to your cross-examination, Mr. Hansen.

Please help yourself to snacks.

(Recess was held from 7:02 p.m. until 7:15 p.m.)

HEARING OFFICER ORTH: Let's come back from the break, please.

Before we took a short break, Mr. Domenici had finished his questions of Mr. Hansen.

Mr. Johnson, do you have questions of Mr. Hansen?

MR. JOHNSON: I do.

HEARING OFFICER ORTH: All right. Whenever you're ready.

MR. JOHNSON: Okay. Thank you.

CROSS-EXAMINATION

BY MR. JOHNSON:

Q. Hi, Mr. Hansen. Thank you for your testimony. I wanted to ask you about the draft permit as it is currently written by the Department.

Did you get a chance to read through it?

A. Yeah. I didn't read it in-depth.

Q. But you saw the conditions that talk about what the Department would like to do as far as exploring the -- the subsurface with the boreholes?

A. Yeah, I did see that.

Q. Okay. And when you were giving your testimony, you said that -- I believe it was aeromagnetic or something of that sort would be the very best way to determine what's going on subsurface?

A. Well, not aeromagnetic so much. That -- that would help to tell -- tell where the faults are, because the basalts are so much more magnetic than the surrounding rocks.

But for -- for looking at the site, per se, I would think that some of the geophysical ground techniques that the mining companies use -- like induced polarization or controlled-source --

COURT REPORTER: I'm sorry; controlled source --

THE WITNESS: Controlled-source audio magnetotellurics, which is a big mouthful.

A. But basically they look at the resistivity of the formations, and there's a good contrast, I would think, between effluent and dry sediment.

Q. Thank you. And you said that as far as what the Department wanted to do with the -- the boreholes and potential wells, I think the quote was, would give a pretty good indication of what's going on at the site.

Does that sound right?

A. Yeah, I think so. I think it could be supplemented by some of the geophysical --

COURT REPORTER: I'm sorry; you're going to have to slow down and speak into the microphone.

THE WITNESS: I -- I'm sorry.

A. I think that's true. It would benefit from enhancement by geophysical techniques as -- as well --

Q. Do you know if it would be --

A. -- but --

Q. -- satisfactory to have anything less than what

the Department is requiring?

A. No, you at least need that. That's good ground truth as well.

Q. Okay. Now, here's the -- a copy of the permit as it would be modified by the Applicant. You did get a copy of this earlier, but I have it here for you.

This is -- this is condition 21, which talks about, in the Department's version, digging the -- the five boreholes, and I believe Mr. Domenici said that -- that the Applicant's version would have one hole down to the basalt, and could you read that just briefly and tell me what you see there is the actual requirement?

A. Okay. Should get a sample of --

COURT REPORTER: I'm sorry?

THE WITNESS: Should get a sample of five different locations in the -- in the cell.

BY MR. JOHNSON:

Q. Does it go to the basalt?

A. I think just one borehole does. Is that correct?

Q. How -- how many boreholes do you -- do you see them requiring to be drilled?

MR. DOMENICI: What page are you on?

THE WITNESS: Six, seven, ten, and eleven, and thirteen, and five --

COURT REPORTER: I'm sorry; say that again, please.

THE WITNESS: Six, seven, ten, eleven, and thirteen, and five boreholes.

MR. JOHNSON: Page eight, looking at condition 21.

MR. DOMENICI: I -- I just want to object to the form. I think the question was how many --

HEARING OFFICER ORTH: Could you speak into a microphone?

MR. DOMENICI: -- how many are they asking for, and I thought it was referring to my client.

I thought it was referring to my client, and now he's showing them their draft permit, so I'm not clear what the question is.

MR. JOHNSON: This -- this is not our draft permit. This is what EA submitted as the revised permit in their report that they did after conducting some -- some testing out at the site a month ago.

MR. DOMENICI: Thank you.

THE WITNESS: Now, unfortunately, I didn't get this.

MR. JOHNSON: Right, and it wasn't delivered to Mr. Hansen, so that's why he needs a minute to look at it. He hasn't seen it before.

BY MR. JOHNSON:

Q. Can you -- can you read -- can you read this line where I'm pointing to right here?

A. (Inaudible.)

COURT REPORTER: I'm sorry; you're going to have to use the microphone.

MR. JOHNSON: Use the microphone.

THE WITNESS: To the --

COURT REPORTER: Start over, please.

THE WITNESS: I'm sorry.

A. Below the vertical extent of the nitrogen compound --

COURT REPORTER: I still can't hear you.

THE WITNESS: -- indicated by field soil specific conductance measurements and confirmed by -- confirmed by -- confirmed by the laboratory chemical analysis --

MR. JOHNSON: Let me try it this way.

THE WITNESS: -- or the first occurrence of the basalt layer.

BY MR. JOHNSON:

Q. Let me -- let me read it again, and you tell me if that's what you see as well.

The depth of the borehole shall be to below the vertical extent of nitrogen compound seepage as indicated

by field soil specific conductance measurements and confirmed by laboratory chemical analysis or the first appearance of basalt and basalt layer.

Right? Does that sound --

COURT REPORTER: I'm sorry; say that second part again.

MR. JOHNSON: Or the appearance of basalt and basalt layer.

A. Okay.

Q. All right. So one -- one borehole with those conditions, would that be satisfactory, in your opinion, to get to understanding of the vadose zone and soil and the water?

MR. DOMENICI: I'm going to make an objection that this is beyond the scope of his expertise.

MR. JOHNSON: Well, my response would be, we went well beyond it with Mr. Domenici's questions as well.

MR. DOMENICI: Well, they could have objected if they wanted, but I'm objecting.

HEARING OFFICER ORTH: Yes.

MR. JOHNSON: Well, I'm having him read the actual -- I'm sorry; having him read the actual permit as suggested by -- by the Applicant, and he's somebody who lives in the area, and he does have some scientific knowledge about -- as he's shown today.

Can he not weigh in on whether or not he thinks that would satisfy him?

HEARING OFFICER ORTH: I -- I believe he's -- he's walking through the door you -- you opened, Mr. Domenici, so I'll let him go a little ways here, but again, please keep in mind that Mr. Hansen specifically said he's neither a hydrologist nor a civil engineer.

BY MR. JOHNSON:

Q. Okay. My ultimate question is just, is it -- does it seem -- where you said that the -- the New Mexico Groundwater Department's permit as drafted now is basically the least we should be doing and that this would be less sufficient?

A. Well, I think that that -- those five wellbores will be -- will be good ground truth to characterize the site, and one going down to the basalt is -- no doubt is good.

It -- it would have to be plugged and abandoned properly, because that's -- you're making a -- you're essentially making a conduit down to what I consider a fairly permeable layer, and that -- that --

Q. As far as the conduit is concerned, both permit drafts are looking at that -- one borehole versus five.

Is it possible to complete, plug, and abandon the borehole in that area without creating conduit? Is it

possible?

A. Well, you're going to create some kind of conduit -- there's no doubt about it -- but in terms of taking four more wellbores down to the basalt -- if that's what you're asking -- I think if you need to go to -- to establish what that -- the section looks like down in that first basalt, just one wellbore is -- is better than doing four more, if that's what you're asking.

The fewer -- the fewer boreholes down to the basalt the better.

Q. Oh, as far as whether or not conduit would occur?

A. Right.

Q. But as far as getting an understanding of what's happening in the subsurface --

A. Yeah, you need the -- you need the ground truth --

COURT REPORTER: I'm sorry; you need the ground truth --

THE WITNESS: The ground truth of the borehole cuttings to -- to see what's down there. There's no other way to do it.

BY MR. JOHNSON:

Q. Is multiple boreholes more informative than one?

A. It would be, yes, but it's also more risky.

Q. Okay. All right. Let's look at the permit as drafted by the Department again, and I've highlighted one section. This has to do with the vegetation that was discussed earlier.

This is -- this is the permit as it exists now in draft form from the Department.

What does that say?

A. Vegetation growing in and around the disposal cells shall be routinely controlled by mechanical removal and in a manner that is protective of the disposal cell.

Q. So it's to be removed?

A. Right. Why would you do that if it's evaporative?

Q. If vegetative -- vegetation was meant to be used to help uptake the nitrates, it seems like that should be something that would be specified and discussed as part of the plan.

A. Right.

Q. Okay.

A. And certain plant species I imagine would be better at transpiring than others, and you -- you would make that part of the permit, just like they do with vegetation on -- of well sites, for example.

Q. Now, going back to -- I believe it was slide 15 or 16, but part of your Google Earth photos which showed

that there was some discoloration and -- and plant growth in the adjacent salvage yard.

A. Adjacent what?

Q. The salvage yard.

A. Right.

Q. Okay. If it was only groundwater in that area, can plants grow with water -- I'm sorry; runoff water? Can plants grow with water alone or do they need some nutrients?

A. (No response.)

Q. Do plants need nutrients -- something to consume in addition to water and sunlight -- to grow?

A. Right -- fertilizer.

Q. And what is the most likely fertilizer in that area?

MR. DOMENICI: I'm going to object again. This is way beyond his -- he hasn't been qualified. I'd ask that he be qualified on this at least before we ask these questions.

HEARING OFFICER ORTH: Yeah, I -- Mr. Johnson, I'm not sure I remember Mr. Domenici inviting him to discuss the vegetation other than the fact that it transpired water as -- as opposed to being a botanist, for example, or a biologist with plant expertise.

MR. JOHNSON: He was asked to testify if an

impoundment through groundwater at the salvage yard --

COURT REPORTER: I'm sorry; you're going to have to slow down. Salvage yard what?

MR. JOHNSON: Oh, I'm sorry. If an impoundment at the salvage yard of groundwater -- of -- of runoff water would result in those plants.

And all I'm asking is -- Mr. Hansen was allowed to testify yes, and all I'm asking is, would it require something more than runoff water for the plant life to grow there.

HEARING OFFICER ORTH: And that's typically a question that a botanist or a plant biologist would be answering, right? I mean, that's not something that an average person would necessarily know.

MR. JOHNSON: I totally accept your ruling. I -- I was just saying, he's -- he was talking about runoff, so I thought that that would open the door on that one.

HEARING OFFICER ORTH: No.

BY MR. JOHNSON:

Q. Okay. Let's move on to the evaporative discussion.

When we're talking about evaporation rates, are you familiar with the term pan evaporation?

A. No.

Q. Okay. Are you familiar with the idea that these rates are generated by -- by what's called lake evaporation?

A. No, I'm not.

Q. Okay. Are you aware of them being measured from septage cells that have 48-inch berms around them?

A. No.

Q. And would 48-inch berms cut down on wind, which was discussed as part of what contributes to evaporation?

A. I -- I suppose it might. You know, the wind can be pretty strong out there.

Q. Would the berms cut down on it?

A. They might.

Q. Okay. Mr. Domenici also read you some past testimony from Fred Kalish, who formerly had the job similar to Jason Herman's, where he talked about evaporation.

Did he -- when he had you read from that former transcript, did you see Mr. Kalish referencing any scientific studies to back up his statement?

A. I didn't see any footnote numbers or anything like that, no.

Q. Okay.

A. I'm sorry. They may have been there, but I didn't see them.

MR. JOHNSON: All right. Thank you. Okay. I think that's all the questions we have.

HEARING OFFICER ORTH: Thank you, Mr. Johnson.

Mr. Brockmann?

MR. BROCKMANN: No questions. Thank you.

HEARING OFFICER ORTH: Thank you.

Mr. Smith, are you with us -- Dion Smith? Do you have questions of Mr. Hansen?

MR. SMITH: I don't have any questions, no.

HEARING OFFICER ORTH: All right. Does anyone else have questions for Mr. Hansen while we have him here with us under oath? No.

Oh, sir, give us your name first.

MR. TAFOYA: Phillip Tafoya, but I don't know if --

COURT REPORTER: You're going to have to come up -- you're going to have to come up here.

MR. TAFOYA: I just have some public comments or some private comments --

HEARING OFFICER ORTH: So --

MR. TAFOYA: Maybe some questions, questions for --

HEARING OFFICER ORTH: Okay. So no, I'm sorry; I will seek your comment when it's time for other people's public comments.

MR. TAFOYA: Yes, that's what I meant. Okay.

HEARING OFFICER ORTH: All right. Thank you.

So it sounds as though we don't have any other questions for you, Mr. Hansen. Thank you very much.

MR. HANSEN: Thank you.

HEARING OFFICER ORTH: So we will now turn to the Applicant. Mr. Domenici, you may certainly offer an opening statement if you would like before you call your witnesses or you can just go right into your witnesses.

And your witnesses can sit at -- since you'll be at the podium, presumably, your witness can be at this table here --

MR. DOMENICI: Okay.

HEARING OFFICER ORTH: -- if that's more comfortable for them.

MR. DOMENICI: Well, I want to make a motion first.

HEARING OFFICER ORTH: Yes, sir.

MR. DOMENICI: My motion is that the prior rulings by you, which were confirmed by the orders that were issued, act as collateral estoppel against NMED.

There's four elements for collateral estoppel or issue preclusion. Same party, no doubt about it.

The issue was necessarily -- was actually litigated. In every -- both of those two hearings, the

issue of the depth to groundwater, the geology subsurface, and the appropriate monitoring was addressed and adjudicated, so it was actually litigated and it was necessarily litigated.

And I don't think it's appropriate that because NMED changes staff, my client has to have a moving target when prior people in the same position had a different point of view.

And that's the purpose for collateral estoppel is that we don't -- and it's burdensome on my client and it's strongly discouraged that we -- we've had this permit five times.

NMED has agreed to the monitoring conditions three times without a hearing and twice in a hearing where they testified under oath, and stipulated findings were filed in both of those. You adopted the findings.

So those findings, in my view, respectfully, are not subject to being challenged on issues that were actually adjudicated, and that -- the case law for that is -- the -- the main case on all collateral estoppel is Sheldon versus Central New Mexico Electric Co-op.

What that case said is, you can have -- so you can have collateral estoppel between administrative rulings and District Court rulings, so if you had adjudicated an issue and then there was a separate case

brought -- brought in District Court by the same party and you have ruled on that issue against that party or ruled for them or ruled on it, then they don't have the opportunity to relitigate it.

And I think it significantly undermines the entire discharge permit process to relitigate it, and if there's an argument of new evidence, which doesn't -- isn't part of any of the collateral estoppel doctrine, but even if there is, based on my interview, which -- which I think I was allowed -- I was asking for a deposition, but I took an interview -- there's only two items that were stated to be different by the witness.

One is the well log for the El Prado well, Mr. Brockmann's client. That was produced long after the draft permit, so that was not available in any way, shape, or form to be a basis for these new conditions.

It might support them after the fact, but they had already dreamed up these new conditions without that data, so that's -- that's not -- not new evidence. That's after-the-fact evidence that might be able to help justify them.

Then they mentioned a 2004 article by Paul Drakos. That -- that article is 2004. It's available. It has been available.

And the articles that were cited at the time and

the testimony at the time is exactly the same as now, which is, there is a high risk of faulting, and in both cases, both witnesses agreed to that, so there's nothing new on faulting.

The -- the decision of both technical experts was, there is adequate intervening structure to impede or completely capture the downward effluent; therefore, even knowing that this -- there is faulting, even knowing it's a part of the same exact structure that they're talking about --

MR. JOHNSON: Objection, Hearing Officer. Is this a motion or testimony?

COURT REPORTER: I'm sorry; objection --

MR. JOHNSON: I'm sorry. It's an objection to ask if it's a motion or testimony.

HEARING OFFICER ORTH: Okay. So it's a motion, and -- and Mr. Domenici, if you would -- if you would wrap up.

MR. DOMENICI: So --

HEARING OFFICER ORTH: This motion I mean.

MR. DOMENICI: So there's -- there's no reason and it's not legal to force my client to relitigate every draft iteration of a five-year permit on the exact issue that's been decided.

HEARING OFFICER ORTH: All right. So Counsel,

I -- I -- I -- I don't know that I've had Mr. Brockmann or Mr. Johnson in one of my hearings before, but this is the way I typically handle motions that are even remotely or even partially dispositive or would go to the ultimate issues.

The typical way I hand them -- handle them -- and I know Mr. Domenici knows this -- is not to have those motions argued when I would like to be making an evidentiary record, which I believe to be what I'm required to do tonight. Regardless, we are going to proceed with the fullness of the hearing tonight.

To the extent Mr. Domenici wants to lay out more argument or the case law or citation, to the extent you would like to present the other side of that argument, I'm going to ask all of you to put it in your proposed findings and conclusions document, your post-hearing submittal document.

It follows the transcript. It allows you to reflect on the evidentiary record that we actually make, and it allows a serious motion, which requires reflection and research to be completely explored rather than handled on the fly, so I'd like all of that to be put in your post-hearing submittals. Okay?

MR. DOMENICI: So I'll make -- I'll make a brief opening and then proceed --

HEARING OFFICER ORTH: Okay. Please go ahead.

MR. DOMENICI: -- with the evidence. I wanted to make sure I didn't waive that argument by proceeding, which it sounds like it's clear I haven't.

So the -- the Raels have operated this site since 1987. The record will show they made a significant change at the request of the Department to change from a lagoon-based operation to the shallow cells.

They were asked to rotate between those cells. The load -- the testimony will be that the load -- therefore, the loading is completely different since that change has been made.

The testimony will indicate that evaporation was the basis -- one of the bases for that, and that will be -- be expressed by technical evidence, including references to testimony of prior NMED employees -- expert witness, technical employees who have confirmed that.

We are very concerned that after 27 years of operating, where there's been numerous chances for NMED to ask for borings, they have asked for a completely unrealistic and unprecedented type of boring.

So they've asked for five, which is greatly excessive. Then they've asked for -- if you can imagine -- that those borings be sampled at every five feet for physical characteristics, and they have no

support that the physical characteristics change every five feet.

That is possibly a financial burden placed on my clients to inhibit them from continuing operation where there is no support for that. There's no guidance, there's no policies, and so we will vigorously contest that.

That is -- and we -- actually, I will be making a motion in limine to strike their witness. He's not an expert on the stuff he's testifying about.

But our witness will explain what's appropriate testing. He will also -- and -- and so will our well driller -- that the issues on this site are vertical, not lateral.

And what you wanted to know was how deep has the -- have the nitrates, effluent gone and if they've gone past a certain depth. You wanted to see what -- exactly what the stratigraphy is to the basalt.

Our proposal was actually, if it's below 60 feet, we go to the basalt and through -- and then -- and then through the basalt, and if the contaminants are through the first layer of basalt -- which we don't know exactly how thick it is -- we would not pursue the permit or we would -- or we would move into closure.

We are that confident that this is all a wild

goose chase, and you've already heard one complete speculative; you're going to hear a second from an NMED person who is going to have to impeach his own Department's decisions all the way up to the Secretary and through you -- your decisions too -- and the technical witnesses and Departments positions.

All of that is going to be overcome, arguably, by a person who has -- doesn't have a hydrology, geology, or engineering degree.

So we think -- we understand it's our burden, and we're prepared to meet our burden.

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: I call Jay Snyder.

HEARING OFFICER ORTH: Would you please go over to that table? Will you be able to see your presentation from that table, or no? If you -- if you'd like to sit where Mr. Hansen sat, that's fine.

MR. SNYDER: Yeah, can you just -- and you're going to have to manually scroll like that, so just go -- go to -- go to my resume. That's what I'll open with.

MR. BARNES: Sorry. Let me just --

MR. SNYDER: Go down, down, down, down. There it is. Right there, that's better.

MR. BARNES: Sorry.

MR. SNYDER: Now, can you just page up and down

from there?

MR. BARNES: Yeah, I think I can. From this view --

MR. SNYDER: Yeah.

MR. BARNES: -- or would you like to go to full screen?

MR. SNYDER: Yeah. I can maybe do it from over there too. I can speak loud. I can speak loud enough to do it from over here so that I can show my slides.

MR. BARNES: I'll scroll, if that's okay.

MR. SNYDER: Let me -- let me see if I can -- I can speak --

MR. BARNES: Once we get --

MR. SNYDER: I speak very loud, so --

HEARING OFFICER ORTH: And these are wireless --

MR. BARNES: Yeah.

HEARING OFFICER ORTH: -- so we can get you a mic.

MR. SNYDER: Can everybody hear me? All right. There's a --

MR. BARNES: I've got one right here.

MR. SNYDER: Okay. Very good.

MR. DOMENICI: This is going to be question and answer, Jay -- a little bit at least.

HEARING OFFICER ORTH: We do need to swear you.

JAY SNIDER,

having been first duly sworn, testified as follows:

HEARING OFFICER ORTH: Thank you.

DIRECT EXAMINATION

BY MR. DOMENICI:

Q. Okay. Mr. Snyder, what do those initials mean after your name?

A. So my -- my formal academic training is, I've got bachelor's degrees in geology and meteorology, and I've got master's degrees in geophysics and geological engineering.

I am a licensed professional engineer in New Mexico and Colorado. I am a licensed geologist in 14 states -- mostly out West -- and I'm a certified hydrogeologist by the State of California, and I'm a professional hydrologist by the American Institute of Hydrology.

I've been doing contaminant studies for 30 years now. I do site investigations and characterizations all the way through cleanup and closure.

Because I'm a geologist and an engineer, I can take them from the beginning all the way through the end and the engineer plans.

Q. Have you been -- have you been qualified as an expert witness in any courts or -- or administrative

proceedings?

A. I have before the Water Quality Control Commission and in some public hearings.

Q. And describe who your clients -- give us a sort of spectrum of your clients.

A. Right. I work -- I work for a lot of clients. I -- I've got 30 years of experience -- all of it in Albuquerque.

I've worked directly for the State of New Mexico. I worked for responsible parties on contaminated sights. I work for permittees -- like this issue at hand. I work for Region 6 EPA and Region 9 EPA. EA Engineering has the Superfund contracts for EPA across the country.

I work for the Air Force -- principally in the western United States -- and I work for the Corps of Engineers. I also work for dairy farmers on some of their permit and abatement issues.

Q. Describe what you have done to prepare to testify in this case.

A. So in looking at the draft permit, really the -- the only issue that I had was with the robustness of the soil sampling regimen that was proposed in the draft permit.

I see this principally as a vertical problem, not a horizontal problem, so I focused on that sampling

regimen.

We reviewed local well logs to get an idea of where we might encounter the basalt locally and to see what types of soil we could anticipate seeing on the way down to the basalt so that we'd have some sense of how readily they would infiltrate water under gravity drainage.

We -- we also looked at some of the loading records and the volumes, and -- and Mr. Hansen had testified to them, and so we looked at similar loading-type data.

And I also looked at the Drakos reports, the positions of the faults, the -- the projected displacement on the faults, and what was going on in the alluvium above the faults to prepare for this.

Q. Did you look at the evaporation percentage or the evaporation factor for the current configuration of the cells?

A. Yeah. You know, you mentioned earlier, I -- I think, pan evaporation in Santa Fe is around 60 inches a year. In Angel Fire, there's a station, and it was around 40.

I -- I suspect Taos is probably, you know, between 50 and 60, but if you use 50, and a fraction of that is sensible evaporation, we've got 15 inches of

precipitation, the 500,000 gallons a year that Mr. Hansen testified to equals about six inches of water over those cells.

So we've got -- you know, at 70 percent of 50 inches, we've got on the order of 35 inches of evaporation, and there's 21 inches of water going into those cells, plus we've got the transpiration of the plants that are growing in there and obviously taking up nitrates and water.

Q. So let me -- let me just ask you to go through your exhibits, if you will.

A. Yeah. And one other thing we did to prepare for this was, a couple of weeks ago we drilled a borehole at the site, and we were able -- because of the drilling technology, we were only able to get to 30 feet, but we did sample the soil and had it analyzed for the constituents that are proposed in the permit -- at least on the chemical side -- and I can show you what the results of -- of that was, but it was very favorable.

And as is typical with these types of facilities, the concentrations start off pretty high, but then they drop quite rapidly with depth.

Q. Based on -- based on your analysis, did you propose a sampling or monitoring-plus-sampling regimen that, in your professional opinion, is adequate and

sufficient to ensure that there will be no violations of the water quality standards in groundwater?

A. Yes. What -- what we proposed was -- and again, looking at the time series of -- of lagoon photos like Mr. Hansen showed, identifying where the greatest likelihood of the greatest amount of infiltration is based on historical records and -- and aerial photographs.

At that point we would drill and sample -- not every five feet, but every ten feet. That would still give us ten samples before our anticipated depth of hitting the basalt at 100 feet, and we would run the chemical analyses on those ten samples.

If we had contamination extending all the way to the basalt, we would drill through the basalt and then under the basalt, and if we've got leachate at 150 feet, as in our proposed -- I think it was condition 21, we would go into closure.

Where I do agree with Mr. Hansen is, if this -- if this goes significantly to depth and it's 500 feet to groundwater, by the time it reaches groundwater, it's a significant vadose zone problem.

It's a lot of mass of contaminate in the vadose zone if we wait for it to get to groundwater. We need to find out where it is.

This facility has been active long enough. We

need to find the depth of infiltration and see if we've got a problem or if everything comports with the work that was done a while back by Shomaker -- and then followed up by INTERA -- that produced their leaching model.

Q. For the record, just explain what their leaching model concluded with respect to how leaching would occur at this site.

A. Well -- well, it would -- it would -- it would include a source strength of nitrates and then a certain amount of infiltration of water, and then that's just projected down through the different soil layers that they would have in their model and -- and then generate a -- they plotted up in their figures as the concentration at depth over the initial concentration, so it's like a normalized fraction.

So -- so if you had a concentration at depth over your initial concentration of .1, that means you're at ten percent of your initial concentration as it's attenuating going downward.

Q. And what did they expect or predict would be the depth of infiltration after, say, 50 years?

A. Well, again, you have to look at it in terms of that predicted concentration over the initial concentration.

But -- but they showed that above our basalt

layer at 100 feet, this should behave within -- within the permit constraints and shouldn't leach into too great of a depth. At the time they did their soil study, I believe they had leachate reaching around 30 to 35 feet.

These are the data from the borehole that we just installed a couple of weeks ago, and we sampled at zero -- or basically right at the surface of the interface of the slime of the lagoon -- at ten feet, at twenty-one feet, and then at twenty-five feet.

And the chloride at zero feet was 71 milligrams per kilogram. At ten feet it drops to 25, and then at 21 feet it was below the detection limit at 7.5.

And chloride is a very good contaminate to -- to -- to look at when you're doing these types of studies because it doesn't really transform, and it leaches really with the -- with the rate of whatever water is seeping vertically.

The nitrate, we started off at twenty-three, and then at ten feet we were down to seven, and then at twenty-one feet we were down to 1.9 milligrams per kilogram.

These are below -- this concentration at 21 feet is below the New Mexico Environment Department's risk assessment guidelines for nitrate soil leaching into groundwater, and -- and that number that the NMED has in

its risk assessment guidelines is based on very shallow depth to groundwater and just sandy soil.

So these are very conservative at the depth we have of 500 feet, and these -- this is what they look like plotted up.

These are our field measurements of salinity, with increasing values to the right, decreasing to the left, and depth increasing going down, and so you can see how it drops off as you go with depth. This is chloride and nitrate, and again, you can see how they drop off as you go to depth.

And we're only 21 feet deep, so, you know, we're confident that -- that our approach is going to render the information we need to find out how deep the nitrate front has infiltrated.

I don't think that we have significant lateral or horizontal movement out of these cells. They should principally drain under -- under gravity.

If -- if we had a perched aquifer underneath these cells, that would be, for the most part, protective of groundwater, because it would collect all the leachate in a perched water table rather than allowing it to continue to infiltrate to great depths.

But we don't see anything -- you know, again, the logs we've looked at or in any driller's notes

drilling in this area that we have that -- that perched water.

Nonetheless, the way we're going to drill and sample this down and through the basalt if we have to, we will know where we have water, where we don't, and where our nitrate and chloride fronts are.

Q. Now, there's been discussion of faults and there's been discussion of basalt not being impermeable.

Give us just a general understanding of both of those.

A. I'll -- I'll talk about basalts first, and -- and I agree with Mr. Hansen's testimony. Basalts are never impermeable. If you've ever worked in and around them, I mean, they -- you know, you can see in road cuts that they've got vertical fractures in them.

Every now and then you'll get into really competent basalt. It will still have fractures in it and transmit some groundwater, but I would not consider the basalts to be any kind of a confining layer here, and if they're faulted and they're broken up, it's going to make them even more permeable.

But again, they're at 100-feet depth. Our premise is, we don't have leachate that goes anywhere near that depth.

If we get below that basalt and we've got

leachate because we've got more basalts below us, then it's probably time to -- like we put in our proposed condition -- go into closure, because we -- we don't want it to get any deeper.

Q. When you say below, how thick do you anticipate that initial basalt --

A. So --

Q. -- layer to be?

A. -- and -- and let me go to a -- let me find a couple of records here, but we've got them -- some -- some nearby well logs.

MR. DOMENICI: While he's doing that, Madam Hearing Officer, I would tender Mr. Snyder as an expert in geology, hydrology, geohydrology, and civil engineering.

HEARING OFFICER ORTH: Any objections?

MR. JOHNSON: (Shakes head.)

HEARING OFFICER ORTH: No?

MR. JOHNSON: No objection.

HEARING OFFICER ORTH: He's so admitted.

A. So there are some wells nearby the facility, and the two closest ones are these logs right here.

And in this first one, from 110 to 140 feet, the driller called 30 feet of black basalt, and -- and then we're into, you know, red cinders and red clay for seven feet.

And so that everybody here knows -- because you've seen this -- when you're driving through some of these basalts on the Taos Plateau, you'll see like a black basalt layer and then you'll see some like reddish baked soil and then another basalt layer.

That's what this seven feet is. That's that soil that got cooked between -- between this upper basalt, and then from 147 to 220 we're back into black basalt.

And so it's at the base of this first basalt where if we've got contamination and impact, that triggers in our condition moving into closure, because all we've got below us is too much basalt.

We've got some other layers, but this second basalt -- if you notice in this log -- takes us all the way down to 220 feet, and that's too deep.

COURT REPORTER: And that's what?

THE WITNESS: That's too deep.

A. The next log, from 106 to 136, again, 30 feet of black basalt, and then -- and then 34 feet of red sandy clay, and then black basalt to 195, some soil in between there again.

And then -- and then, you know, here's a -- here's a basalt layer that is at 281 to 540 -- 259 feet of black basalt.

So if we get below that first black basalt at 100 feet -- I mean, if we leach that deep and we're through it -- then -- then we trigger closure and -- and -- and doing complete vertical delineation as we go into closure.

Q. So under your conditions, when -- when would the drilling to the basalt -- under what circumstances would that occur?

A. We propose that to take place in lieu of these shallower borings and multiple borings that are dependent on the chemical concentrations and so forth.

We want to know the complete stratigraphy. We want to see that basalt layer. We want to see the nature of that basalt layer, and -- and if necessary, we want to see what's under that basalt layer.

Q. But in the conditions -- at least my reading was --

A. I think it was in 90 days or something.

Q. -- my understanding was you would go to 60 feet first, and if you found anything, then you'd go through to the basalt, or is -- or are -- are you proposing the initial boring go to the basalt?

A. Let -- let me just go to our condition as written. Okay. It says that the -- this is like the -- the bore -- the -- yeah, and that pointer doesn't work on

that screen -- the depth of the borehole shall be to below the vertical extent of nitrogen compound, so you could just indicate it by field soil specific conductance measurements and confirm by laboratory chemical analysis or the first occurrence of basalt and basalt layer.

And so -- and so if we're -- so like based on these last samples, we were -- we were pretty much out of contamination at 21 feet.

So what I typically like to do when I'm doing vertical delineation -- let's say for the sake of discussion in this borehole we're out of contamination at -- at 40 feet -- typically we would go another 20 feet at least to make sure we don't have a significant change in soil type which might affect contaminant migration and to make sure that we're not only still clean, but the trend is getting cleaner, because typically these things wall off with depth -- like the curves that I showed -- and so we -- it would be a line of evidence that, yeah, we're at the edge of the -- the -- the seepage front.

And based on the data we just collected, we're still within the predictions of the vadose zone leaching model that was done by INTERA, so everything so far looks like it's on plan relative to the work that was done a couple of decades ago by Shomaker and -- and INTERA.

Q. Now, the next condition or the next paragraph --

A. Right. If we -- so let me just read what we put in here. So if we've got contamination to depth, if chemical analyses indicate total nitrogen content is less than or equal to the non-impacted levels --

COURT REPORTER: I'm sorry; the nine --

MR. DOMENICI: Non.

COURT REPORTER: The non.

A. -- non-impacted levels identified by Table 11 in this study, then no additional soil sampling and analysis will be required during the period of operation as defined by the permit renewal.

If the chemical analysis indicates elevated total nitrogen content that extends to the first basalt layer encountered, then the boring will be advanced through the basalt layer to collect additional soil samples at the same ten-foot frequency for chemical analysis of the constituents listed above.

If nitrogen content is elevated at depths exceeding 150 feet, then the closure plan requirements will be initiated by the facility, and we'll go into closure.

And -- and again, the purpose of this is, you know, we don't -- we don't want to like, you know, cat-and-mouse chase this down to like 400 feet and claim we're still safe because groundwater is at 500 feet.

We don't want to -- we do not want to impact that much vadose zone. I mean, that's just poor practice, and -- there's other methods and techniques to evaluate if we've got seepage that's going to depth other than going, you know, from a 60-feet boring all the way to 500-foot-deep monitoring wells.

Q. So if you'll scroll up on that about this -- which had the language about how you select the drilling location.

A. We proposed one location deemed by NMED to be representative of where we -- where we had the worst potential for vertical leachate migration.

And -- and again, that's -- you know, we can review the records. We can propose a location, get their input, concurrence, however far they'll go, but I mean, as long as everybody agrees that, you know, this is a good location to find out how far this stuff went to depth, because again, it's principally a vertical problem, not a horizontal problem.

If groundwater was at 30 feet, this would be a horizontal problem.

Q. Just be a little clearer why it's a horizontal and not a vertical problem.

A. It's a vertical, not a horizontal.

Q. Well, vertical.

A. Because -- because -- because it's going to want to just gravity drain to the extent it can.

Now, if -- if -- if we've got a lot of seepage and it finds a clay layer where the seepage into that clay layer is greater than it can seep through the clay layer, then we're going to form a water table on that clay layer. It -- it will just saturate.

Then you can start getting some of the horizontal migration like Mr. Hansen showed in that one slide where he had some horizontal seepage fairly shallow toward that well.

The only way that can occur with this problem is -- is if we've got a clay perching layer that will hold that water up and then move it laterally or horizontally.

That's a bad thing because you're increasing your impact horizontally, but from the standpoint of the regional aquifer it's a good thing, because the groundwater -- the -- the -- the seepage from the lagoon is getting held up on that perching layer. It's not infiltrating all the way to the groundwater. It can't.

Q. Is there any data that shows that if that occurred, that would go over 1,000 feet, as Mr. Hansen showed?

A. It would require a whole lot of water that has been discharged from this facility and it would require

continuity in the clay layer for those distances.

As soon as that clay layer pinched out and you're just left with sand and gravel, which is also in the alluvial section, the perching layer would be gone and -- and groundwater would start to discharge off of that perching layer and then drain vertically again.

But if you -- you know, it's no different than like if you've got a sandbox or if you're on the beach and you dump a bucket of water on it.

It moves horizontally a little bit, but then it infiltrates straight down, because gravity is by far the greatest driving force on -- on the liquids coming out of these -- out of these cells.

Q. When we're talking about driving force, what -- how does the head of the water affect the driving force?

A. Significantly, which is why the change was made way back around early 2000s with the concurrence of the State.

Ponded heads are terrible because -- because they drive the water vertically with even more gradient. When they went to the -- to the thin application, then -- then you've got far less ponded head, much greater potential for evaporation versus infiltration and plant uptake.

The -- the current operation is, they -- they

rotate through the 13 cells and -- and they apply at any given time -- but since there's 13 cells, you know, each cell probably averages getting around one inch -- one inch or less a month per cell so that -- so that it's somewhere around, you know, six, seven, eight inches per year on each cell.

And so spreading it out like that creates more time in between for evaporation, for plant uptake, and the plant uptake, you know, is clear evidence that there's water loss from the plants as well as probably nitrate uptake.

Q. Have you reviewed the conditions that -- the same conditions for the same circumstances that NMED proposed?

A. No. No. And I mean, on the soil physical properties, twenty soil physical properties per boring by five boreholes, you know, we did a cost analysis of that, and just to collect these samples and do these five boreholes, we've got a cost estimate of $180,000.

And typically, you know, what you do with the soil physical properties is, you collect, you know, maybe three to five samples in each unique geologic layer that you may want to have information on to support.

For example, if we're going to do more vadose zone modeling like the INTERA modeling study, we would

want data like this. We wouldn't need this much data.

But we have no intent -- again, if we're below the first basalt, we have no intent of running a model to show that it's not going to make it to 250 feet.

We're -- we're going to -- if -- if it's already there, we're going to go into closure.

Q. Are you --

A. And let me get that estimate up here quick.

Q. Okay.

A. Right. We -- we came up with $178,900.

And these soil physical property samples -- bear in mind, by doing them every five feet in five boreholes to a hundred, that's a hundred samples; twenty samples of borehole times five boreholes. These soil physical properties analyses are $600 each.

And I've never seen a plan this robust in soil physical properties, and I've never seen a specification like this in my career.

Q. Have you ever seen any guidance or protocol that would demonstrate that this was based on some kind of consistent, well-thought-out, publicly-available protocol that any NMED has established?

A. Not that I'm aware of, rather, you know, ASTM has guidance documents on site characterization and on developing your conceptual site model, and these types of

analyses are typically, like I said, three to five samples per unique geologic layer.

So if on the way to the basalt we had, you know, two clays and a sand layer, we would test the clay, the -- we would test each of the clays and we would test, you know, the sand layer to the degree it's significant, but -- but the significant alluvial deposits that we have.

Q. And is that what you propose?

A. Yes.

Q. Have you seen anything -- have you reviewed the statement of intent of NMED?

A. I have.

Q. Have you seen anything that justifies the physical sampling requirements?

A. No. There -- I mean, there's really no basis provided. It's just a list of -- of what needs to be tested.

Q. And are you concerned that something has happened on this site since the last five permits were issued or some new data has arrived that would justify going from hand sampling down to thirty-six inches twice a year to five borings that will average, I want to say, $35,000 per boring with over $12,000 of physical sampling in each boring?

A. No. No. But, you know, on that point, I think

that the -- the shovel samples to 36 inches is probably not adequate.

I think that the language in the draft permit is -- is overambitious, but I do understand the intent of it.

I think it can be done and -- and that question answered just as effectively with far less scope. I mean, that's really the only difference is, it doesn't take this many analyses, this many boreholes, and -- and this regimen to demonstrate where the nitrate and the chloride front is.

Q. Now, the sampling protocol calls for chemical samples at every five-foot interval.

Have you seen that in other NMED -- in any NMED protocol or any other -- any NMED requirements?

A. Not that I'm aware of. And -- and again, if I'm boring to 100 feet, it would be far more typical to sample, you know, every ten feet and/or with changes in stratigraphy that indicate, you know, you might want to -- to sample a certain layer two or three times, you know, so that would be kind of some field discretion rather than just rote five, ten, fifteen, or ten, twenty, thirty.

But I mean, 20 samples in a 100-foot borehole I haven't seen in a scope of work on a Superfund project.

Q. Where there's known contamination?

A. Known hazardous waste.
Q. Did you see anything in the Notice of Intent and the summary of testimony justifying sampling at five -- chemical sampling at five-foot intervals?
A. No.
Q. Is there anything in the El Prado well log --
COURT REPORTER: I'm sorry; the what?
MR. DOMENICI: The El Prado well log.
BY MR. DOMENICI:
Q. -- that was recently provided that would change your proposed conditions?
A. No.
Q. Is there anything in that well log that would justify physical sampling at five-foot intervals and chemical sampling at five-foot intervals?
A. No.
Q. Is there anything in that well log that would justify five boreholes?
A. No.
Q. Now, if NMED doesn't agree or want to or perhaps doesn't follow an order that they select the -- essentially the worst location for a single borehole, would you be able to do that?
A. Yes, we could adequately propose one, and the degree of concurrence we would get, you know, we'd try to

get agreement on it, but --

Q. Now, I want you to explain so the record is real clear, because we will have a witness coming up arguing -- probably strongly -- for five boreholes, so I want something very precise on the record -- not that we're not looking at lateral versus vertical -- what -- why is your borehole sufficient for purposes of this permit as compared to five boreholes?

A. Again, we -- we want to see the vertical extent to which leachate has migrated, and -- and like I said earlier, I mean, at -- at 50 feet do we have a clay layer and we've got a perched -- and we've got a perched layer?

You know, the prior wells that have been drilled out here were probably drilled with mud rotary drilling techniques, and you'd never see -- you know, you'd never see a perched layer like that just mudding up and drilling down to 500 feet.

We want to see that. If that perched layer is there -- and again, like I said, if there's a perched layer at 50 feet, we'll find it, and then it may become a horizontal problem, and -- and the NMED rules, you know, clearly dictate, you know, what we do if we've got impacted groundwater at, say, 50 feet and what we need to -- to do to go from there.

There's probably provisions -- standard

provisions -- in -- in all permits that -- that address that language.

Assuming that that's not the case, this is a vertical problem, and so think about, you know, if you had a pond of water on a football field and it had been there for 30 years.

If you wanted to know how deep the water infiltrated from that football field, would it really matter where on the football field you drilled your borehole?

Would you need five boreholes on the football field or fifty, or of it was the same football field and it had the same level of water on it for thirty years, would -- would the water move out through the grass on the football field and infiltrate to depth fairly uniformly?

And I argue that it would be that latter case and that you don't need to -- you don't need to solve a whole lot of horizontal delineation.

You need to find out how deep is the wetting front on -- on any infiltration out of these lagoons.

Q. And would you consider the lagoons -- and I'm using the technical term lagoon -- usage that was before the cell configuration that's in place now in determining the location?

A. Right. Well, that would play heavily into it,

and -- and some of those were shown, you know, in -- in Mr. Hansen's early time series of -- of his Google Earth photos.

So we would factor that in, but then we would also take a look at the loading records which are kept, you know, and bring it all together and, you know, make a proposal with some basis for it and see what the State said.

Q. Do you think that $180,000 that NMED is requesting Steve and Loretta Rael pay after never having requested any samples like that, do you think it gains significant information as opposed to what you're proposing?

A. Well, because there was no basis provided for the physical -- soil physical properties, I don't even know what the data usage is on that.

If we -- if we were going to do some modeling, we could use it certainly, but if we're doing it just to say that this is clay and this is sand, that can probably be done, you know, with far fewer samples and then just with geologist logging.

And then the chemical analyses, I agree with the analytes that are being run, but I think that sampling every ten feet will tell us the exact same thing that sampling every five feet will tell us, because again,

we're looking for -- we're not necessarily looking for an extremely detailed profile between zero and 30 feet.

We're trying to find out, did this stuff -- has this stuff infiltrated 30 feet, 40 feet, 50 feet, and -- and if it's infiltrated, say, 50 feet, are we then clean at 60 and then at 70, and -- and then, do those data agree generally with INTERA's leaching modeling, because -- because that ties the previous work into where -- where we are.

You know, it's basically a mechanism to -- to validate their -- their prediction.

Q. What do you consider, based on your analysis, to be the depth to groundwater?

A. I believe it's 500 feet. I've -- I've looked at -- and -- and by the way, Figure 3 in Mr. Hansen's testimony showed it at 500 feet, and that was from his hydrogeology report where he got that little cross section piece that he put. It shows it at 500 feet.

The -- the reports that were done by Glorieta Geoscience -- Drakos -- I mean, they showed it at --

COURT REPORTER: I'm sorry --

A. -- 500 feet.

COURT REPORTER: -- done by who?

THE WITNESS: By -- by Glorieta Geoscience, the -- the Drakos report I believe it was -- reports show

it at 500 feet.

A. The NMED has -- has, you know, stated it at 500 feet. I don't think that's questionable -- again, unless there's a perching layer, and if there's a perching layer, we'll find it.

Q. Since the current cell configuration has been constructed and used in the way you describe it, do you have an estimate as to how much of the -- or an opinion, let's call it that -- an opinion as to how much of the effluent that's applied to a specific -- particular cell on average leaches into the soil as opposed to evaporating or -- or going into the plants?

A. That has not been studied, but the plant growth in there does indicate that there's both water and nitrate uptake as supporting those plants.

And, you know, back when it was -- back when it was ponded -- you -- you can also get too much nitrates so that you get plant toxicity, so whatever is growing in there likes the current condition.

And -- and generally plants can take up a whole lot of water relative to what infiltrates. Infiltration is typically -- at least of rainfall.

In -- in -- in arid regions down in the desert, it can be as low as one or two or three percent; elsewhere it can be maybe ten percent, but it's never eighty

percent. But it has not been studied. It had not been studied at depth.

Again, though, with the analyses that the State requested, we will get moisture contents, and so we will know -- we will know what the water profile looks like, as well as the chloride and the nitrate.

But the chloride is going to tell us exactly how deep we've had infiltration, because it's -- it's just -- it's a tracer.

Q. Let me hand you this set of documents.

Can you turn to page 771? It's -- it means NMED 00771.

A. Yes.

Q. And then the second paragraph that starts with Mr. Kalish agreed, do you see that?

A. Yes.

Q. That says, the disposal cells are not entirely evaporative. Mr. Kalish believes there is an element of infiltration as well. Because the cells are unlined, loss is primarily evaporative. Nitrates penetrate deeper than 12 inches, although not greater that tens of feet.

Do you agree with Mr. Kalish's statement that loss is primarily evaporative?

A. Yes. Well, and plant transpiration.

COURT REPORTER: I'm sorry; and what?

THE WITNESS: Plant transpiration.

BY MR. DOMENICI:

Q. So including those two -- or combining those two, the loss would be primarily evaporative and transpiration -- plant transpiration?

A. That's correct.

Q. And then he states, nitrate penetrates deeper than 12 inches, although not greater than tens of feet.

Do you agree with that?

A. Well, we just showed that it doesn't go deeper than twenty-one feet, and that's two tens of feet, so I agree with that statement as well.

Q. Have you seen anything in the technical testimony that -- NMED technical testimony -- that would contradict or provide a basis for contradicting Mr. Kalish's sworn testimony that was adopted as a finding of fact?

A. No. You know, and I would like to -- because it was brought up earlier, I would like to discuss a little bit faults.

You know, what changes how fluids infiltrate or migrate are changes in permeability, and you can get changes in permeability because of geology and -- and because of structural geology like faulting.

But it's -- it's not a one-to-one relationship

that faults cause higher permeability. In some cases they can be negligible and in other cases they can actually be less permeable depending on how much gouge and whatnot there are in faults.

In -- in this case, I suspect that the basalt fractures have increased the permeability, but in the alluvium above it, I don't know how much control it has.

So in the top 100 feet, I don't consider faults anywhere near the issue that they would be if we've got infiltration to significant depth, and infiltration to significant depth, as per our proposed condition, triggers closure.

MR. DOMENICI: Madam Hearing Officer, I'm almost done. I need to find one citation here.

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: Okay. Let me just move on.

BY MR. DOMENICI:

Q. Mr. Snyder, do you have an opinion whether the issuance of discharge permit renewal for DP-465 with the conditions you have proposed will result in a hazard to public health or adversely affect groundwater or will cause an undue risk to personal or physical property?

A. No, it won't. In fact, as -- as we've written that modification, if things are behaving in a manner that we haven't seen yet but it's gone below the first basalt,

we've got provisions to -- to basically halt, you know, any further infiltration and use of the facility.

So -- so not only is it adequate, but it's -- but it's more protective because we -- we've got a trigger for what constitutes a problem we don't want to deal with and -- and we'll move towards closure.

Q. If your proposal is accepted, is there any need for groundwater monitor wells, which are also a condition in NMED's permit?

A. No. No, because we also put in in one of our conditions that there's -- there's mechanisms for vadose zone monitoring, which would let us know where the leachate is far sooner than, you know, a monitoring well would pick it up.

For a monitoring well to pick it up, it will have had to already contaminate 500 feet of vadose zone, which is way too much vadose zone contamination. I mean, that's letting it go way too long before you've got a regulatory trigger to say, we've got an issue.

There are other mechanisms way shallower to determine whether or not there's an issue we need to deal with.

Q. In reviewing the NMED Notice of Intent, did you -- did you notice whether or not NMED's witness has a geology degree?

A. No, I believe he -- I think he's got a master's in -- in the water resources program.

Q. Did you --

A. And -- and it looked like it leaned towards maybe like water policy more so than like groundwater hydrology, but --

Q. Did you see any calculations of any kind in his proposed testimony that would support any of the conditions that he's proposing?

A. No.

Q. Is there any way to respond to his testimony or to his proposed conditions without knowing if he performed any type of analysis to justify those conditions?

A. No. I -- again, I -- I have no idea the basis for that many soil physical property samples. I -- I have no idea why -- you know, if you're -- if you're drilling to these depths, you have to sample every five feet instead of every ten.

MR. DOMENICI: That's all I have. Thank you.

HEARING OFFICER ORTH: Thank you, Mr. Domenici.

Mr. Johnson, do you have questions of Mr. Synder?

MR. JOHNSON: I do.

CROSS-EXAMINATION

BY MR. JOHNSON:

Q. All right. Mr. Snyder, I just want to touch on what you were saying about perched water, which for those who don't know, it's just the shallow layers of groundwater.

Are you -- I believe your testimony, you -- you've described it as something that would act as a capture potentially for the contaminants if they reached one.

Is that true?

A. Yeah, if they perched on that -- on -- on a clay layer and -- and you created a water table there, then all future infiltration would -- would recharge that -- that shallow perched aquifer.

And the only seepage that you would have to depth would be, you know, that which could seep from this perched water table across your clay layer and then discharge below it, and that's generally a pretty low number simply because of how low the permeability is on the clay.

Q. Okay. Are -- are you aware that the groundwater regulations do not differentiate between the perched water and the regional aquifer when it comes to protecting them?

A. That's exactly why I said that if we encountered that, there's all kinds of provisions we'd start following.

Q. Okay. As far as the evaporation, that was also brought up -- I -- I had asked Mr. Hansen earlier -- but you are familiar with pan evaporation, the definition of that?

A. (Nods head.)

Q. How is -- how is that measured?

A. It's measured in an open pan out in -- out in the -- out in the sunlight.

Q. So it's literally like a pan beside a lake?

COURT REPORTER: I'm sorry; what?

MR. JOHNSON: Beside a lake.

A. I don't know why you would necessarily put one beside a lake, but --

Q. It's just another way of describing that type of measuring that I have heard.

But isn't it different than -- to measure evaporation in that sort of environment than it would be to estimate it in a septage impoundment like S & R is operating?

A. Well, yeah, because you've got plant uptake. It -- it's shaded. It's not in the sun. It's still going to warm up and evaporate.

And then even on like ponds, it -- you know, like in -- in the world of water rights, if you're looking at an evaporative loss on -- on, say, a fishing pond at a

resort, I think -- I think you take around 70 percent of -- of the pan evaporation as the effective evaporation, which is why, you know, it might be 50 inches of pan evaporation here, but if you use 70 percent of that -- 35 inches, 30 inches, in that range -- you've still got evaporation that exceeds the amount of water put in these cells by precipitation and off-loading the septage by a factor of twofold, so I do think that the evaporation and the plant uptake is significant.

Q. But there's some -- a fair amount of uncertainty, it sounds like, for the range you described as far as how much might actually be occurring?

A. Oh, absolutely. But -- but again, the proof is -- so, you know, so we could collect a whole bunch of data from zero to one feet and try to figure that out, or we can collect chloride down until we're out of it and we know how far the infiltration front has gone, compare that to the INTERA study and see if their model is fairly well validated and -- and if everything is going according to plan.

Q. Okay. Thank you. Let's move on to the -- the plant growth itself.

I think in your testimony you have acknowledged that what we've seen on S & R's site implies that there's some nitrate combined with water that's causing it to

grow, correct?

A. Yes.

Q. That's -- that's acting as --

A. Yes. If you add water --

COURT REPORTER: I'm sorry. I'm sorry. Wait. I didn't get your question.

BY MR. JOHNSON:

Q. It's acting as a nourishment for the plants?

A. Well, but the soil has got nourishment too. We -- we could go 100 yards away and put -- if we went 100 yards away and put 20 -- 20 more inches of water on the ground in addition to the 15 it rains, we could grow corn for a season or two.

Q. Okay. But in this site, you indicated that nitrate was acting as the -- the primary nourishment? It doesn't --

A. No, I -- no, I didn't. I said the plants will take up nitrogen --

Q. So --

A. -- and they are taking up nitrogen.

Q. Then I think -- okay. You said the occurrence of plants indicates the nitrogen is there?

A. No. You would have plants even if you didn't have any excess nitrogen loading. You could move away from this facility, add 20 inches of water, and grow

plants.

You wouldn't have to bring in septage or fertilizer. You could grow plants for a year -- maybe two -- then you'd need to start fertilizing.

Q. Okay. So let's talk -- go back to the -- I think it's Exhibit 2, the EA report. I don't think that's on the screen at the moment, but it was for the State Engineer wells. That one or the -- the one before it.

A. This one here?

Q. Right there, where we're talking about the lithology.

A. Yes.

Q. Okay. So it looks like in both that and the -- and the other site that there is a certain amount of variability from about eight to a hundred feet where there's some gravel and, as we were talking about, clay, which is particularly relevant, correct?

A. (Nods head.)

Q. So there's some uncertainty even though there was some testimony earlier about there being a high degree of certainty in that layer of soil, some uncertainty in the lithology?

A. (No response.)

Q. What I'm asking is, if you look right below where it's highlighted it says, brown gravel and clay.

A. Yeah.

Q. And it says that that extends for, I think, 30 feet in that case.

And can we scroll down to the other one?

A. (Witness complies.)

Q. Or up.

A. (Witness complies.)

Q. It looks like about 30 feet there too.

A. Sandy -- yeah, sandy clay and gravel.

Q. Okay. So if there's clay there, you testified that some perched water could collect on top of it -- create perched water, actually, by being halted in its percolation at that point.

So doesn't that help justify the need to take samples at every five feet to make sure where that clay is so we know?

A. No.

Q. No. Why not?

A. Because -- because we will continuously core. If -- if -- so we -- so the hole that we drill, we have circulation problems because I think we got into a gravel zone fairly shallow, and so air rotary is not going to work.

I don't want to drill with mud rotary -- it will wash the samples out -- so I'm either going to drill

hollow stem augers and continuously sample and I'll drill it sonic, which will give me ten-foot continuous core, so either way I'm going to see everything depending on our sample recovery.

Now, if I drill hollow stem auger, I'm not going to see as much as sonic, but -- but it's -- it's adequate for this purpose.

And the problem with -- and what I say when I -- I'm not going to see as much is, if I get into a gravel layer, you know, instead of five feet of sample -- every five foot auger flight, I might only get two feet of the --

COURT REPORTER: I'm sorry; every five foot --

THE WITNESS: Every five feet of auger flight I might only get two feet of gravel, because it's hard to catch it all.

A. Clay I'll get 100 percent. Silty sand I'll get, you know, typically 80 to 100 percent, so I'll know what the soil is, I'll know what the soil moisture is based on field observation.

Q. And I understand that's prospective if your plan is adopted, but when we're talking about getting information about how things are now and the -- the testing that was conducted last month, what kind of drill was used?

A. We -- we attempted to drill it with an air rotary rig.

Q. Okay. And it wasn't particularly successful why? Was there debris falling into the hole?

A. Yeah. The hole wouldn't stay open. If you drill air rotary, you have to hope that your -- your hole stays open.

Q. Okay.

A. If it collapses on you -- so picture this: Say you've got a weak zone up here and you're already down here drilling.

If up there collapses on you, then everything is lost in the hole, because you can't pull your bit out, so you reach a point where it's just not the appropriate technique.

Q. And the results from that were, I believe, three grab samples and one split spoon; is that right?

A. Yes.

Q. Okay. So with those three grab samples, how do you know that the -- the soil you're actually analyzing wasn't something that had fallen in, debris from higher up?

A. Well, that would have biased the sample high, because as you notice, the profile decreased with depth.

So if I was at 20 feet and I had stuff coming in

from one foot, that means I was even cleaner at 21 feet then, because I was dirtier above --

Q. But --

A. -- so that would bias my analysis high.

Q. But there is uncertainty about exactly what's --

A. No, that's absolutely certain. That's absolutely certain that if -- that if that zero --

Q. I understand what you're saying.

HEARING OFFICER ORTH: Wait. Hold on.

COURT REPORTER: One at a time, please.

HEARING OFFICER ORTH: Hold on. Mr. Johnson, you need --

A. If the zero-to-one-foot sample collapses --

COURT REPORTER: Wait, please. Please.

HEARING OFFICER ORTH: Mr. Snyder, wait.

THE WITNESS: Oh, I'm sorry.

HEARING OFFICER ORTH: I understand the problem. Mr. Johnson, you -- you keep stepping on Mr. Synder's answer. If you would please let him finish his answers and then ask a question, so Mr. Snyder, please.

THE WITNESS: Yes.

A. So -- so if those shallower samples -- you know, right where the waste is being placed -- if any of that sloughed into the borehole and then came up and I grabbed it in my sample from 21 feet, it's going to bias it high.

It's not going to make it look cleaner, because all my samples above me were higher.

Q. And I -- and I understand that. I wasn't questioning that part.

I was asking if there would be uncertainty about what layer the soil you tested came from.

A. No.

Q. There's --

A. No. The -- the return -- when you're drilling air rotary, the return time from 20 feet is less than a second. I mean, you're getting what's coming up at your bit.

Q. So you are saying there was no debris falling in? I thought you said the hole was collapsing.

A. Once we got down there. That's why we stopped where we did. That problem occurred at the depth we could get to, but that can happen right in the zone you're in.

So if, let's say, for example, from 22 to 25 feet we got into a course gravel. When you're drilling a hole with air rotary, it's -- the air returns up the borehole that brings the cuttings out.

If you're in a course gravel, now you start to blow air out into the gravel and -- and you don't even have the returns, and so it just creates -- it just creates difficulty. Nonetheless, that work that we did

was to get an indication of what we may have going on.

Are those numbers off by an order of magnitude? I highly doubt it. Are they sufficient to go to this permit renewal without us doing any more subsurface investigation? I highly doubt it.

But it did give us a look at where we're at and -- and what we can anticipate as we go into this.

MR. JOHNSON: Okay. Madam Hearing Officer, I want to check with you on this. There's something that is in their pre-submitted written testimony that wasn't testified to just now.

Is it still viable to talk about that?

HEARING OFFICER ORTH: Yes, it is.

BY MR. JOHNSON:

Q. Okay. So in Table 1 of Exhibit 5 of your report, it lists several other facilities for the purpose of comparing permit conditions to see if there is perhaps an imbalance somewhere.

A. Okay.

Q. That's it. So although these sites do lack some of the physical and chemical monitoring required of S & R, isn't it true that they also have other conditions that are not required of S & R?

A. Oh, I'm sure that's true.

Q. And wouldn't that make sense given that each

site is unique?

A. It depends on where you're at. It depends on where you're at. Some -- some people think every site is incredibly unique. They're generally not that incredibly unique. It's somewhere in between. They're never simplistic.

Q. Okay. These locations, do they have any reports or findings that call the -- the prevailing wisdom about the underlying geology into question? Are you aware of anything like that?

A. No.

Q. Okay. So the -- and going back to the Office of the State Engineer wells that were mentioned -- I believe that's Exhibit 2 -- did they evaluate the fractured nature of the basalt layer?

A. Let me -- let me check real quick. And -- and my answer is going to be, I doubt it, because I'll bet they drilled down air rotary and then mud rotary, so no.

Q. Okay. Did they look for the presence of faulting?

A. No.

Q. Okay. So we don't know to what extent it's fractured -- at least from those reports -- the basalt?

A. No.

Q. Okay. And is that due in part to the purpose of

drilling wells of that type, where they're production wells rather than for environmental monitoring or sampling?

A. Right. Yeah. Your objective is to get a good, clean, straight borehole, you know, deeper than 500 feet if you're putting a supply well in.

Now, the degree you would consider -- to which you'd consider some layers like this is, are you going to -- you know, if you're drilling mud rotary, I mentioned how you can lose air to something that's really permeable, right? Well, you can lose mud too, so you want to concern yourself with that.

You don't want to get to like 400 feet and hit a highly fractured basalt and lose circulation because, you know, that can risk your borehole.

And so there's instances around Sante Fe where to do wells this deep you actually had to do casing advancement so that you can hold everything in, and -- and you've got a steel borehole to come all the way to the surface to return your fluids.

Q. Okay. Let's talk a little more specifically about S & R's site.

I believe you testified that you understand they discharge about six inches in each cell; is that right?

A. Making some calculations, it's about six to nine

inches of water per year each cell gets --

Q. Okay.

A. -- in -- in septage.

Q. That was my next question is, how did you come to those numbers?

A. So -- so I went into Google Earth and I measured the areas of -- of the lagoons that are actually -- the cells now that are actually in the new configuration.

I -- I measured those and added them up, and then I took the 500,000 gallons a year -- which was in Mr. Hansen's testimony as well -- and when you apply that, it comes out to that amount of water.

Q. Okay. So you testified to the 2000 Duke Engineering report, and I believe you were relying on Figures 7 and 9 to estimate some future infiltration?

A. Right.

Q. Okay. And those figures, are they not calculated or calibrated for land disposal facilities?

A. That I'm not aware of.

Q. Okay. Are there -- do you recall seeing other figures -- such as 17 and 19 -- that are more akin to S & R because they're impoundment facilities?

A. No.

Q. Okay. If they are, in fact, there, wouldn't that be a better predictor of how far the contamination

may have infiltrated?

A. The -- the INTERA report -- I am not placing the -- the basis for our proposed modification on the INTERA report.

I'm basing it on actual field measurement of chloride and nitrate infiltration, and then we'll come back and back check how that looks relative to the INTERA model for completeness.

But from my perspective, with an issue like this, we need to find where the bottom of the chloride front is, because that's going to tell us how deep our infiltration has gone.

And again, if it's gone to great depth, we contemplate closure. If it hasn't, then, you know, it adds some validity to the INTERA model, but it also shows that it's gone 45 feet, 50 feet. Whatever it has gone, we will figure that out.

Q. Okay. And I believe this is my last question.

You -- I think you testified that you hadn't -- weren't aware of any other examples that used the same testing protocols, what's been written into the draft permit; is that right?

A. That soil physical properties every five feet and five boreholes over this area to a hundred feet, I am not.

Now, that said, if we were citing a hazardous waste landfill, that would be a different matter.

Q. Okay.

A. I mean, that's where you need -- I mean, if -- if you need that level of, you know, protection from infiltration, that might be a case where you would do that.

Los Alamos may have some examples where they've had to do that on some facilities, but I've never -- I've never encountered anything like this on a waste site.

Q. Are you aware of the 2000 Shomaker report that was sort of the predecessor to the Duke Engineering?

A. I'm -- I'm familiar with it. I haven't reviewed it.

Q. Okay. So you're not sure if it might have the same protocols in it?

A. It -- it may. It may and -- but who was Shomaker working for?

Q. I'm asking the questions. You tell me.

A. I don't -- I don't know -- I don't know who contracted.

THE WITNESS: Did -- did you contract Shomaker?

MR. RAEL: It would have been the State that --

A. It would have been the State, so that's a State specification, yeah, and the State was paying for it,

so --

Q. And -- and what's the implication there?

A. If -- if they wanted data to that degree -- particularly for the purpose of doing a vadose zone leaching modeling -- I can understand it.

These -- but I mean, there's some other analyses if you're going to do vadose zone leaching modeling. Like saturated hydraulic conductivity is not as important as like moisture retention curves, so I'm not sure I understand this regimen altogether.

Q. I think ultimately what I'm getting at is, there -- there is some precedent for doing this type -- at least if you accept my -- my assertion that the 2000 Shomaker report has the same protocols, regardless of the source it came from.

A. Right, but from the standpoint of -- but that's for supporting a model development.

From the standpoint of characterizing a site, again, ASTM does not suggest you do it at that frequency. ASTM suggests that you adequately -- adequately characterize each soil horizon that you have.

MR. JOHNSON: Okay. Thank you. No more questions.

THE WITNESS: Yes.

HEARING OFFICER ORTH: Thank you, Mr. Johnson.

Mr. Brockmann, do you have questions?

MR. BROCKMANN: No questions for El Prado. Thank you.

HEARING OFFICER ORTH: Thank you.

Mr. Smith?

MR. SMITH: No questions.

HEARING OFFICER ORTH: All right. Does anyone have a question?

Madam, please give us your name first.

MS. LESLIE: My name is Mary Lane Leslie.

CROSS-EXAMINATION

BY MS. LESLIE:

Q. Mr. Snyder, you're being paid as an expert, correct?

A. Yes.

Q. And you're being paid by S & R?

A. Yes.

Q. So you just intimated that the State's report would have been influenced by the fact that it was hired and paid for by the State of New Mexico.

Is that true about your own report, that you're biased towards Mr. Rael?

A. No. What I said was that the State's specification on those samples was -- was probably dictated by the data needs to do the leaching modeling.

Q. And your criteria that you are using is supposed to show that Mr. Rael is not creating any kind of a hazard to our neighborhood; is that correct?

A. Any kind of hazard to the subsurface, particularly protection of groundwater.

Q. Okay. So your opinion was -- is that there is -- that this is not hazardous waste.

Is liquid waste -- i.e., septage -- is it hazardous waste as defined by the New Mexico Environmental Improvement Act?

A. I never commented on the nature of the waste.

Q. You -- you did say that this -- that there was no hazardous waste. I wrote it down when you said it.

A. This is not, by definition, hazardous waste --

Q. Okay. So --

A. -- according to the Resource Conservation and Recovery Act.

Q. Right. So hazardous waste does not include liquid waste, but would you say that liquid waste is in no way a danger to public health --

A. Absolutely --

Q. -- and safety?

A. Absolutely not. It is waste --

Q. You would not say that?

A. -- it is regulated waste, and we need to follow

those rules.

Q. All right. So -- so you are being paid as an expert.

Would you please tell us what your hourly rate is?

A. On this project I think it's $215 an hour.

Q. And do you have an idea of how many hours you've put in so far --

A. I have --

Q. -- including -- including today?

A. Right. And -- well, and Mr. Marley, whose resume was in our testimony, was involved as well, and I think -- I think we're at $11,000 or something, and that included the sampling and the field work.

Q. Okay. So then you would add to that maybe six or eight hours for today?

A. Yes.

Q. All right.

A. Well, no, that's not add -- that's inclusive.

Q. All right. So the 178,000 for five boreholes, how many for just one with all of the things that you're supposed to test?

You did have a chart up up there and it's not up there now, so I can't ask about specific items.

A. Right. So -- so if I -- if I drill with hollow

stem auger, by the time I plug it and everything, it's probably 50 bucks a foot.

If I drill with sonic, it's probably 70 bucks a foot plus mobilization, demobilization, which would add five to ten grand to the project.

If we go to 100 -- let's say we have to go to 150 feet through the basalt. At 50 bucks a -- well, that would have to be done with the sonic, so that would be what, seven thousand, ten, and then maybe ten, so like 20,000 bucks for the borehole.

Q. Would you bring back up the chart that you had that showed the individual costs?

A. Yes.

Q. Okay. So that first line for 15,000, does that count for just one well?

It says -- under number it says one, so is that 15,000 part --

A. No, that's --

Q. -- of drilling --

A. -- that's --

Q. -- one borehole?

A. -- that's if we have to -- I'm sorry; that's if we have to process all one hundred soil physical property samples and all one hundred other samples and -- and -- and do five bore logs, and that's -- that's related to the

scope that the State has.

Q. Okay. So if you just do one, would the cost be $50,000 with all the same things you have to do and with your report and with everything else that Mr. Rael would have to pay for?

A. Fifty thousand would cover it. Maybe forty thousand.

Q. Okay. Does that include the cost so far of the -- of the air rotary drilling that failed?

A. No.

Q. All right. How much did that cost?

A. I don't know. Mr. Rael paid the driller directly.

Q. Okay. And how far did you get with that sampling?

A. I think to like 25 feet or whatever.

Q. Okay. All right. Have you ever testified for S & R before?

A. No.

Q. Have you ever testified for opponents of this type of a discharge permit?

A. No.

Q. You always testified for the discharge permit. Would you want, Mr. Snyder --

MR. DOMENICI: Do you want -- do you want him

to answer?
BY MS. LESLIE:
Q. -- would you want open unlined pits --
MR. DOMENICI: I want to make an objection.
COURT REPORTER: Wait. One at a time. One at a time, please.
MR. DOMENICI: I want to make an objection. So the questioner makes a statement, testifying -- unless it's actually a question -- and then she doesn't let an answer occur, so I would ask to strike that question or statement, or treat it as a question and allow an answer.
HEARING OFFICER ORTH: Right. So Madam, do you remember you did that? You made the statement, I guess you always testify on behalf of the Applicants then, but then you didn't give him an opportunity to answer you.
BY MS. LESLIE:
Q. Would you please answer that, Mr. Snyder?
A. On -- on discharge planning hearings, it's been on behalf of the Applicant, but again, I'll go back in my original qualifications.
I work directly for the Environmental Protection Agency. I'm working for the Environmental Protection Agency doing oversight on the closure up at Questar. In that case I'm working for the regulator, not Chevron Mining.

Q. Is --

A. So -- so I work for -- I work for who retains me and pays me, and my testimony is based on, you know, what I see and -- and the technical basis, and I'm not swayed one way or the other.

Q. But you did think that the State's testimony might be swayed because they set the criteria for what they wanted tested?

A. I think that the State's scope -- and again, this is professional judgment -- I think that the State's scope -- which might have been comparable with respect to every five feet -- was to support the model that then INTERA did.

Now, if the State said they wanted to do this because they wanted us to do a whole bunch of vadose zone modeling, that's a whole different condition and a whole different -- but -- but -- but when you collect data, question number one is, how are you going to use that -- how are you going to use that data, and then when you derive decisions from that data, how are you going to do that.

So you have if/then statements. If the soil -- and -- and -- and I'll -- I'll give you an if/then statement for something I've already testified to.

So if the soil has no nitrate or chloride at 50

feet and if the soil has no nitrate or chloride at 60 feet, and if the soil has -- at 70 feet has no nitrate or chloride contamination, then do we or do we not have complete vertical delineation, or maybe it's at 50, 70, and 90. I -- I've got to work with the State on that.

But -- but you don't collect data for the sake of collecting data. You collect data to make decisions and -- and make sound decisions.

And -- and within the world of EPA -- and -- and it's even within some of the NMED rules -- you -- you develop data quality objectives and quality assurance plans to make sure that -- that you collect sufficient data, defensible data, and enough data to answer the questions that you're trying to answer -- not half as much, but -- but certainly you don't need 300 times as much either.

Q. Uh-huh. Okay. So would you agree that this pit is not a treatment facility for septage?

A. Would I agree it's not a treatment facility for it?

Q. Right.

A. I believe they do a lime treatment when they discharge it.

Q. Do you think that it's sufficient to make it safe?

A. I -- I think that that protocol follows EPA guidelines --

Q. Okay.

A. -- and probably some State guidelines as well, but I'm not familiar with them.

Q. Are you familiar with the --

COURT REPORTER: I'm sorry; are you familiar with the what?

MS. LESLIE: I'm sorry.

BY MS. LESLIE:

Q. -- the EPA Guide to Septage Treatment and Disposal, which is a guide for all persons -- including the states, municipalities, counties, and individuals -- responsible for the handling of septage? Are you familiar with that guide?

A. And so I'm -- I'm going to go back to my introduction. I am testifying about conditions 20 and 21, subsurface investigation and determining the nature and extent of chloride and nitrate that have leached from these lagoons.

I did not prepare myself whatsoever with respect to the surface operational requirements and treatment requirements that are in the discharge plan --

Q. Okay.

A. -- because, I mean, this -- they're in the

proposed plan. I have no basis to contest them. I didn't suggest any changes to them.

Q. Okay. So you would not have any kind of expert testimony to deny that providing adequate treatment and disposal systems is to protect public health and the environment as septage may harbor disease-causing viruses, bacteria, and parasites?

A. I'm not a toxicologist, nor a pathologist.

Q. Are you a biologist?

A. No.

Q. So how do you know about the plants that you testified --

A. Because I studied agriculture and forestry for years, and I have had classes in agronomy and crop science.

Q. How long --

COURT REPORTER: I'm sorry --

A. I am not an expert.

COURT REPORTER: I'm sorry; you've had classes in what?

THE WITNESS: Agronomy and crop science.

A. I'm not an expert, nor do I -- nor do I purport to be an expert.

Q. Did -- did you actually go out to the septic site, to the sewage pits?

A. No.

Q. Okay. So you don't know what kind of plants are growing out there?

A. No.

Q. All right. Okay. So you do agree that liquid waste is a nonhazardous waste under the ORCR?

A. By definition, yes.

Q. All right. Okay. But you're not familiar with the guide, even though it covers things like the -- the testing of a septic site?

A. I -- I came to testify on conditions 20 and 21. Those were the only proposed changes that we made.

Q. Okay. Well, the guide does speak to that, but you're not familiar with the guide is your answer; is that correct?

A. Not -- not intimately, no.

MS. LESLIE: Okay. All right. Thank you.

HEARING OFFICER ORTH: Thank you.

Mr. Hansen, did you say you -- indicate that you have questions?

MR. HANSEN: Yeah, I've got just a few.

CROSS-EXAMINATION

BY MR. HANSEN:

Q. I, unfortunately, didn't get a copy of your report, and I wondered where that borehole was in

relation --

A. We -- we put it in cell seven.

Q. Which is where?

A. One, two, three, four, five, six -- so it's this one right in here.

Q. Okay.

A. It -- it took a lot of --

COURT REPORTER: I'm sorry; it took a lot of -- you're going to have to speak up. It took a lot of --

THE WITNESS: Well, I'm pointing to something.

A. But cell seven is in the southeast corner of the facility, and -- and it's in an area where Mr. Hansen showed some of that earlier ponded water with -- with the sloped surface, because they were -- they had a --

Q. You --

A. -- slight slope on the -- on the impoundments --

COURT REPORTER: They had a what?

THE WITNESS: A slight slope.

A. -- but it was in this area here.

Q. Okay.

A. We -- we suspect this area here too, so I mean, we want to gather whatever information we can and discuss it with the State.

Q. All right. It seems like -- to me, it seems like a better place for a borehole -- that's sort of

peripheral to what I can see on air photo is the main body of the septic cells out in the center over there, so I -- I wonder if there might be heavier concentration of nitrates -- deeper concentrations if you actually drilled more in the center of the -- of the, you know, the --

A. Right.

COURT REPORTER: The what? I'm sorry; of the field as well? Is that what you said?

MR. HANSEN: Of the septic field.

BY MR. HANSEN:

Q. If you drilled more in the center of the septic field rather than kind of on the periphery of it.

A. Well, but they're -- but they -- they are divided cells, so we went into the cells that had ponded loading in them.

But again, I'm amenable -- we can put together a recommendation. I'm amenable to a back and forth on it until we can agree on, let's do it here.

I -- I do not have -- I do not have any preconceived notions as to where that borehole should go. If -- I'm not familiar with every concern over the life span of this facility. If people have anecdotal information, we'll take that into consideration.

I want to put it where we can answer the question and people are comfortable with the question

getting answered.

Q. Right. It does look like to me that there is a slope in toward this old arroyo on either side --

COURT REPORTER: I'm sorry; you're going to have to speak into the microphone. On either side --

BY MR. HANSEN:

Q. On either side of that old arroyo, and it would make it seem like seepage through this -- through -- through this cell might make those nitrates come out a little bit deeper than what you've showed in --

COURT REPORTER: I'm sorry, sir; could you please speak into the microphone? I can't hear you.

MR. HANSEN: Okay.

BY MR. HANSEN:

Q. I think if you put a borehole in the center, it would show different things than something on the periphery, maybe some -- maybe a little bit more concentration of -- of the nitrates and at a deeper --

MR. DOMENICI: Madam Hearing Officer, can I mark this document as Exhibit Snyder 1-7 so there will be something in the record to confirm what they're discussing?

HEARING OFFICER ORTH: Thank you for that. Yes.

Are -- are those all of your questions, Mr. Hansen?

BY MR. HANSEN:

Q. I guess the other thing that strikes me is, if you're going to take one borehole to the basalt, A, you're not going to see much of the basalt probably, but B, it's -- it's really not much aerial coverage that you're looking at. You're looking at one borehole down to the basalt.

And, you know, are there close -- close-by faults that might channel some of this --

COURT REPORTER: Are there what? I'm sorry.

MR. HANSEN: Close-by faults.

BY MR. HANSEN:

Q. -- that might channel some of this effluent?

Where -- where -- I'm trying to argue that it may be better to look at an aerial coverage through some of the geophysical means than just one -- one particular borehole.

A. I think that in the alluvium -- I think that in the top 100 feet, the -- the way the -- the infiltration spreads and -- and migrates vertically is going to be fairly predictable.

And -- and if the basalt is, you know, say, at 105 feet and we sample the alluvium at 100 feet and it's impacted, then our next step is to drill through the basalt to see if it's leached through the basalt, as was

your concern in your testimony.

And to -- to immediately answer that question -- have we -- have we leached to that depth -- we don't have any indication yet that we've got that kind of a problem, but if we do, we want to know, because again -- and -- and -- and I've said this on, you know, some of the dairy operations over by Clovis where it's 350 feet to groundwater -- if -- if you -- you know, you don't want to -- you don't want to contaminate 350 feet of vadose zone -- or in this case 500 feet of vadose zone -- and then find out you've got a problem, because then you've got a big problem.

You've got a lot of mass of contaminant in the vadose zone, and it will take it a long time to slowly drain out.

Q. Right.

MR. HANSEN: Okay. Thank you.

HEARING OFFICER ORTH: Okay. Thank you, Mr. Hansen.

Is there anyone else with a question of Mr. Snyder based on his testimony?

MR. DOMENICI: I have some redirect for him.

HEARING OFFICER ORTH: All right. If you would, please, Mr. Domenici.

REDIRECT EXAMINATION

BY MR. DOMENICI:

Q. Mr. Snyder, will you turn in that book there and look at page 00844?

A. Yes.

Q. At the bottom paragraph starting with, in addition --

A. Yes.

Q. -- will you read that, sir?

A. In addition, the facility is located in the vicinity of the Los Cordovas Fault. Faults have been mapped in the area in a north-south orientation and may extend thousands of feet downward -- and that was a personal communication from Paul Bauer down at TAD.

The area in which the facility is located can be characterized based upon the extrapolation of data from recent mapping of the region at the southern end of the Los Cordovas Fault as an area where faulting is more extensive than previously recognized.

There is significant fracture of the bedrock, and in general, the fractures are not cemented.

Q. Have you seen anything in the Drakos report or the El Prado well log that adds to that description that was provided by NMED in the prefiled testimony or the summary of testimony of Fred Kalish in 2002?

A. Not that I recall. Not that I recall, and -- I

mean, and Paul provides a good description here with respect to ramifications to permeability.

The fractures are open. It's highly fractured. I expect it to be quite permeable. I would not -- I would not expect it to stop anything, put another way.

So -- so what we want to know is, are we even there? We're not supposed to be there. So how deep does our infiltration go so far?

Q. Well, what I want to know is whether this statement, which states, as an area where faulting is more extensive than previously recognized -- which did recognize that in 2002 -- whether you've seen anything in the NMED Notice of Intent that indicates it's even more extensive than previously recognized, but was recognized in 2002?

A. No. No. And I mean, and -- and if there was a concern regarding, you know, fracturing in the faulting, what you need is right there in that paragraph. It should have been explored a long time ago if it was truly a significant concern.

But I think that the 100 feet of alluvium ameliorates some of that concern, because again, the basalt only comes into play if we've had leachate all the way down to it.

Q. Now, you had -- you testified a lot on drilling.

For the two drilling logs that you attached to your testimony, what was the drilling method -- if you know?

A. The one was air mud rotary, and I think -- I suspect the other one was too. Hold on a second.

This one was air rotary and then mud rotary, and this one was -- well, it's Fennell Drilling Company. Well, rotary.

COURT REPORTER: I'm sorry; what?

MR. DOMENICI: Rotary.

A. It just says rotary. Probably mud rotary to get to those depths.

Q. So do either of those drilling techniques indicate that the driller or the person hiring the driller had enough concern that they would encounter a fault and lose the entire value of the rotary drilling, therefore they would use some other drilling technique that would protect the hole if there was faulting?

A. No. And in fact, the second one -- the one I've got up right now -- they started it on November 10th, 2005, and they were done on the 18th, so it took eight days to put in.

The first one they started on June 11th, '02, and they completed it on the 28th of June, so it took twice as long.

Q. And were they both successfully completed as per the well log?

A. Yes. Yeah. The first one was drilled to 800 feet, and the second one, 657.

Q. And neither of them encountered faulting that interfered or basically required them to turn to some other drilling method?

A. Yeah, there's not an indication of that, but I, you know --

MR. DOMENICI: That's all I have.

HEARING OFFICER ORTH: All right. Thank you.

Is there any reason not to excuse Mr. Snyder at this time?

MR. JOHNSON: Can I do one recross?

HEARING OFFICER ORTH: All right, Mr. Johnson.

MR. JOHNSON: Mr. Snyder, just one quick question.

RECROSS-EXAMINATION

BY MR. JOHNSON:

Q. You're aware that El Prado and the Waste Management site both drilled wells -- new production wells -- since 2012?

A. Yes. I'm familiar, yeah.

Q. Okay, because part of what we're kind of debating tonight is, you know, how much might have changed

since the previous permit.

Would that cause some significant change in the hydrology or the geology?

A. Not from my perspective, because again, from my perspective, this is a vertical problem unless I find something that -- that hasn't been encountered before, which would be like a perched layer.

Q. Would production wells like this, though --

A. No.

Q. -- draw out a significant amount of water from where they had drilled to?

A. Well, they would only draw out water if I had leachate that went all the way down to 500 feet, so I'd have to leach all the way down to 500 feet, then I could be influenced by those wells.

Q. Okay. But the wells themselves that are drilled are taking -- they're -- they're production wells, so they're taking water out of the aquifer, right?

A. Right.

Q. Okay. And that's a -- is that not a relevant change since 2012?

A. Well, so -- so I could have a potentially complete pathway if I've got leachate that goes all the way to the groundwater, enters the groundwater, and then is drawn towards that well.

That -- that's absolutely significant, but that would require that I've got leachate at 500 feet, and -- and again, that's the question that needs to be answered.

MR. JOHNSON: Okay. Thank you.

THE WITNESS: Yep.

HEARING OFFICER ORTH: Thank you.

All right. Again, any -- Mr. Hansen?

MR. HANSEN: I just have one more.

RECROSS-EXAMINATION

BY MR. HANSEN:

Q. The two wells you're -- excuse me -- the two wells you're talking about, where are they again? Can you show that map of --

A. Yeah, let me -- give me just a second.

HEARING OFFICER ORTH: We have a black screen, Mr. Snyder, so I think Mr. Hansen is going to have to come toward where you are to see it.

MR. HANSEN: Okay.

A. This is 78139 --

COURT REPORTER: Could you use the microphone, please?

A. -- and this is 85934. I'm sorry; that was -- so -- so these are located south of the facility maybe 300 to 400 feet.

MR. BROCKMANN: Could -- could I ask also for

the record that he'd identify which particular map he's looking at?

HEARING OFFICER ORTH: Yes, please, Mr. Snyder.

THE WITNESS: In my -- in my testimony, this is page -- it's the first page of Exhibit 2.

MR. BROCKMANN: Thank you.

BY MR. HANSEN:

Q. Okay. I've been out in the field looking for those two wells specifically, and they're not there.

Those -- one of those wells is a Waste Management well, which is actually down over here, located quite a bit further away, and the other one, I think, is in -- on the -- on the mesa someplace.

COURT REPORTER: I'm sorry; is where?

MR. HANSEN: Is in -- on the mesa someplace.

BY MR. HANSEN:

Q. I wasn't able to figure out the exact location of that well, but I don't know if that makes a difference or not, but --

A. These are -- these are as reported in the Office of the State Engineer.

Q. Right. That's right, and -- and the -- the -- the State Engineer database is quite often inaccurate, according to Tony Benson.

I just wanted to say that if that has any

bearing on this, those wells are -- are not where they are -- where they're cited.

A. Our -- our -- and -- and again, our principal purpose was to try to get a handle -- our principal purpose was to try to get a handle on the anticipated depth to basalt.

Q. Right.

A. If -- if they're misplotted, they're -- they're misplotted. I think I've read, you know, that basalt can be encountered anywhere between 30 feet and 100-some feet out here. If we've got basalt at 40 feet, we'll find it.

Q. Yeah.

MR. HANSEN: Okay. Thanks.

HEARING OFFICER ORTH: All right. Any reason not to excuse Mr. Snyder at this point?

Sir, if you would come up to the podium and give us your name first.

MR. DOMENICI: I had -- I had redirect based on the recross.

HEARING OFFICER ORTH: Okay. I'm going to ask this gentleman --

MR. DOMENICI: Sure.

HEARING OFFICER ORTH: -- first.

MR. DOMENICI: Sure.

MR. MONDRAGON: Hello. My name is Norbert

Mondragon.

COURT REPORTER: I'm sorry?

MR. MONDRAGON: Norbert Mondragon.

RECROSS-EXAMINATION

BY MR. MONDRAGON:

Q. I would like to ask that -- the question that was asked by Mr. Domenici of Mr. Snyder on whether this posed a health risk -- a public health risk -- be modified to state that the testimony given by Mr. Snyder is based only on the groundwater concerns and does not address hydrogen sulfide and the airborne pathogens that will be created by the air quality impact that many of us are here to ask about, so if we could ask that that be modified?

HEARING OFFICER ORTH: All right. So Mr. Snyder, the question is whether your understanding of whether this facility poses a risk to public health or safety includes a consideration of the potential airborne contaminants that Mr. Mondragon mentioned.

THE WITNESS: It does not.

BY MR. MONDRAGON:

Q. Specifically, your answer is that it does not pose a risk to health?

A. No, no, no.

HEARING OFFICER ORTH: He's --

A. I -- I -- I'm sorry; let me rephrase -- let

me -- let me give you a more complete answer.

Q. Thank you.

A. The -- my testimony is with respect to protection of groundwater, which is 20.6.2 of the New Mexico Administrative Code. It's the rule that this hearing is under and the permit is under.

The air quality issues I -- I will provide no testimony to and have prepared no testimony to or, you know, whether or not there's pathogens in the septage or any -- any of those surface issues.

My testimony only included protection of groundwater.

Q. I understand that. I would just like for the record to reflect that when you say that it does not risk -- it does not pose a risk to public health.

A. That's correct, and that's an appropriate correction. Thank you.

MR. MONDRAGON: Thank you.

HEARING OFFICER ORTH: Thank you.

Any reason not to -- oh, Mr. Domenici, you had a follow-up.

FURTHER REDIRECT EXAMINATION

BY MR. DOMENICI:

Q. I was trying to understand the recross, I think, from NMED. Let me just ask it a different way.

If there are -- so we have S & R. We have the cells. We have a method of using those cells. Five hundred feet down we have two wells that are completed to eight hundred feet, but are screened at, say, six hundred to eight hundred, and then two more wells are put in -- the same thing.

Does that make any difference on the rate that the effluent or the way it would travel through the vadose zone?

A. None whatsoever.

MR. DOMENICI: Thank you.

HEARING OFFICER ORTH: Okay. Now, is there any reason not to excuse Mr. Snyder?

Thank you very much, Mr. Snyder.

We've now gone a few minutes past two hours. We do need a break. Let's take ten minutes.

When we come back, I would like to invite whatever public comment people who have any kind of time constraints or don't want to wait for the next technical witness to end to give -- and I'm sorry for the interruption in your presentation, Mr. Domenici, but it's -- it's -- we've been going long already.

MR. DOMENICI: Well, we -- we have a similar situation that you accommodated previously, which is, our next witness has to leave, and he's very short. He's our

well driller.

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: And he -- my direct will be five minutes. I'm not sure what the cross on it will be.

HEARING OFFICER ORTH: Okay. I'm sorry then. I -- I should have asked rather than made a statement. We'll hear from the well driller then, and then I will invite whatever public comment there is to be given by folks who want to give it. Thank you.

MR. DOMENICI: So after -- after the break?

HEARING OFFICER ORTH: Yes, after the ten-minute break.

MR. DOMENICI: Okay. Thank you.

(Recess was held from 9:24 p.m. until 9:37 p.m.)

HEARING OFFICER ORTH: Let's go back on the record, please.

Mr. Domenici, who are we going to hear from next?

MR. DOMENICI: Mr. McCann.

HEARING OFFICER ORTH: Mr. McCann, would you raise your right hand?

JIM McCANN,

having been first duly sworn, testified as follows:

HEARING OFFICER ORTH: Thank you.

MR. DOMENICI: Before I do this, Madam Hearing

Officer, I'd move into admission Snyder Exhibits 1 through 7 -- 1 -- 1-1 through 1-7.

HEARING OFFICER ORTH: Are there objections?

MR. JOHNSON: No.

MR. BROCKMANN: No objection.

HEARING OFFICER ORTH: Okay. I hear no objections --

MR. JOHNSON: No objection.

HEARING OFFICER ORTH: -- from any of the other parties. They are admitted.

(Snyder Exhibits No. 1-1 through 1-7 admitted into evidence.)

DIRECT EXAMINATION

BY MR. DOMENICI:

Q. Mr. McCann, how long have you been a well driller, sir?

A. I've been licensed in the state of New Mexico at least four years.

Q. Can you give us a ballpark how many wells you've drilled?

A. Just in New Mexico, hundreds. I've been licensed in other states also, so --

Q. And in the vicinity of the S & R facility, have you had the opportunity to drill drinking water wells?

A. Close by, within 100 yards.

Q. Will you look at the exhibit in front of you, which is McCann Number 1?

A. Okay.

Q. Are you familiar with this well, sir? It's -- it's the Plyer, LLC, well.

A. Well, I know the driller and I drilled across the street from him, so I'm familiar with what he experienced.

Q. What did -- which well did you drill across the street?

A. Where the Mesa Brewery is. It's a different log. I don't know if you have that in there.

Q. Turn to Exhibit 2, if you will. That's the Fennell Drilling, so that's another well drilled by --

A. By a --

Q. -- another well driller.

A. -- previous well driller. It's down by Tune Drive. It's just a few hundred yards from, say, the Cook -- Cook well.

Q. And look at Exhibit 3.

Did you drill the Waste Management well that they're currently using?

A. Yes, I did.

Q. Did you create a log?

A. Yes.

Q. Is that the second page of Exhibit 3?
A. Okay.
Q. That's your log?
A. Yes, and my signature.
Q. And that shows that the black basalt was encountered at 110 feet?
A. Yes, it does.
Q. And above that is a hundred and two feet -- thickness from eight feet to a hundred and ten feet of brown clay and -- brown gravel and clay?
A. Yes, and a little white caliche in there also.
Q. How close is that, approximately, to the S & R site?
A. Close. A few hundred yards, I'd say.
Q. And if you look at McCann Exhibit 2, which is the Fennell well -- well, let me ask you this: So you said you drilled a well at the -- the brewery?
A. Yes.
Q. How close is that to Waste Management?
A. You can throw a stone.
Q. And was that -- was the well log similar to that in terms of the depth to the basalt?
A. Pretty much so. We just went deeper because the management of Waste Management, they had a problem well from another drilling company, and so we had to cement

that well and drill this new well.

And because they were afraid of losing water again, they had me go deeper. That's the only reason why it's an 800-foot well.

Q. But as far as when you encountered basalt, was that similar to the --

A. Yes.

Q. -- Waste Management well?

A. Yeah. If you compare their logs, they're pretty close.

Q. Did you encounter perched water in either of these wells?

A. No, never.

Q. Have you encountered perched water in any wells you've drilled, say, within a half mile of S & R?

A. No. The only perched wells that I can recall is closer up in the mountains, like in El Salto or wherever.

Q. And how would perched water show up on the well log?

A. Generally, you lose circulation on some of it and you might put perched water, because a lot of times it dries up right away as you're drilling.

Q. Do you talk to other drillers about drilling experiences or conditions?

A. Yes.

Q. Does that --
A. Yes.
Q. -- help you know what to expect when you drill?
A. Yes -- especially if you're in an area that you've never drilled and experienced what's there, you know, someone that has done that, we -- we communicate.
Q. And do you read drill logs from other -- do you look at drill logs from other drillers?
A. Yeah, because that's -- this is all -- with the State of New Mexico, it's public information, so you can get it online -- most of it.
Q. Are you aware of any perched water -- regardless of who drilled -- within a half mile -- being encountered within a half mile of S & R?
A. Not that I know of. Not for me anyway.
Q. And if you'll look at the log on Exhibit -- McCann Exhibit 2 for Fennell Drilling, on the -- that's on the second page -- and I know you might not have your glasses, so I'm going to read this to you.
So on the log -- turn -- turn that page -- on the log it shows that the black basalt starts at 106 feet and is 30 feet deep.
A. Yes.
Q. Is that similar to what you've encountered?
A. Yeah, it's similar.

Q. And if you'll look at the McCann Exhibit 1, which is another log -- so maybe I was looking at 1. I apologize. That was 1 that we were discussing.

Let's see. I messed up here. Hold on. No, that was -- yeah, that was 2. Okay. Let me find 1. I'm sorry; that was -- that was Exhibit 2.

So McCann Exhibit 1, do you recognize that well?

A. Yeah, I know the driller and where he drilled this well.

Q. And how -- where was that in relation to the two wells you drilled, Waste Management and --

A. Right next door to the Taos Mesa Brewery there's a -- they just put a trailer park in there. In fact, I used to own that land and I sold it to them, and they had Mr. Cook drill them a well there.

Q. And that shows basalt starting -- if I understand this correctly -- at 39 feet?

A. Well, it's hard for me. I forgot my glasses.

Q. Okay.

A. Excuse me.

Q. Well, I'm just going to tell you, it appears it shows it at 39 feet to a -- for a depth thickness of 208 feet.

A. You know, I -- I wasn't there, so I can't say, but that's what's in the -- on the log.

Q. Okay. So does the basalt vary somewhat, the -- the depth --

A. It can.

Q. -- to reach it?

A. Yes. It depends on what happened when the basalt was flowing as lava. It had hills and valleys.

MR. DOMENICI: That's all I have. Thank you.

HEARING OFFICER ORTH: Okay. Thank you.

Mr. Johnson, do you have questions?

CROSS-EXAMINATION

BY MR. JOHNSON:

Q. Mr. McCann, so you prepare the -- the drill logs, correct?

A. Do I prepare logs? Yes.

Q. From when you drill?

A. Yeah. That's required by the State of New Mexico.

Q. Okay. So you -- you mark down what kind of soils you encounter.

Are you trained as a geologist?

A. No. I've worked around a lot of this, but I haven't been educated in geology.

Q. Okay. And of the drinking water wells that were just described as being near the S & R facility, you drilled one of them, correct?

A. No, I had at least two right there.
Q. Well, I see the Waste Management.
What's the other one?
A. Taos Mesa Brewery.
Q. Okay.
A. It's right next door.
Q. Okay. So within those, were you using -- it looked like you were using the -- the method of drilling was air and mud rotary equipment; is that right?
A. Yes.
Q. Okay. So wouldn't it be difficult to detect shallow water using that method?
A. With air you can, because --
Q. Air, but not with mud?
A. -- you're drilling with a foam-air-water mixture, but it's to lift your cuttings out of the hole -- like shaving cream -- and when you encounter water, it dilutes it right away.
And, you know, you'll see more cuttings coming out of the ground thin down sometimes, and you know you have perched water.
Q. So even though you're injecting foam, which is basically a liquid, it's not confusing your --
A. Just strictly air. No.
Q. -- your analysis?

A. You need the -- the water to help lift the cuttings --

Q. Okay.

A. -- and we add foam to the water. It's a surfactant -- it's not a pollutant --

Q. Okay.

A. -- that helps lift the cuttings.

Q. Okay. And -- and for the most part, what you drill is drinking water wells?

A. Water wells, yes.

Q. Okay. Do -- water wells. Do -- do you ever do environmental monitoring wells --

A. Oh, yes, many.

Q. -- for soil sampling and --

A. Oh, you name it.

Q. -- looking for water, right?

A. I've worked for some of the best companies in the country.

Q. Okay. And when you were drilling out at S & R's site last month, there was a split spoon sample taken?

A. Uh-huh --

Q. And a split spoon --

A. -- several.

Q. Okay. And a split spoon would be particularly necessary for that kind of environmental testing, wouldn't

it?

A. Yes, uh-huh.

Q. Okay. Was the one you were using a rental?

A. I borrowed it from a friend.

Q. So are you not regularly using split spoons in your work?

A. Oh, I -- I haven't drilled environmental for several years. There's just not that kind of work anymore.

Q. Okay. And then finally, going back to the purpose of, for example, the wells at the Taos Brewery and Waste Management, if they're meant to get down to the -- say the original aquifer, is it common to -- to stop along the way and look for perched water?

A. Not necessarily, no.

MR. JOHNSON: Okay. Thank you?

A. But you would know if you had it.

MR. JOHNSON: Okay. Thank you.

HEARING OFFICER ORTH: All right. Thank you. Mr. Brockmann, do you have questions?

MR. BROCKMANN: No questions. Thank you.

HEARING OFFICER ORTH: Does anyone else have questions? Mr. Smith?

MR. SMITH: No.

HEARING OFFICER ORTH: Anyone else, questions

for Mr. McCann based on his testimony?

Anything to follow up, Mr. Domenici?

MR. DOMENICI: Just some exhibits, McCann 1, 2, and 3, admitted.

HEARING OFFICER ORTH: Any objections?

MR. JOHNSON: No objection.

MR. BROCKMANN: No objection.

HEARING OFFICER ORTH: All right. Thank you. McCann 1, 2, and 3 are admitted.

(McCann Exhibits No. 1, 2, and 3 admitted into evidence.)

HEARING OFFICER ORTH: Thank you very much, Mr. McCann.

MR. McCANN: You're welcome.

HEARING OFFICER ORTH: You're excused.

So Mr. Domenici, at this point I would like to just ask if there's someone who'd like to offer public comment now before waiting.

Sir in the blue shirt, and then ma'am, and then sir in the darker blue shirt. And we need your name and spelling if it's not that obvious.

MR. TAFOYA: My name is Phillip Tafoya, and I reside here in Arroyo Seco, New Mexico.

HEARING OFFICER ORTH: Hold on. Would you raise your right hand?

PHILLIP TAFOYA,

having been first duly sworn, testified as follows:

HEARING OFFICER ORTH: Thank you.

COURT REPORTER: Would you spell your name, please?

MR. TAFOYA: Pardon?

COURT REPORTER: Would you spell your name, please?

MR. TAFOYA: Phillip -- with two Ls -- T-a-f-o-y-a --

COURT REPORTER: T-a --

MR. TAFOYA: -- Phillip Tafoya.

COURT REPORTER: Last name again, one more time. Spell your last name again.

MR. TAFOYA: T-a-f-o-y-a.

COURT REPORTER: Thank you.

MR. TAFOYA: Okay. I'm here tonight on behalf of Steve Rael, doing business as S & R Septic Service, and Mr. Rael is a septic system disposal proprietor. Mr. Rael provides a service to --

COURT REPORTER: I'm sorry --

MR. TAFOYA: -- the general public.

COURT REPORTER: -- could you speak in the microphone and slow down a little? Thank you.

MR. TAFOYA: Mr. Rael provides a service to the

general public who reside in rural or off the beaten path. Here tonight -- he's here defending his livelihood.

Mr. Rael has designated -- or designed and developed a sewage disposal site in a method that, by aeration or evaporation process by a rotating schedule, is functional, from what I've seen and heard, and -- and -- and it's working -- it's functioning well and has not caused any environmental impacts or contamination to groundwater or water wells from the testimony I've heard and from people that haven't gotten sick or died, to my knowledge.

I -- I would like to begin by asking a few questions, and anybody can answer them.

HEARING OFFICER ORTH: Actually, Mr. Tafoya, they're going to have to remain rhetorical questions.

MR. TAFOYA: Oh, okay. Is the sewage disposal site within a wetland or floodplain? Anybody know?

Mr. Hansen -- Mr. Hansen's findings or assumptions, I -- in my opinion, I feel, don't qualify as an environmental impact study, and I would like to ask, who initiated this hearing, the State or Mr. Hansen?

HEARING OFFICER ORTH: Okay. So I will answer that, actually.

MR. TAFOYA: Okay.

HEARING OFFICER ORTH: Under state statute,

under the Water Quality Act in particular, on the renewal of any groundwater discharge permit, if there is significant public interest in a particular discharge permit, there shall be a hearing, so it's what state law required in this case with the public interest that the Bureau was able to discern.

MR. TAFOYA: But who initiated it? Was it just like a scheduled thing that has to occur?

HEARING OFFICER ORTH: State law means that groundwater discharge permits -- such as are required to operate this facility -- are issued for five years.

Every five years then a renewal application has to be submitted and the permit is up for renewal.

MR. TAFOYA: And if one person requests for a hearing, this is the cause -- I mean, to be here at --

HEARING OFFICER ORTH: The Bureau has to ascertain significant public interest, so that's why we're here.

MR. TAFOYA: So I guess there's a lot of people that oppose the renewal of Mr. Rael's permit, I guess.

Has there been an environmental impact study or has anybody been --

HEARING OFFICER ORTH: Mr. Tafoya, it sounds as though you have a lot of questions, and if you have a lot of questions like that , they should be posed to a

witness, so what I'm --

MR. TAFOYA: I was going to earlier, but I guess you wouldn't let me --

HEARING OFFICER ORTH: Okay.

MR. TAFOYA: -- when you --

HEARING OFFICER ORTH: So if you have comments, that's what's really most appropriate now.

MR. TAFOYA: Okay. I would like to say -- point out that in my opinion, Mr. Hansen did not provide meaningful information, but you -- did provide meaningful information, but you didn't provide definite or concrete evidence or proof that groundwater is actually contaminated -- contaminated, and it's not occurring or present at this point.

If you refer to his Figure 6, the word possible -- if you remember reading that little Figure 6, the word possible -- to me, that word is possible. It hasn't happened. Okay? Contamination hasn't happened.

Also, if it was possible, the -- what the caption -- what the reference was, the word possible -- the possible connection between the septic lagoons and the water table, actually, Mr. Rael's sewage disposal sites are not lagoons but are aeration or evaporation cells.

I -- I believe that -- my opinion -- Mr. Hansen, in my opinion, your technical evidence doesn't cut it.

If you would refer to Exhibit 1 that Mr. Hansen provided, there was a lot of questions -- a lot of questions on his little bullets -- little statements, and personally, I think that those questions have to be answered before you -- you propose that Mr. Rael's permit be denied.

And I -- I didn't see any alternatives from Mr. Hansen to -- to make it better -- make it better for everybody around.

I commend Mr. Hansen for coming out, I guess, and -- and -- and having his assumptions before you guys, because I have seen, actually, sewage treatment plants under permit in years past -- Taos Valley and -- and Red -- and the Red River Sewage Treatment Plant -- where I actually saw raw sewage flowing in the river for years.

They were never -- they were never fined, but not until there was a group of people that were real humble that came forward, like -- like Mr. Hansen is concerned, but they -- they had valid information as to what was occurring.

In my opinion, for -- for -- for Mr. Rael to go through this, his -- he -- his livelihood is -- is subject to -- to terminate here -- and I hope it doesn't because it's his livelihood -- he's spent a lot of money -- a lot of money defending that livelihood, and who caused it?

Who causes this?

I mean, he provides a service. He's provided a service to the public, and we need it. I need it. I don't know how many people here have septic systems, but if -- if we're going to go through other alternatives, then maybe there should be some infrastructure done or proposed to get -- to get everybody hooked up to the City or the -- an approved sewage plant.

In conclusion, I recommend that Mr. Hansen's proposal be denied and that the State doesn't pursue this to -- to deny Mr. Rael's permit, and -- and that -- and I propose that Mr. Rael's septic system be issued or the permit be renewed. Thank you.

HEARING OFFICER ORTH: All right. Thank you, Mr. Tafoya.

Ma'am, if you would state and spell your name first, and I'll swear you in.

MS. LESLIE: My name is Mary Lane Leslie. First name Mary, second name like Lois, L-a-n-e, last name Leslie, L-e-s-l-i-e.

MARY LANE LESLIE,

having been first duly sworn, testified as follows:

MS. LESLIE: Let me say first, to assure Mr. Tafoya and Mr. and Mrs. Rael, we have no intention of causing S & R Septic to cease doing business. They do

provide a valuable service to this county, and I think they also serve a couple of other counties. I think they have a huge and thriving business.

I also know that there are approximately 12 other septage haulers who are permitted in Taos County, and every single one of them is using the Taos Municipal Wastewater Regional Treatment Plant.

So I'd -- I'd like you to know first that I'm speaking today on behalf of the Stagecoach Neighborhood Association within which these pits are located. I am a resident of the Stagecoach Neighborhood Association.

I am an attorney, but I am not, by any means, the legal representative for Stagecoach Neighborhood Association. I'm an estate and probate lawyer. I know nothing about this except what I have studied for this -- for this hearing today.

What I'm speaking about is data and facts and views of the persons in closest proximity to those open pits, so if I may, I'd like to read my statements and then stand for questions with your permission.

HEARING OFFICER ORTH: All right.

MS. LESLIE: This neighborhood, as well as all the residents of Taos County who are within the area where the winds, the vectors, birds, animals spread this really inadequately treated human waste, and that's regardless of

the noxious weeds that are growing over it.

We are impacted by S & R's activity. This bid is not just about groundwater, although I understand that the Water Quality Bureau -- the Groundwater Quality Bureau is enforcing their regulations, and I understand that their regulations do not allow for this permit to be denied.

They can only attach conditions, so we are asking for conditions, but we are asking for conditions that also take into consideration that this Water Quality Act is under the purview of the New Mexico Environmental Improvement Act.

And that Act encompasses air quality, nuisance vectors, and it also addresses specifically abatement of septic and septage treatment.

We do posit that it is a hazard to human health from the diseases and the viruses and the bacteria that are certainly present in human excrement, which is being spread in our neighborhood, and we do think that Mr. Rael has a very viable and economic alternative to this, and that is the waste treatment center.

It just seems such an oxymoron to me that residences who are required by law to have permitted, inspected, and regularly upgraded enclosed septic systems hire a septic service which empties the contents of those

enclosed, safe septic systems and then hauls thousands of gallons of the contents of those septic tanks to dump them in open, unlined pits, and that the septage hauler is subject to such minimal regulatory oversight and, practically speaking, no real consequences to date for putting into plain sight, smell, and in plain air, open to our beautiful blue skies, all of the content that those enclosed, underground septic tanks, required to be as safe and sanitary as possible, contain.

It's just very odd. Doesn't it strike you as odd -- at the very least incongruous, if not illegal? Yet in a rural community like Taos, this is what is being allowed and done by S & R and only by S & R in Taos County.

We are very concerned and troubled that the Groundwater Quality Board is recommending renewal of the permit, but we understand they have not much choice.

We are concerned because of S & R's failure over the years to meet the regulatory requirements and special conditions given as part of each renewal issued over the last 32 years.

We are concerned at the absence of those regulations which don't allow us to deny the permit.

There's not -- there is not enough staff or funding -- by the admission of the Groundwater Quality

Board -- for meaningful oversight to properly monitor the conditions of this renewal.

We're very concerned that S & R Septic Service's owner has, for many years, been pretty cavalier about the legal obligations in the law and regulations in operating this currently unpermitted and out-of-compliance facility.

The public records of the Water Quality Control Board do contain numerous and repeated violations of its regulations.

As the Hearing Officer, you have access to those records of all the violations to review, and we ask that you examine them carefully and make meaningful changes to the conditions recommended before a renewal is allowed and issued.

The most meaningful change to the permit would be to require S & R septage loads to be taken to the Taos Municipal Wastewater Treatment Facility.

And it's not expensive, and the website for that facility indicates that it is available to septic haulers twenty-four hours a day, seven days a week.

They can obtain an account with the town of Taos, and they can go and dump there all the time. They are not limited to -- to weekdays or business hours.

We think that is very significant, because I think that S & R does dump around the clock, and I don't

know what their permit allows in that regard. I know they're -- they're limited in the amount they can dump, and I do believe that each truckload contains the contents of more than one septic tank, so the cost is spread.

And I'd like to just highlight a few of the violations incurred by S & R Septic Service that are in the Groundwater Quality Bureau's own records.

S & R is required to renew his sewage dumping permit every five years. His current permit expired in 2017. He is operating without a permit or without any kind of an extension, as far as I know, of the 2017 permit.

He didn't even bother to reapply until February 22nd of 2018 -- despite contact from the Groundwater Quality Board prior to that day.

He is currently still dumping raw sewage in the pits without this permit, and it has now been over 21 months since the expiration of his last permit.

The record clearly shows S & R's conditions and statutory requirements of this permit have been violated repeatedly -- not just in the last seven years, but since his first permit in '87.

This permit was up for renewal in 1997 -- his second renewal application -- but the Groundwater Quality Bureau did not issue the renewal until July of 1999.

By letter dated July 29th, 2000, a list of nine specific violations by S & R were based on a July 10th, 2000, monitoring by the Groundwater Quality Board personnel. I won't read all nine of those violations, but he was cited because semiannual reports had not been submitted -- among other things.

Also, twice each year S & R was to submit land application data sheets with the amount of liquid waste being dumped and the nitrogen load. That's an EPA requirement, as I'm sure you're familiar with. No reports were found in the records from 2014 to 2018.

It is my understanding that has now been corrected, but I wonder how those 2014, '15, '16, '17 reports were created, what -- what the basis for those reports were. Did they just make up the figures?

In 2012, once again, during the renewal application Mr. Rael presented to -- excuse me -- represented to the then-president of the Stagecoach Neighborhood Association that when the wastewater treatment plant was completed, he would use it. He still does not use it.

That permit, which expired December 27th, 2017, according to NMED discharge permit regulations required that the application for the permit must be renewed at least 180 days prior to the date the current permit ends.

For S & R, the date to submit the renewal application was June 27th, 2017.

He finally submitted it about eight months later, in February of 2018, but there was no penalty, no order to cease operations at the open pits until a permit was renewed.

NMED did not issue any Notice of Noncompliance while -- and -- and we don't understand. How could he operate without a permit? Why weren't the sewage pits shut down due to having no active permit in place?

August 27th, 2018, there was a letter from Michelle Hunter, the chief of Groundwater Quality Bureau, to S & R. It states -- and I quote -- this letter is to notify you that NMED has determined that the above-referenced facility is not operating in compliance with the conditions of the discharge permit, the WQCC regulations, and the Water Quality Act.

She cites failure to submit semiannual monitoring reports showing compliance with the regulations imposed.

She also mentioned lack of appropriate signage, inadequate construction of concrete splash pads, expiration of the permit without a renewal application submitted on time, and similar deficiencies observed by NMED inspectors at the site on 12/28/17.

Hunter's letter -- Hunter's letter further states, to date, NMED has not received monitoring reports or received incomplete monitoring reports for 2014 through 2018.

S & R was told to submit all of the past due reports in their entirety within 30 days of this letter, and that would have been by September 26th, 2018. If a report was missing, he was told to explain why and how this would be corrected in the future.

And then she said, failure to comply with this letter and the terms of the discharge permit may result in the issuance of a formal Notice of Violation, compliance order, civil penalties, or the filing of an action in District Court. To my knowledge, to date, none of these consequences have been instituted.

September 28th, 2018, an email thread from the NMED's Matthew Bogar -- Bogar -- to the Taos field office reads, quote, I just witnessed the proof for S & R Septic Service pumping a grease trap at El Monte Sagrado.

COURT REPORTER: I'm sorry; could you say that again?

MS. LESLIE: El Monte Sagrado, S-a-g-r-a-d-o, which is a really fancy hotel here, which is on the town sanitary sewer. I hope you're not staying there.

Bogar asked for confirmation that dumping grease

in the pit is prohibited. Taos field office responses to this mail say, you are correct; our permit with S & R does not allow for disposal of grease trap waste, only septage and wastewater treatment plant sludge.

In NMED records for September 29th, 2018, the report of the inspection at the Tune Drive pits by NMED Groundwater Quality Bureau, quote, NMED arrived on site at 10:45 a.m., observed the gate to be locked. Signs remain improperly posted, and no apparent progress has been made on any of the compliance issues stated in the NONC -- I believe that would be the Notice of Noncompliance.

The smell of septage and a very strong fog smell -- and fog is capitalized, so I don't know if that's an acronym -- was coming from the facility. That's one of our neighborhood's big concerns.

Jason Herman called Steve Rael, who stated he was driving toward Albuquerque and there was no one who could grant access to the facility.

A septic inspection, to include management, will be included -- will be conducted on October 1st, 2018, close quotes.

Herman took photos through a break in the gate material, and as they left the site, they saw Loretta Rael in an S & R van on Tune Drive near US 64. Was she in contact by mobile phone with her husband? Otherwise she

would not have been on Tune Drive. They live in Ranchos De Taos, 14 miles away from these sewage pits.

No monitoring reports were submitted, according to the records on file when we reviewed them.

June 2019, residents of the Stagecoach Hills community continue to witness S & R trucks hauling liquid waste to the facility in question despite the expiration of their permit and an unreasonably long review of the permit extension by NMED Water Quality.

Finally, another of the most egregious violations is -- as presented by Jerome Hansen's technical evidence and photos -- the subsidence and obvious contamination outside the boundaries of S & R's disposal pits.

I believe this alone allows the Secretary of the Environmental Department to deny the permit according to the regulations in the Environmental Improvement Act.

This repeated failure to meet permit renewals, conditions, deliberate avoidance of an inspection, no timely and complete monitoring reports in accordance with the regulations, demonstrate a pattern that can be characterized as disdain and arrogance on the part of S & R that would -- if this many violations for a driver's license had occurred, revoke that driver's driver's license possibly for life, yet the board knows it cannot

revoke; it can only require conditions, which are never met with any regularity -- no pun intended.

I'd like to briefly highlight the purpose of the federal and state statutes. I know this is preaching to the choir to you, but I refer first, to the National Pollutant Discharge Elimination System -- NPDES.

From the overview of that statute, I quote, the collection and treatment of domestic sewage and wastewater is vital to public health and clean water. It is among the most -- excuse me -- the most important factors responsible for the general level of good health enjoyed in the United States.

Also, in 42 USC Section 6901 et seg, which was passed in 1978, the Resource Conservation and Recovery Act -- the RCRA -- gives EPA the authority to control hazardous waste from the cradle to the grave.

And this is from the Act: It is the Office of Resource Conservation and Recovery -- the ORCR -- which implements RCRA. ORCR's mission is to protect human health and the environment by ensuring responsible national management of hazardous and nonhazardous waste.

And as Mr. Snyder testified, liquid waste is a nonhazardous waste.

And Hearing Officer Orth, I'm sure you're also familiar with the EPA's Guide to Septage Treatment and

Disposal for All Persons, which I quoted to Mr. Snyder.

The gauge is -- that guide is 75 pages long and recommends specifically that all regulatory agencies and permitted individuals who are handling septage read this guide. It appears that Mr. and Mrs. Rael have failed to read it.

I'm not going to read the whole guide, but it -- in part it reads, septage is a highly variable organic waste that often contains large amounts of grease, grit, hair, and debris, and is characterized by an objectionable odor and appearance, a resistance to settling and de-watering, and the potential to foam. These characteristics make septage difficult to handle and treat.

The major reason for providing adequate treatment and disposal systems is to protect public health and the environment, as septage may harbor disease-causing viruses, bacteria, and parasites.

Septage treatment and disposal facilities are either privately or publicly owned.

As we know, S & R's pit is not a treatment facility, but is only permitted for disposing of sewage, not grease traps.

The wastewater treatment center again I say is the proper place to treat the sewage and sludge.

Where this sewage is being dumped is open to the elements of wind, vectors, seepage into our water supplies -- which apparently has not yet occurred, I mean, thank God, but you have an opportunity to stop that now -- and also carried by birds and other animals, with the potential to sickness and disease all over Taos County. It is disgusting.

The guide continues, the parasites, viruses, bacteria that septage normally contains can cause disease. For these reasons, septage treatment facilities should be isolated from the homes and businesses in the community.

Both state and federal regulations govern septage disposal. Because the federal regulations set minimum standards, state regulations might be the more stringent of the two, and I think in New Mexico that is the case.

The agencies responsible for administering septage disposal programs at the local level must be familiar with the regulations contained in 40 CFR --

COURT REPORTER: I'm sorry; contained in what?

MS. LESLIE: Oh, I'm sorry. 40 CFR part 503, standards for the use and disposal of sewage/sludge. That was published in '93.

We ask you to also consider as you make your determination the whole statute, which contains within it

the authority of the Water Quality Act and the Groundwater Quality Bureau, and that is the New Mexico Environmental Improvement Act of '94. That's in Article 74-1 et seg.

The regulations, which we've heard tonight, 20.6.210, clearly state, these regulations do not apply to the following: Any activity or condition subject to the authority of the Environmental Improvement Board pursuant to the Hazardous Waste Act, the Groundwater Protection Act, or the Solid Waste Act -- and the quotes for all of those -- I mean, the cites are given -- except to abate water pollution or to control the disposal or use of septage and sludge.

The purpose of the Environmental Improvement Act is to create a department that will be responsible for environmental management and consumer protection in this state in order to ensure an environment that in the greatest possible measure will confer optimum health, safety, comfort, and economic and social well-being on its inhabitants and protect us from health risks posed by the environment.

I'm just about done.

So the -- the -- the whole statute of 741 has in its duties, the Department is responsible for the environmental management and consumer protection programs. In that respect, the Environmental Department shall

maintain, develop, and enforce rules and standards in the following areas: Liquid waste -- which we're talking about -- air quality management as provided in the Air Quality Control Act, nuisance abatement, and vector control.

The elected officials of the State of New Mexico -- including our governor and our highly-qualified Secretary of the Environmental Department -- have all stated publicly that they see environmental protection as a major mandate of this administration to protect the citizen of New Mexico.

This permit renewal is not just about water quality -- although this hearing is held under the auspices of water quality, so water is one of the most important resources requiring the protection of the State of New Mexico under both state and federal law.

But this is about air quality, public health, disease control, and protection of the public, as well as preventing any leakage or contamination of the groundwater and the aquifer over which these unlined, open pits sit.

The statutory authority and regulations of the Water Quality Control Board is not a stand-alone statute. It is incorporated into the EPA and must work together with all of the environmental protection laws enacted by the State of New Mexico and embodied in the federal law

and regulations.

The dumping of human excrement in open, unlined pits near homes and business in the changing development of this county is no longer appropriate and poses a threat to public health.

So in closing, I ask that you employ the viable and economically reasonable alternative of mandating S & R's use of the waste treatment center that is run by the Town of Taos.

This condition is easily enforced -- much more easily and economically enforced by the State and much more easy and economic for Mr. Rael than the tedious testing that was described by the groundwater expert, and asking for reports that are not submitted, or if they're submitted, they're incomplete.

We'd ask you to include three mandatory conditions. Number one, hauling the septage to the Taos Municipal Wastewater Treatment Plant, which is open 24/7. All he has to do is apply for an account at the town.

Number two, prohibit any further dumping of any liquid waste and any sludge or grease in the open, unlined pits that have been used by S & R now or in the past.

And number three, S & R remediate, on a reasonable time schedule, the pits that have been used, to cover them and test them until the testing shows that

there's no more leakage and seepage, and then close the pits permanently.

We ask that you recommend this to the Secretary of the Environment, that S & R be prohibited from continuing to dispose in the open pits the contents of the septic tank contents he hauls where it's located or for him to dump it anywhere else in open pits in Taos County.

Thank you for allowing me this time.

HEARING OFFICER ORTH: Thank you, Ms. Leslie.

Mr. Domenici, as you know, I discourage cross-examination of public comment that doesn't involve science, so unless you want to pursue a particular line of questioning, I'm just going to move through the public comment.

MR. DOMENICI: I would -- I would like to -- I'd like to pursue a line of questioning.

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: And it's limited to the suggestion of dumping at the Taos County -- or the City of Taos wastewater facility, and I'm going to stand away from the witness just for my comfort.

MS. LESLIE: Did I scare you that bad, Mr. Domenici?

MR. DOMENICI: You don't scare me at all.

MS. LESLIE: Okay.

CROSS-EXAMINATION

BY MR. DOMENICI:

Q. Tell me the date and time and the person you talked to at the City of Taos to confirm that it -- it has capacity for the additional wastewater from S & R.

A. So it's on their website actually of how much they accept, and I think that it's pretty clear that it can accept well above the amounts that Mr. Rael claims he dumps.

Q. What --

A. Would you like to look at the website?

Q. I've seen the website, and I have studied the amount that's dumped there.

Have you?

A. Have I what? Excuse me.

Q. Studied what the 12 septic haulers need in terms of capacity in relation to that website you're looking at.

A. I'm sure it's in here somewhere. It says, average daily flows are currently at approximately 1.2 MGD. What's that, million gallons of dump? I don't know what that means. Current capacity is 2.0.

Q. Okay. Well, that has nothing to do with septage.

Do you understand there's a separate location where these 12 septage haulers can discharge their septage

to a facility for the -- for that wastewater treatment plant?

It has nothing to do with the gallons per day for the facility.

A. He has not exceeded the gallons per day discharge per hauler permitted by the treatment --

COURT REPORTER: I'm sorry, ma'am; could you speak in the microphone?

THE WITNESS: Oh, sorry about that.

A. S & R has not exceeded the gallons per day discharge per hauler permitted by the treatment plant and could continue this use at the same rate or more.

Q. Well, that's your statement. You've testified to that. You've emphasized that.

You don't really know that, though, right?

A. No, but I think it's worth exploring, and I think that --

Q. Well --

A. -- if the -- if the permit requires that, he should explore it, and I don't understand the difference why he can avoid using the treatment plant when every other septage hauler in this town uses it voluntarily.

Q. Okay. I'm going to try and make this simple so we can get this over with, but I will get an answer for this question.

You don't know that there's capacity for his septage at any facility in Taos County, correct?

A. I personally do not know that, but I believe it is worth exploring, and I believe that there is capacity.

Q. Well, did you explore it?

This is the hearing, and you're testifying.

What did you do to explore it so you can give truthful testimony that's -- you seem to give testimony there was capacity.

Now you're -- you're -- you can't give that, right?

A. I've got it right here. Would you like to read it?

Q. I'm not going to read it. I'm asking you questions --

A. Okay.

Q. -- so you tell me what you're talking about that proves -- let me ask this: Do you agree that there's an ordinance limiting receipt of septage to 30,000 gallons per day by the city wastewater facility?

A. I do not know that.

Q. If it's true, would you not agree that that is not enough capacity for the 12 haulers that use it plus S & R?

A. Not knowing exactly -- because there's no really

accurate reports of S & R, I don't know how much he's hauling a day, but I know he has an awful lot of customers, and one of the reports I did review from 2018 showed that in six months time he hauled 275,000 gallons.

Broken down by day, I think that's less than, and I don't know what the other haulers do haul. Do -- do you think that there is not enough capacity?

Q. There will --

A. That's what you're intimating.

Q. There will be testimony by Mr. Real with knowledge and with a basis -- which I don't think you have -- that there is not capacity, and your suggestion is we study it after we create a permit that disallows use of this facility.

So you're essentially saying we disallow it and then we guess or hope that the study comes up with the result you would like --

A. No --

Q. -- correct?

A. -- I don't think we have to guess. I think the information is available from the Town of Taos by a phone call tomorrow morning before this permit is issued or modified.

Q. But you didn't make that phone call, right?

A. I only found out about this later today.

Q. But you didn't make the phone call, correct?
A. I also was told today -- and this -- I guess this is going to be hearsay, but I was told today that of all -- when this was passed, when the -- the 24/7 access to the treatment facility was approved by the town, that Mr. Rael was the only one of the 13 haulers in this county who objected to it, because he wants the other haulers to come to his facility on the weekends.
Q. Do you know that his permit doesn't allow any waste from any other hauler?
A. Yes, I do.
Q. So why would he want someone to come there that he can't accept their waste?
A. I don't think that's a problem. I think that it is possibly occurring.
Q. You're guessing and speculating under oath, correct?
A. That is guessing and speculating.
MR. DOMENICI: That's all I have.
HEARING OFFICER ORTH: All right. Thank you, Ms. Leslie.
Mr. Mondragon, I saw your hand next. If you would come up and give us your full name.
MS. LESLIE: Are you asking me questions?
MR. MONDRAGON: Yeah, I'm asking -- no, I'm not.

MS. LESLIE: Okay. Thank you, Your Honor.

HEARING OFFICER ORTH: Thank you.

Give us your full name, and I'll swear you in.

MR. MONDRAGON: Norbert Mondragon.

COURT REPORTER: Could you spell that?

MR. MONDRAGON: N-o-r-b-e-r-t.

COURT REPORTER: Last name?

MR. MONDRAGON: M-o-n-d-r-a-g-o-n.

NORBERT MONDRAGON,

having been first duly sworn, testified as follows:

HEARING OFFICER ORTH: Thank you.

MR. MONDRAGON: The fact that we're standing here 20 years into the 21st century talking about open sewage is kind of astounding, but here we are.

My commentary is more directed at the manner in which this permitting process is -- is -- is handled by the State.

I had a conversation with Mr. Herman prior to the last approval of this permit, and I expressed many of the same concerns that Ms. Leslie did regarding the fact that they're issuing a limited-use permit with no monitoring of the amount of sewage being hauled outside of the Applicant's own records.

The -- the -- Mr. Herman at that point stated to me that they simply didn't have the manpower, which is

basically reiterating what Ms. Leslie said.

But my -- my bigger concern with this was the fact that this is strictly a groundwater issue to the State.

I am the well that was referred to several times earlier as the Fennell well that is adjacent to this property to the northwest, so I -- I do have the same -- I share the -- the concerns regarding water quality and -- and -- and this is important.

But it's my belief that the airborne pathogens and the -- the impact to air quality that this obviously produces -- and I'll -- I'll be honest, I'm actually more concerned now due to the fact that the movement away from lagoons and to these cells, which seem to very efficiently evaporate these pathogens and -- and bacteria and viruses and hydrogen sulfide, which is generally what's created when raw sewage is allowed to ferment, if you will, into the air.

And so that the State can issue these permits with absolutely no regard for air quality is just ridiculous. This has to be a concern.

As I mentioned earlier, I'm -- I'm a couple of hundred yards away. Fortunately, for the most part, the wind blows in -- it prevails from the south -- southwest, and I -- I generally don't get it. I feel for the people

that are downwind from it.

But when storms blow through, it -- it changes the direction of the wind, and so I'm -- I know exactly what's coming out of there from an air-impact standpoint.

So my concerns are for the manner in which the permitting process for open sewage is handled on a State level and the fact that the -- the Environmental Department of our state does not consider this in the least when granting a permit of this nature.

Thank you.

HEARING OFFICER ORTH: Okay. Thank you, Mr. Mondragon.

Is there anyone else who can't wait until after the next technical witness -- we return to the technical witnesses?

All right. Let's go back to your witnesses, Mr. Domenici.

I'll ask for public comment again after Mr. Domenici --

COURT REPORTER: I'm sorry; could you say that again? I didn't hear you.

HEARING OFFICER ORTH: Oh, I said I'll ask for public comment again after the witness.

MR. DOMENICI: Sir, will you introduce yourself?

MR. RAEL: I'm -- it's turned off.

MR. DOMENICI: There's a button on the bottom.

MR. RAEL: I'm Steve Rael. I'm the owner of S & R Septic.

HEARING OFFICER ORTH: Mr. Rael, would you raise your right hand, please?

STEVEN RAEL,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. DOMENICI:

Q. Mr. Rael, you've heard some cross-examination of some witnesses and you've heard some public comment, right?

A. Yes.

Q. And you prepared for this hearing?

A. Yes.

Q. First of all, is -- does the -- the Town of Taos have capacity for your -- the septage that you haul for your customers?

A. No, they don't.

Q. How do you know that?

A. I have a statement over here, and the lady that testified, she said a lot of slander lies, and we will review them. It bothers me when somebody gets up here and just talks and -- and really doesn't have the facts.

Q. Steve, I'm going to interrupt you. Answer my

question.

A. Okay.

Q. How do you know there's not enough capacity?

A. Because I have it right over here, and this is -- this is something that the City put out.

Q. Explain what it is.

A. Well, it -- it's something that's by the -- that's voted on that's -- what -- what would it be called? My wife can help me on that.

MRS. RAEL: An ordinance.

BY MR. DOMENICI:

Q. An ordinance? Is it --

A. An ordinance, yeah.

Q. Okay. Well, I'm going to get to the point.

How do you know there's not enough capacity?

A. Okay. If I can read this --

Q. Go ahead.

A. Okay. I need glasses, but the immediate surrounding area waste produced outside the service area will be accepted. This facility's septic haulers must make other arrangements for disposing of each septic waste.

The Taos Valley Regional Wastewater Treatment facility will only accept a minimum of 1,000 gallons per hauler, or the septic hauler per day, all septic haulers

can only dump 30,000 gallons a day of the septic with a combined per day.

So what it's saying right there is if -- if we meet, between all septic haulers -- one of the things I want to correct, I do dump at the Town of Taos and I know how the facility works.

And if -- if -- if you met 30,000 with -- she says 12 haulers -- if you met the 30,000, they close it down because that's all they can take.

If one hauler does 10,000 gallons or 30,000, they close it up, and that's the end of that.

Q. What happens in the winter when septage haulers have to leave septage in their transport vehicles overnight on a cold night?

A. Well, she testified that it's 24/7, but they have not kept 24/7. They have changed many things.

Can I show a picture that I have here of the wastewater treatment plant?

Q. Yeah.

A. As you can see, that's my truck right there. I was told that I -- I wasn't dumping there. Well -- well, here it is.

You see this over here? Here's the septic truck and here's this -- that receives.

UNIDENTIFIED SPEAKER: What are you talking

about?

THE WITNESS: Okay. I'm sorry.

HEARING OFFICER ORTH: It's all right.

A. Here's the -- here's the septic truck, and there's this one thing that it has to go through before it goes into the plant, and there I have spent on a truckload two and a half hours to be able to dump at the Town of Taos.

There could be one or two others that are waiting for me. I could almost spend all day if there's two people in front of me.

This machine here that they have here gives a lot of trouble. This is all gravity fed and it goes into there, and they're always -- we're having always to call somebody from the wastewater treatment plant to come and see what problems we're having, because it stops, because if the sludge is too thick, it stops it from entering in there, so they have to come inside this little room that's in front of that and they have to do whatever they have to do to get it to work again.

So if I spend two -- two and a half hours here, the -- if I have two or three haulers there, they're all waiting for me to finish to dump.

This is not the proper facility at a wastewater treatment plant. If you check the wastewater treatment

plant in Santa Fe, you just back up and you dump.

They do a pH, and if it's good enough, they'll let you dump. You can dump probably in three to four minutes. This facility has a lot of problems.

Q. Let me ask you about -- let me ask you about the problems, and I'm going to repeat what I asked before you gave that demonstration, which I liked, but what happens to septage that is left overnight on a freezing night in Taos?

A. Of course, the load inside the truck would freeze.

Q. And then what does it take to get that load -- to handle that load after it's frozen?

A. It would take a lot, probably take it into the garage, heat it up with torches and unthaw it out, but that would take hours.

Q. And if you don't have torches, if you let nature do it, how long would that stay frozen in the wintertime?

A. It would stay almost the whole winter. As long as it's cold, ice is going to hold, and it will hold for a long time.

And not only would -- it would freeze, the -- the valves on the truck and whatever might -- will actually crack and break.

Q. And what would happen if someone called you out

and you needed that truck to pump their septic tank?

A. I -- I wouldn't be able to do it.

Q. So is it important to have enough capacity at the right times?

Push that button there.

A. I -- I think the battery is dead.

Q. And that one just went dead. Is there --

A. I -- I can talk real loud.

MR. BARNES: Do you mind? Thank you.

MR. BROCKMANN: This one still might have a little juice.

A. I -- I -- I just want to add something to what -- to kind of educate what's going on here.

The wastewater treatment plant has a lot of issues, and -- and those issues become a big problem for the septic haulers themselves. And it's over here, but the State, they're not really following the rules and regulations that -- that they applied over here.

And what it is is, it used to be that they were charging by the gallon, but since their machinery is such a failure, what it is, if I go with a 500-gallon load over there, I automatically get charged $75.

And, you know, every -- they changed -- they changed it even though they -- they haven't gone to change it legally.

Q. Let's -- let's talk about the site and the operations.

A. Okay. Can I go ahead and do a demonstration with what I have here -- one of the pictures -- and explain to them?

Q. Yeah. I'd like to try to hold it up where the Hearing Officer can hear it and see it, I mean, and the audience, which will be a little tricky, but let's see if we can do it.

MR. DOMENICI: Is that better?

MR. BROCKMANN: Yeah. Thank you.

MR. DOMENICI: Okay.

A. What this is here is all the exaggeration that's been going on, and -- and really, you know, my site is pretty -- pretty safe.

We're talking about pathogens, vectors. We lime treat it. We lime treat it to stop the vectors and the pathogens, the smell. Anybody saying that it smells is not saying it correct.

As you can see, all my cells here, they're all dry, and let me explain to you why they're all dry. When we go to dump, we will take these cells and we go one here and then we'll go another one here, but by the time we get around, they're completely dry.

Actually, the -- when I dump on one of them, by

the following day it's dry, and let me tell you why it's dry, because the heat, the wind, and the rotation, and we -- and we can't put more than three inches in these cells, but I've been averaging about an inch to an inch and a half.

This is so, so ridiculous that I would be contaminating water. This is really, really ridiculous. A septic system with a leach field has a greater contamination.

If you have a septic tank in Tune Drive, you better think about what's going into the ground and how close your well is, because these cells here are not designed as a leach field, which actually absorbs the water. It's not designed to absorb the water. This works more off evaporation.

And then we talked a lot about these cells. Well, figure this: If this can go three, four, five feet, the ground itself serves as a filter. I can put my money on -- on anything that after five, ten feet, there's not going to be any contamination.

And I really feel bad that the Department, with Steve -- I spoke to him one day -- was -- had a real positive attitude. I spoke to him that day, and he says, we're going to help you. I felt really, really good about that.

But when I met Jason he was completely saying, there's a time that it comes that you got to close the site, but at the same time, when you say something like that, you're eliminating services from Taos County.

You're trying to force an issue here to dump at the wastewater treatment plant when the facility is not proper.

I just read one hauler can do 10,000 gallons a day. The total 12 haulers, you know, they can do 3,000 (sic) total and it's cut off.

So this is -- this site here that you're seeing is very, very safe.

And another thing I wanted to testify and say, it really bothers me when somebody gets up here and starts lying. There is not an arroyo going through -- through my site. I'm sure Jason can tell you there's no arroyo.

Around this area here is a berm ten feet wide, ten feet tall. Okay?

Another thing that was testified, we lime treat our septage, which reduces the pathogens and the vectors, so this statement of saying it smells and this and that is ridiculous.

If you want to sell -- smell something, go to the Town of Taos and go by their sewer plant and tell me what you smell.

My site doesn't smell. It's always kept dry, and it's -- it's one of the -- it's really a great place to be able to dump, but if I compare this to -- can I do a comparison, give them an illustration?

Q. Go for it.

A. And this really -- this really bothers me a lot, because the State knows it, and -- and I just feel really bad. I'll just kind of talk about it.

I got the permits here. These two, the brewery and an RV park -- I want you to listen real good, because you'll understand that my site is -- is really, really safe.

The -- the -- the RV park is probably a groundwater permit. They can receive up to two thousand gallons a day, so you times times seven and it's fourteen thousand, times the month is twenty-eight thousand gallons.

I want you to look at this picture, why I feel like I've really been treated unfairly by the State.

This system is designed to take the water into a trench to where it's -- it's absorbed with rock so it can actually percolate into the ground.

Compare my site to that. Compare my site to that. I'm -- on the top surface, I put like an inch, inch and a half, and I rotate all the cells. How can you

compare?

And I've asked the -- I'm asking you folks here, which -- which would be greater to contaminate? There's the RV park that does 2,000. There's the brewery that does 1,800. They're back to back. That's about a total of 4,000 gallons injected into the ground.

You tell me what's going to contaminate more, the brewery, RV, or my site? Stop to think about that.

You folks that are on Tune Drive, you have septic tanks and you have leach fields that are designed to actually absorb the water into the ground.

Mine is not like that. It works off evaporation. On a windy day it disappears. Think about it.

What you're asking me here, what the State is asking me to do here, what Jason is asking me to do here, I feel that -- that I'm really treated unfairly.

They're putting a high -- do five wells, do all this, pay 180,000, pay the bid. What you're asking me is to put me out of business. That's what you're asking me, because what you're asking is very unfair.

I personally feel, in my opinion, that I have been discriminated, because this is not an issue -- a fair issue comparing the RV -- this RV park and the brewery are within 500 feet of my dump site.

Why is it that they can get away with murder, but yet that I'm so safe on my site -- that you can actually say that I need at least five borings.

These five borings are to get me out of business, because there's nothing to back up what you're asking me to do.

Q. Steve, do you know Fred Kalish?

A. Yeah.

THE WITNESS: Again, I have a lot of luck. Just lost another one, but I can talk loud enough.

MR. DOMENICI: I'll share with you.

BY MR. DOMENICI:

Q. Do you -- do you -- do you know Fred Kalish?

A. I -- I know Fred Kalish, and he was a very, very good man. He wanted us to follow the rules and regulations, and we worked with him.

Let me just back up a little bit. In 1987, we were able to discharge up to 20,000 gallons a day. Okay? Thirteen years later we had a hearing, and through that hearing Kalish said -- well, I wish Jason would have been like this or -- or you folks would have been like that -- he -- Jason himself -- not Jason, but Kalish, what he went ahead and did is, we're going to design these -- and they're not pits; they're cells, okay -- and we're going to design this so you don't pond more than three inches in

a cell.

That's what the whole design was, and since then, everything has been working great as we go over there and we Roundup and everything is dry. Actually, that's the picture that I just showed you.

Everything dries in one day, so the following day you'll have a dry cell, because it's just spread out at an inch -- inch to inch and a half.

And I just -- I just really feel that I'm getting the end of the stick here.

Q. Okay. I'm asking about Kalish. Okay?

A. Okay.

Q. But I'm going to ask you the question.

Did Mr. Kalish visit your site?

A. Yes, he did.

Q. Was he -- did he understand how you operated, as -- as shown in this -- this picture?

A. Yes. Well, he's the one that designed this.

Q. So he designed it. He put restrictions on how you operate.

How long was he the permit writer or the person on -- in charge of your site?

A. I would say 13 years. He was there for a long time.

Q. Did he ever suggest you drill 180,000 -- drill

and sample $180,000 worth of samples in order for this site to be safe?

A. No, he didn't do that, and I -- I feel if he would have, he would have been misusing his power through the State.

Q. Okay. Well, he didn't do it. That's my point.

A. No.

Q. So for each of those 12, 13 years, he was aware of what you were doing, he had the records, he could visit the site, and he never proposed a single deep boring as Jason Herman has?

A. No, he didn't do that, but I was asking Jason, I wish maybe the question that can be asked is -- I had a friend, Bill Mansker, which passed away, and he was a genius geologist, and at the time -- I think for the whole five years -- and I asked Jason this question.

They were -- we were doing a one-foot hole, two-foot hole, a three-foot hole, and we were getting samples. I asked -- I asked Jason, what were the samples? I wanted to see the paperwork, what was the conclusion.

The reason I was asking him, because the following next five years they didn't ask us to do that, so in my opinion, it must have been that they felt it was -- that it -- that it wasn't contaminating the soil, because they didn't ask me to do that anymore.

They -- they said, that's enough; that's it; you don't have to do it this -- this five years.

Q. So you've had -- my review of the records indicates you've had five permits before this one, and each of those permits has a section on monitoring.

And is it correct that none of them -- or any of those five permits have suggested or required a single boring like the five borings suggested?

A. No. The only thing that was required -- and then I asked Jason, I wish he could answer to it, because it seems like I can't get a good answer from him -- is, the State went over there and we dug a hole.

Bill Mansker was there with me and we got backup samples, and I kept asking Jason, what do those backup samples say, because I'm real interested; are you making me do all this when the backup samples that the State has show that we were -- we were doing fine.

Q. Now, your -- and my understanding is in 2012 you didn't have a hearing?

A. Yes.

Q. The State issued you a permit with no borings like are suggested now essentially on their own accord, without you even contesting that?

A. Right.

Q. They proposed that, and you accepted it?

A. Yes.

Q. What has changed from 2012 to 2019 other than Mr. Kalish has been replaced by Mr. Herman in terms of -- in terms of the geology on your site --

A. Nothing.

Q. -- the way you operate, or --

A. Nothing has changed. Everything has been the same.

The only thing that has changed is when Jason came in, and I really felt -- me and my wife met him that day, and I felt he didn't like us.

And this thing of -- the statement that she -- that she said, ma'am, was completely false.

MS. LESLIE: Which one?

THE WITNESS: The one where -- about the grease and all of this. That was completely false.

BY MR. DOMENICI:

Q. Explain the grease allegations.

A. What it was, I guess Matthew -- and then my question would be to ask Jason, what was the evidence of you going over there and harassing me on my dump site?

Q. I'm asking you.

A. Okay. What it was is he -- Mathew of the environmental office was passing by Monte Sagrado. He --

COURT REPORTER: I'm sorry; what?

THE WITNESS: Monte, M-o-n-t-e, Sagrado, S-a-g-r-a-d-o.

A. And I want you to listen to this, because you did a lot of false statements. You slandered me.

He passed by. He called Jason or he emailed him. And I confronted Mathew, and he felt real bad about it because he said he saw me pumping grease. Okay?

What was the evidence of him even seeing me pump grease? Did he get out? Did he check? Okay. So anyway, he gives it to Jason, and -- and Jason tells him, I'll surprise him.

You did surprise me. My wife was never around like you said she was. We were on our way to Albuquerque. And you were -- you were insisting and you were harassing me to open that gate and get you in. I told you, I can't; I'm already on my way to Albuquerque. I was way out there already.

Well, let me tell you now, Jason -- and let me tell you -- that I have an area where I dispose of grease and I do have a manifest of Monte Sagrado.

So all this that you accused me and went and got a sample and harassed me, I just felt that you haven't liked us, and I just wanted to say that.

If you want to see a manifest, I'll show you the manifest, and I will show you where I can dispose of

grease.

Q. Tell -- tell -- put on the record where you can dispose of grease.

A. Pojoaque facility.

COURT REPORTER: I'm sorry; what?

THE WITNESS: Pojoaque. Okay. P-o-a-q-u-e (sic).

MS. LESLIE: Nobody can spell Pojoaque.

THE WITNESS: P-o-a -- P-o-a-q-u-e (sic) -- very close.

MR. DOMENICI: P-o-j-o-a-q-u-e.

THE WITNESS: I forgot the J.

A. But -- but there's -- I have a manifest and we do pump grease and we do take it to Pojoaque, so this statement -- wherever you got it or whatever is going on there -- is an -- is an untrue statement.

And -- and Jason had told me that he had seen my wife over there. How ridiculous. Why would my wife be going over there when we were on our way to Albuquerque? To me, Jason, you are fantasizing, because she was never on -- over there.

And she wasn't there -- where you thought she was there, she wasn't there. She was with me, and we were going to Albuquerque, and no, I wasn't going to let you in my site if I'm not there.

And I wasn't going to turn around at that time to go over there and open the gate. I had a doctor's appointment, and I mean --

Q. Okay. That's enough of that. So the NMED issued a draft permit. That's why we're here today. Mr. Snyder testified on two conditions.

Are you prepared to satisfy the other conditions of that draft permit?

A. What Mr. Snyder -- I am -- I am ready to meet those conditions.

Q. Okay. Let me -- let me say it -- let me make it clear. I understand you support the conditions that Mr. Snyder stated --

A. Yes.

Q. -- and you're prepared to comply.

Are you prepared to comply with the rest of the conditions in that draft permit?

A. Yes.

Q. One last question. Have you ever willfully tried to violate an environmental law?

A. No, but if I could say something here. They say, well, you took so long to comply with this and that. The Groundwater Department did not have the right personnel at the time.

And this thing that I didn't -- for two years

that I -- that -- me and my wife went through hell. Just to let you know, we lost a son, and we were completely not there until today.

My son is going to be about close to what, three years -- three years now that he -- that he actually -- he died, and if you think if you lose a son that you think you can operate like a normal people person, you can't.

And to know that -- you were saying two years it took me to -- that I was late on my permit, they didn't have a staff.

Jason came in at a certain time and -- and then he filled in that position, but there was not a staff for a while.

Q. How suddenly did Dr. Mansker die? What were the circumstances? Did you know he was going to die and make arrangement to transition all of his information, or was his death unexpected?

A. Dr. Mansker, Ph.D., was a good friend of mine. If he would be alive today, he would be here testifying in this hearing. Mr. Mansker died unexpectedly.

They were probably -- he was probably my best friend. Loretta's -- Mansker's wife, Karen, was Loretta's best friend.

But he died -- I guess what -- I can say something is, we asked if we could get an extension due

that Bill Mansker was not around. We were denied by the State. We were denied by the State.

Even a person dying, they should have at least said, well, you know, we'll -- we'll give you an extra -- everything we were asking for we were denied. I just feel that all the way we have been treated unfairly.

Q. Has Jason told you that he has had your entire file available and that he understands it and has reviewed it and has he indicated that he has not had the opportunity to review your file?

A. Well, I did ask him questions about the soil testing. I had asked him in Albuquerque. When he was there, I had -- I would -- I emailed him and I told him I want this and I want that.

So when he got over there I asked him like, where is it, and he says, well, it's up to Pete, Pete has them, you know, but it seems to me like you just didn't want to look for it.

And we -- we needed them, and I still to this point, till this day I wonder about -- about those samples -- backup samples that the State did -- I still wonder what they say.

MR. DOMENICI: Thank you. That's all I have.

HEARING OFFICER ORTH: All right. Thank you.

Mr. Johnson, do you have questions of Mr. Rael?

MR. JOHNSON: I do. How would you like me to work the microphones? We just have one that works right now.

HEARING OFFICER ORTH: Can you do what Mr. Domenici did, please?

MR. JOHNSON: All right.

CROSS-EXAMINATION

BY MR. JOHNSON:

Q. Mr. Rael, I'm going to start with just a quick touch on the wastewater treatment plant.

Does the -- the draft permit at issue today, does it reduce the amount you're allowed to dispose of or require you to take your discharge to the wastewater treatment plant?

A. I -- does it require me to take it to -- to the wastewater treatment plant is what you're asking?

Q. Correct. Does the discharge permit require that?

A. No, it doesn't, but I -- but I did -- but I did check. I went over there and -- I went out there to check the wastewater treatment plant, because I heard that people -- the guy that works there, Gene, was telling me that they were asking letters -- that people were --

MR. JOHNSON: Hearing Officer, can he stop right there, because that answered my question?

HEARING OFFICER ORTH: Right. Mr. Rael, I -- I have to ask you to listen to the question carefully and not go off on a tangent, but just answer the question.

THE WITNESS: I want to answer the question, but I want to be able to answer it properly.

HEARING OFFICER ORTH: Okay. So if you have more follow-up, your counsel can elicit it from you if it's important.

So I believe his answer was no?

MR. JOHNSON: Correct.

HEARING OFFICER ORTH: Okay.

BY MR. JOHNSON:

Q. All right. And -- and does the draft permit as written reduce the amount you're allowed to dispose of?

A. Does it reduce the amount? You're talking about the -- the DP-465 that I have now?

COURT REPORTER: I'm sorry; the what?

THE WITNESS: DP-465.

A. I have a limitation to what I can actually dump there.

Q. What I'm asking is, does the draft permit at issue today, does it reduce the amount you can discharge compared to the last permit from 2012?

THE WITNESS: Can I answer it fully?

HEARING OFFICER ORTH: Answer it yes or no.

THE WITNESS: Well, it's not going to be a yes or no, because I've got to explain it, and I want to explain it -- what happened.

A. What it is is that 1987 --

Q. I don't think anything has happened --

A. -- to 2000 --

HEARING OFFICER ORTH: Mr. Rael, hold on. I'm sorry.

Mr. Domenici, is this not a yes-or-no question?

MR. DOMENICI: It's a yes-or-no question. I agree, it's yes or no.

He's asking if this draft permit reduces what you currently -- the amount you can dispose of.

THE WITNESS: Well, it -- it did reduce it from the -- when I did start way back in 1987.

MR. DOMENICI: All right. It's the -- you're disposing -- you're working today under a permit.

THE WITNESS: Correct.

MR. DOMENICI: It has a limitation.

THE WITNESS: Right.

MR. DOMENICI: Does the draft permit change that limitation?

THE WITNESS: No.

MR. DOMENICI: All right.

MR. JOHNSON: Thank you.

HEARING OFFICER ORTH: Thank you.

BY MR. JOHNSON:

Q. Now, in your testimony that you just provided, I believe -- I just want to correct for the record -- I think you said that the wastewater treatment plan limits each hauler to 1,000 gallons per day.

Is it not actually 10,000 gallons per day?

A. Oh, if I did -- if I said 1,000, I was wrong. It's 10,000. If there's three haulers that haul ten thousand, that's the end of the dumping at the wastewater treatment plant.

Q. Okay. Thank you. And to touch on what -- what you alleged that Mr. Herman said about, there comes a time to close a site, he tells me that's not what he said.

So when did that happen and where?

A. That happened in his office.

Q. So it was in person?

A. It was in person.

Q. And that upset you, but you didn't file a complaint with the Department?

A. I don't think I should be filing a complaint every time -- what -- what -- why would I file a complaint at the time?

Q. Well, you stated that as if it was particularly egregious.

Did you not want to take it to the authorities if it was that -- something like that was said?

A. Well, aren't the authorities here? I'm saying it right now because, you know, I'm -- I'm -- I'm open and I can testify on it.

Q. Okay. So you were talking about Mr. Mansker, your previous environmental consultant.

Did -- did he pass away in -- was it late 2018?

A. I'm not too sure of that.

Q. What's your best guess? What year?

You said he was your best friend, right?

A. It probably hasn't been a year yet. Probably maybe --

MRS. RAEL: January 13th of '19.

THE WITNESS: Oh, is that --

MRS. RAEL: January 13th, 2019.

MR. JOHNSON: Okay. Thank you.

HEARING OFFICER ORTH: That was Mrs. Rael.

MR. DOMENICI: All right. Thank you.

BY MR. JOHNSON:

Q. So you've been through the renewal process at least five times, but you were due to submit a renewal application at the end of 2017.

Now, Mr. Mansker was still alive at that time, correct?

A. Let me just tell you about Mansker. He was alive, but he was a very sick man. They cut his leg off. They cut his toes off. He was going partially blind.

So you're talking about a -- you're asking me, well, he should have taken care of it. He was a very sick man.

Q. Well, if he -- if you know he's that sick and you don't expect him to be following through on the environmental consulting job you hired him for, isn't it your responsibility to file your renewal application?

A. It is, and I think it's the -- the -- the responsibility of the State to notify me that your application is going to be due.

Q. Okay. So did Mr. Herman provide you with a copy of the draft permit that we're talking about tonight approximately 30 days prior to it entering the public notice period where public comment is expected to be received?

A. We -- we did receive something, but at the time, usually Bill took care of us, and for us to have gotten what we got, we really -- as not knowing what it was, we didn't understand it.

Q. Okay. Well, when the -- the window -- the proper window for public comment ran between -- this is what we call public notice two -- ran from late May to

late June of this year, did you submit any comments at that time?

A. At that time I really didn't know what was going on, to be honest with you. When it was coming out and when it was being asked, we didn't have -- if anybody was going to do a public comment, it would have been Bill Masker at the time. That's why we asked for an extension.

Q. And that's where I was going next.

Did Mr. Herman not, in fact, grant you a 30-day extension to submit comments?

A. Not that I know of. Is it on paper? Do you have anything --

Q. Well, you just --

A. -- stating --

Q. -- you just said you requested one, correct?

A. I requested one, but I -- I was denied -- I think I was denied, but I don't know who --

THE WITNESS: Who denied it, Loretta, the request?

A. I think Pete -- Pete -- Pete asked for several requests, and every request that we asked for we were denied.

HEARING OFFICER ORTH: Mr. Johnson, I believe Mr. Rael is speaking of the hearing date.

MR. JOHNSON: Okay.

BY MR. JOHNSON:

Q. Okay. What I'm talking about is an opportunity before we started to schedule a hearing date just to provide some comments on this draft permit to the Department where you could make some negotiations before it got to being scheduled for a hearing.

A. Yeah, I -- I do remember something about talking to Jason about that, but at the time, you know, things were happening and just -- we just needed somebody to -- somebody like Bill Mansker that could help us.

You know, we -- we are not in the -- filling in the application that Bill did for us for years.

Q. Well, in the phone call where you requested that extension, wasn't by that point Mr. Domenici also on the call?

A. That I don't remember. I mean, you can ask him.

Q. Okay. But you haven't submitted any comments to -- to negotiate the conditions of this permit?

A. Well, we were denied. We were denied. That's all I know. Maybe -- maybe we didn't do it within time, but we -- I know that we did mention that Bill Mansker had died and we were left in a bad situation, and whatever they sent us at the time, we really didn't understand what -- what they were asking us for. That's -- that's the truth.

If we missed the appointment or the date and time it's because we just did not understand exactly what they were asking for.

Q. Okay. Let's -- let's go a little further back in time.

Isn't it true that S & R Septic did not file any of it's biannual monitoring reports between 2005 and 2013?

A. That -- that would probably have to be correct.

Q. And so if eight years of data is missing, wouldn't it logically create some uncertainty with the Department about what was discharged and how much?

A. Let me tell you, it wasn't there, but it got there.

Q. You're saying that those eight years are now --

A. It wasn't eight --

Q. -- filed?

A. -- it wasn't eight years. Where are you getting eight years from?

Q. Our records show a gap from 2005 to 2013.

A. That's incorrect.

Q. You're saying you submitted monitoring reports?

A. Yeah, we submitted -- well, I don't -- not eight years that you're telling me we didn't submit monitoring reports. That's wrong.

Q. I don't think it's wrong for those years, but

that's your testimony, and I'll -- I'll move on to what I think you are talking about. Okay?

Isn't it true that Mr. Herman had to issue a Notice of Noncompliance in 2015 to get you to provide monitoring reports for the last five years?

A. That could have been possible.

Q. And didn't that Notice of Noncompliance also require you to install splash pads and proper signage as required by the 2012 permit?

A. Can I talk about that? Can I answer it, because I just can't answer it like that? I would like to answer it properly.

Q. Go ahead.

A. There was a lot of stuff that Melanie -- the boss in Rio Rancho -- was satisfied with the splash pads that we had, but when it came to Herman, it wasn't good enough for him.

We also had signs all over the place, but they had to be bigger, even though it doesn't say anywhere that they had to be bigger.

Everything that Melanie would tell us was fine Jason would say is not fine.

Q. Is the size of the splash pads specified in the 2012 permit?

A. What I had, when Melanie saw it herself, she

approved it. She approved it.

Q. Okay. That didn't exactly answer my question.

A. Yeah, but I'm just telling you, if I got her approval, that's enough for me. She approved it.

Q. Well, is it unreasonable for Mr. Herman to require you to abide by the actual language of the 2012 permit?

A. Well, let me -- let me tell you, I had -- not what you would call splash pads, but I had a bunch of cement there that served as splash pads, and that's what Melanie saw.

She okayed that, so I don't know. Are you saying that Melanie is below Jason?

Q. I'm saying that whatever is written in that 2012 permit, whoever was closest to getting you to abide by that was doing their job the most properly.

A. Well, I spoke to Melanie because I just felt things weren't right --

Q. Okay.

A. -- and then she's the one that okayed it, but again, I feel that there was something wrong with him that we weren't getting treated properly.

Q. Okay.

A. And let me just tell you why I think he -- let me answer real quick. Jason only has two years with

Groundwater. That tells me he's pretty green. That tells me he could make a bunch of mistakes.

He said, I think, he did a process of 21 permits. Out of the 21 permits, why were we chosen after being in business 32 years? We've been in business over 40 years, but 32 years with -- with our dump site.

Why in the dickens -- what did we do so wrong, that changed, that he's asking for something so strict? And I really -- again, I'm going to say I really feel he's shooting to -- to put us out of business.

Q. We'll -- we'll explore his qualifications and rationale in his testimony, but for now I want to move on to the couple of comparisons you made with the septage -- septic tank leach fields at the Taos Mesa Brewery and the RV park.

You've talked about them as maybe causing greater contamination than your site would, but are they not, in fact, governed by a different group of statutes and regulations than what governs groundwater? Are they not liquid waste program?

A. Okay. I always understood that anything over 2,000 gallons was groundwater.

Q. Well, there's a liquid waste program, and does -- does it not limit discharges to no more than 5,000 gallons a day if it's going to be regulated by the liquid

waste program?

A. That must have just changed, but I -- I know that 2,000 gallons and over was a groundwater permit. But even if it wasn't -- even if it wasn't, if you can dump a total of -- 4,000 times 12 is what, 24 -- 24 times --

Q. Well, let's --

A. -- a whole month.

Q. -- let's talk some more about the comparisons and the differences.

Aren't the solids from the leach fields that are associated with that brewery and that RV park actually pumped out and redeposited at a disposal site like yours?

A. That's where I come into -- to a place where I find myself to be pretty good at -- at what I do. It -- it's pumped, but is it pumped --

COURT REPORTER: I'm sorry. I'm sorry; could you say that again?

THE WITNESS: What I'm saying is -- he's asking me about the tank being pumped.

BY MR. JOHNSON:

Q. What I'm asking is what the difference between these septic tank leach fields is and your facility, and isn't it the fact that what you dispose of at your facility is what was pumped out of theirs?

A. That -- that doesn't make it any better. What

I'm trying to say is -- and I'll repeat myself again -- is that they actually have a system that allows it to percolate into the ground.

Q. And what's percolating? Is it effluent -- liquid effluent?

A. It's the liquid effluent, but let me tell you a little bit. I'm an expert at installation and putting in septic tanks. I've done it for 40 years.

If you want to tell me what a leach field --

COURT REPORTER: I'm sorry. I'm sorry; if you want to tell me what a leach field --

THE WITNESS: Looks like.

BY MR. JOHNSON:

Q. Okay. So let's --

A. Okay. So a leach field does carry a lot of contamination in the leach field. If you did them all leach field -- leach fields don't last forever. Even if a tank is being pumped out, they don't last forever. There's a great contamination.

If you would see me dig up a leach field -- an existing leach field -- you would understand that there's a great contamination that actually flows into the ground.

Q. The purpose of a septic tank is to create separation, correct?

A. But it doesn't. But it doesn't.

Q. Well, that's a septic tank's role.
A. I -- I put septic tanks in all the time, and when a leach field gets saturated, right, it gets saturated for a reason why, and it stops working.
Why does it stop working? Because all the gooey stuff that's in that tank gets in the leach field and plugs it.
Are you trying to tell me that it's clean water --
Q. Well, I'm talking about --
A. -- getting into the leach field?
Q. -- a septic tank --
COURT REPORTER: One at a time, please.
Q. -- that's working correctly.
COURT REPORTER: Please.
HEARING OFFICER ORTH: One at a time. So --
COURT REPORTER: I need your question over.
HEARING OFFICER ORTH: I'm sorry, Rebecca. Mr. Rael, I'm going to ask you to slow down a little.
THE WITNESS: Okay. I will.
HEARING OFFICER ORTH: When you become agitated, you -- you speak too quickly.
THE WITNESS: Okay. I'll -- I'll --
HEARING OFFICER ORTH: And Mr. Johnson --
THE WITNESS: -- slow down.

HEARING OFFICER ORTH: Okay. And Mr. Johnson --

THE WITNESS: I'll --

HEARING OFFICER ORTH: -- if you would please be careful not to --

THE WITNESS: I guess he's asking me a question where I really find myself to be very professional. I have put in hundreds of leach fields, and to say that the treatment system treats it, that the water comes off clean, is not true. It's not true.

MR. JOHNSON: I'm not getting my question answered, actually.

COURT REPORTER: I'm sorry?

MR. JOHNSON: I'm not getting my question answered. I haven't been allowed to ask it yet.

HEARING OFFICER ORTH: Okay. Mr. Rael, please listen to Mr. Johnson's question.

BY MR. JOHNSON:

Q. What I would like to know is, when a septic tank is working correctly, do the solids not separate and stay towards the bottom?

A. That's incorrect.

Q. Is that not what it's supposed to do?

A. That's incorrect.

Q. So when it gets pumped, what are you extracting from the septic tank?

A. There's solids in there, but if the person does not pump their tank like they should have, those -- that liquid gets into the leach field, and that liquid that's real nasty plugs up the -- the leach field and it has to be replaced.

Q. Okay. I'm not talking about people that don't operate them properly.

So if they are operated correctly, are not those two facilities we were discussing -- Taos Mesa Brewery and the RV park -- quite different both in their operating nature and their regulatory scheme than yours?

A. I -- I still say that they contaminate groundwater a lot quicker due to that they have a system that actually absorbs the liquid from the tank into the surface.

Let me just tell you something. It only takes a month to -- if a -- if it's -- two persons can fill up a whole tank takes about a month. That's all it takes.

And if you tell me this RV park that can discharge 2,000 gallons a day, well, that tank is going to fill up pretty quick and it's going to start draining into the leach field pretty quick.

Q. Okay. Let's talk just briefly about how the cells at your site work.

You've stated you've been limited to a

three-inch head for several years now, correct?

A. Yes.

Q. And -- but Taos gets quite cold in the winter as well, correct? So --

A. I've got an answer for you.

Q. Well --

A. Correct.

Q. -- the question, though, is, how can you be sure that evaporation is eliminating a significant amount of your septage during those winter months?

A. I'm glad you asked that question. If you live in Taos, Taos freezes up completely. You can go to eighteen inches to two feet of frozen ground.

When you get to that one area, you're not going to have any percolation into the ground. It's going to work 100 percent with evaporation.

I -- I -- I work a backhoe. I work -- I work everywhere.

COURT REPORTER: I'm sorry; would you say that again? I work --

THE WITNESS: I work a backhoe. I operate a backhoe.

A. I -- I -- I've dug -- dug holes in the winter. I've had to build fires to thaw out the ground.

And in my site, in December, January, the ground

is completely frozen to where you're not going to get any percolation into the ground. That I know.

Q. So you're asserting that there's a high level of evaporation in January in Taos?

A. There's evaporation, period -- period.

Q. All right. So you talked a little bit about the past requirements or lack of requirements in earlier Environment Department permits.

So one thing that you said was that there hadn't been any soil borings required in the past.

Is it not true that in 2000, the EPA and the Environment Department undertook and took on the cost to do some soil borings of their own on your site?

A. Okay. What that -- what that is is another area where at the time, when the State went in -- you're talking about the State, when they went in and did a -- took the drilling?

Q. (Nods head.)

A. At that time I was able to discharge up to 20,000 gallons a day. At that time there was not a wastewater treatment plant.

At -- at that time the State went in -- and that's why I'm wondering why am I going through this -- the State went in, and at the time I was only dumping in one pit.

I was dumping all the way to four feet in that -- I'm going to say a cell -- up to four feet in that cell.

The State went in in that same pit and they went ahead and drilled, and they have a study that the -- that the wastewater had gone down 30 feet -- you should have it there -- 30 feet, but at 30 feet -- listen to this -- there was no contamination, so I'm wondering, what in the dickens is going on that the State is asking me to do ridiculous stuff.

Q. It's your testimony that no contamination was found at 30 feet?

A. That's what I heard. That's what -- well -- well, we can bring it up.

Q. Right.

A. I'm -- I'm going to say --

Q. We can --

A. -- I'm -- I'm going to -- I'm going to say that that's pretty close.

Q. All right. We may testify differently later on.

Did that report that came from those -- those drillings not predict that it could be approximately 60 feet of vertical migration by -- by this --

A. You're asking if --

COURT REPORTER: I'm sorry.

A. -- you're asking --

COURT REPORTER: I'm sorry; wait a minute. By this what?

MR. JOHNSON: Time period.

COURT REPORTER: Okay. Go ahead.

MR. JOHNSON: Present date.

A. You know, I'm not an expert at that to answer that question.

Q. Okay. All right. Then finally, we talked about how there wasn't a hearing for the last permit renewal in 2012.

Are you aware that there was not a hearing requested?

A. I know there wasn't a hearing requested, and I think I spoke -- I can't understand who -- I can't remember.

I know I spoke to a lady and -- and I asked her, why is it that we need to have a hearing this time, and the reason was, she said, because the people asked the same question.

And -- and I know it was somebody of authority. I think it's going to be the -- the boss on the very top, but I'm not sure 100 percent.

Q. Well, we heard the testimony or the explanation from the Hearing Officer earlier that in order for a

hearing like this to occur, you need to have a determination of significant public interest.

Do you remember that?

A. Yeah, there's a -- there's a public interest, and I -- I guess, you know, there is a lot of people that complained.

I'm -- I'm real -- one of the things that opened the door -- and I'm not picking on John over here, but the El Prado Water Association --

COURT REPORTER: The what?

THE WITNESS: El Prado Water Association.

A. -- decided to put a well right by my dump site, and then I -- I've been there 32 years, and now they're asking me to do this and do that.

And I -- I think if anything, it was triggered by them on -- on whatever they did to talk to the State or whatever, they wrote in or whatever they did, but that triggered it to have a hearing.

Q. I think that the issue I'm getting at is that it's not entirely up to the Department's discretion, correct, whether there's a hearing?

A. Well, the way it's going now, to have five holes to be drilled to cost me 180,000, that doesn't seem fair, you know, and that's one thing I want to mention. Okay?

Jason told me that we -- that he was going to be

in the middle, right? He wasn't going to go this way and he wasn't going to go that way, but yet I see the Department has gone completely to the left.

Q. We'll testify about that a little bit later too.

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

HEARING OFFICER ORTH: Thank you. It's been two hours since we started, and we do need a break. Let me just ask, though, Mr. Brockmann, are you going to have questions of Mr. Rael?

MR. BROCKMANN: Madam Hearing Officer, no, we won't.

HEARING OFFICER ORTH: You won't.

MR. BROCKMANN: Maybe there will be one or two -- I'll just confer with Mr. Painter on break -- but if we do, it will be very short.

HEARING OFFICER ORTH: Okay. Is there anyone else? There are other people who want to ask questions. We need a break, though.

MR. DOMENICI: Sure.

HEARING OFFICER ORTH: Let's take ten minutes.

(Recess was held from 11:36 p.m. until 11:44 p.m.)

HEARING OFFICER ORTH: Okay. We're coming back from the break.

All right. We're going to have Mr. Rael back at the witness table and, let's see, Ms. Leslie, did you have some questions --

MS. LESLIE: I do.

HEARING OFFICER ORTH: -- of Mr. Rael?

MS. LESLIE: Yes.

HEARING OFFICER ORTH: All right. If you would stand maybe at the podium and keep your voice way up.

MS. LESLIE: Okay. Keep my voice what?

HEARING OFFICER ORTH: Up.

MS. LESLIE: Up. That I can do.

Mr. Rael, I just have a couple of questions for you about your business.

CROSS-EXAMINATION

BY MS. LESLIE:

Q. How many trucks do you own?

A. I own two, but -- I mean, I own three. One is down. It's -- it's like I always got to keep the trucks working properly.

I only -- I only run one truck and then that -- that's about it, but if one breaks, I have another one to back it up.

Q. What's the capacity of each of those two trucks?

A. There -- there's a 5,000-gallon truck and a 3,500-gallon truck.

Q. Okay. What's the number of customers that you service in a month?

A. That I couldn't answer you.

Q. Okay. How long is your workweek? How many days a week do you haul?

A. I'm a workaholic. I do installation of septic tanks. I do all kinds of other systems, sewer and drain cleaning, and, you know, if I have to pump a tank, my son will do it.

But I don't just do one thing. I -- I do -- I'm certified as an inspector when a house needs to be inspected, so I -- I -- I don't just do one. I do a bunch of stuff.

Q. How many days a week do you haul sewage?

A. Whenever they call. When there's an emergency, that's when we'll be there.

Q. Okay. I noted that -- what I had read from the record was -- from NMED records -- I -- I didn't make it up -- you filed a report with the NMED for the months of January through June of 2018 which said you hauled 275,000 gallons in that six months.

Is that accurate?

A. That I would have to go back and check. I'm not going to be answering something without actually being able to look at the statistics.

Q. So that -- that is the report that you filed, but just for the purposes of my questions, will you accept that what you filed is accurate?

A. I'm not going to answer that --

Q. So it might not --

A. -- because I would have to see it myself. I'm not going to answer it.

Q. All right. So if that is the case, that what you reported is accurate, that is 45,833 gallons per month, and if you're hauling only five days a week, that is 2,131 -- almost 32 -- gallons a day.

Does that sound right?

A. I think your statistics, your -- your analysis is wrong. I think you need to go back and really -- really check it --

Q. Okay. I got --

A. -- because I think -- I --

Q. -- it from your records.

A. -- I -- you said a lot of wrong stuff, so that could be wrong too.

Q. Well, I got it from your record. Let me just say that.

So if all of the haulers -- are you the largest hauler in Taos? Do you have the most number of customers?

A. Ma'am, I don't check people's book, and I don't

see who's doing what.

Q. Okay. Well, if everybody halls 2,131 gallons a day for a five-day week, that is only -- that's for 13 haulers -- that would only be 27,712 gallons a day, and that would be below Taos County Municipal -- or I'm sorry; the Taos Municipal Waste Treatment System's capacity, right?

A. Whatever you say.

Q. Okay. So also, the waste treatment center, their capacity of 30,000 gallons is 900,000 gallons a month, because they do operate 24/7.

A. But ma'am, they don't operate 24/7. They say a lot of stuff, but they're not living it.

Q. So what they say on their website is false?

A. Well, let me just tell you, right now what it says on the website or -- or --

COURT REPORTER: I'm sorry; what it says on the website or --

THE WITNESS: The website that she's talking about, and I explained it if she would have listened to me a while ago.

A. I said that they are even supposed to be charging us by the gallon, and they're not charging us by the gallon.

They changed it, and what they're doing right

now, if I go in with a 5,000-gallon truck, which I have, and dump 1,500 gallons, they charge me the full price, so they're going against their rules and regulations.

Q. Well, what I read on the website said that that's accurate unless --

A. It's not accurate, ma'am.

Q. -- you have --

A. It's not accurate. What you're reading, they're not doing it.

Q. Mr. Rael, you can't interrupt me while I'm asking the question, and I won't interrupt you.

Is that a deal?

A. It sure is.

Q. Okay. That's for the court reporter's benefit. You understand that. She can't record both of us at once.

A. Well, go ahead. Continue.

Q. Okay. So 900,000 gallons is -- appears to be very much within the number of gallons that are hauled by 13 haulers a month, so I don't think that there is a limitation that would keep you from dumping your loads.

A. You're wrong again.

MR. DOMENICI: I want to object.

A. You're wrong again.

MR. DOMENICI: The testimony --

MS. LESLIE: Yeah, I --

COURT REPORTER: One at --

HEARING OFFICER ORTH: Hold on, Mr. Rael.

MS. LESLIE: I'll withdraw the question.

HEARING OFFICER ORTH: Thank you.

MS. LESLIE: All right. Thank you, Mr. Rael.

HEARING OFFICER ORTH: Mr. Brockmann, did you decide that you had questions of Mr. Rael?

MR. BROCKMANN: My only request is that -- early on in his testimony he was reading from a Taos -- Town of Taos ordinance -- if he could identify for the record the specific ordinance that he was reading from --

THE WITNESS: Okay.

MR. BROCKMANN: -- unless that's going to be made an exhibit.

THE WITNESS: And I -- well, I did print it, and what I wanted to say again is that they -- they keep changing it over there. What's happening is --

HEARING OFFICER ORTH: Mr. Rael, I'm sorry; we just want you to identify the ordinance.

THE WITNESS: Okay. I'm trying to find it.

MR. DOMENICI: I'm going to make -- I'm going to make that an exhibit.

HEARING OFFICER ORTH: Okay. Thank you.

MR. DOMENICI: I'll make it an exhibit.

HEARING OFFICER ORTH: Thank you, Mr. Domenici.

All right. Mr. Brockmann, Mr. Domenici is going to make it an exhibit, okay, so you can stop looking, Mr. Rael.

Are there other questions? Sir, come up, give us your name.

MR. BROCKMANN: No more for us.

HEARING OFFICER ORTH: Thank you.

MR. DOMENICI: There are still more questions.

HEARING OFFICER ORTH: You have more questions coming, Mr. Rael.

THE WITNESS: Oh, he wants to ask me some questions?

MR. DAUBERT: Yes. Sorry.

HEARING OFFICER ORTH: Tell us your name first.

MR. DAUBERT: Yes, Douglas Daubert, D-a-u-b-e-r-t.

HEARING OFFICER ORTH: Okay. Thank you.

CROSS-EXAMINATION

BY MR. DAUBERT:

Q. Mr. Rael, you showed us a photo.

The first photo you showed us was a picture of --

A. It's a picture of my property with 16 cells, and it was an aerial shot.

Q. No, no, no, no, the other one where it's -- the

first one you showed us. Yeah.

What -- what -- that was a picture of what again?

A. That's my septic truck there.

Q. Yeah. And what -- where are you at?

A. At the wastewater treatment plant.

Q. Okay. How -- how many -- how often do you go to the waste treatment facility plant?

A. Well, we have a -- we've been going over there, and I've been checking their site to see if it's really a site that's really a site that we can go to.

I've gone quite a bit. I have several loads I've done, and that's where I discovered everything that's wrong with -- with the site.

Q. And none of the other haulers have ever discovered this problem?

A. You better believe they have. They have complained, and they're -- I was there one time -- last load -- two hours.

One of the guys -- I'll tell you who it was -- it was Ray's Septic -- went over there and complained to Gene -- he's the main officer there -- he complained and told him like, you know, he kept me waiting two hours, two and a half hours, for somebody to discharge.

So it's what -- I wish the septic haulers would

have been here so they could have told you exactly the problems that are going on with that wastewater dumping station. It's a -- it's a bad station to dump.

Q. But they still all use that?

A. (No response.)

Q. That's the only facility in Taos County that they're able to use, correct?

A. There's one in -- if you're up in Red River.

Q. A treatment facility plant?

A. There's -- there's one up in Red River that you can dump that's up there.

Q. Okay. So that --

A. I mean, if you're up in Red River --

COURT REPORTER: Wait a minute. One at a time, please.

MR. DAUBERT: I'm sorry.

BY MR. DAUBERT:

Q. Okay. The second picture you showed us, when was that taken?

A. That was probably taken about three weeks ago, approximately. I'm not too sure about it.

Q. Could you show everyone that again, please?

A. I'll show you two of them.

Q. No, I just want to see the one you showed us. Thank you.

In that picture, earlier Mr. Snyder described how the plant vegetation in there was using nutrients and was also helping with the evaporation, yet that picture doesn't show a single plant in there.

A. You want to know --

Q. What happened to the plants?

A. -- do you know why? I have a backhoe, and I work my site. I clean it up. I -- I make it look the way it does.

I'm not going to just leave the stuff like that. I got to make sure that I clean up my site. Is it wrong for me to clean my site?

Q. So all the other pictures that Mr. Hansen showed us were that you neglected to clean that site up at that point?

A. Okay. You're putting a word, neglect. Can you tell me what I neglected?

Q. You didn't clean up the site.

A. Yeah. You're -- you're -- see, you don't have the experience that I do. What I did there is completely wrong.

There's a time and season that those weeds go -- those weeds are -- are -- you're going to see them like that in the winter.

There's a time and season, and I'll be real

honest with you, I like to wait until October comes, but I did it and I cleaned up my site, because I knew that we were going to have a hearing, which I wanted to show you what my site looked like.

But I -- I clean the site up. Jason can testify. You might be assuming something, but what it is -- let me just explain it to you -- those weeds grow.

Q. Uh-huh. I'm sure they do.

A. They grow -- they grow, and anywhere you plant a flower or tree, if there's water, it's going to grow.

Q. So you -- so at your own admission, you decided to clean the site up because of the hearing?

A. I cleaned it because -- let -- let me just finish. Okay? And what about if I -- if I cleaned it? What about if I did clean it? What -- what's wrong with it? Are you trying to assume something? Are -- you don't want to see?

The bottom line is, this is what you got to look at. Okay? Do you see any water in the -- and -- and look -- you should be looking for sewage or wastewater. Did you see any?

Q. Not in that picture, but in other ones we have.

A. So -- so how did it disappear?

Q. Second question for you -- another question for you -- you said earlier that your site does not smell.

A. Correct.
Q. Then how come that I live four miles from there and I can smell it? I have smelled it.
A. Well, let me tell you, if you can smell it, you better check your own septic tank, because that's where --
Q. No, no, no, no.
A. -- that's where your smell is coming from, you.
Q. No, no, no.
A. Yes, yes, yes.
Q. I've had a septic system --
COURT REPORTER: One at a time. One at a time.
HEARING OFFICER ORTH: And -- and --
MR. DAUBERT: Okay.
HEARING OFFICER ORTH: -- this is the time --
A. Again, you're assuming something with no evidence, and that's wrong. That's what's been happening here.
Q. Sir --
A. You cannot prove that. Can you prove it --
HEARING OFFICER ORTH: Mr. Rael --
A. -- that it came from my site?
HEARING OFFICER ORTH: Mr. Rael, please.
THE WITNESS: Yes.
BY MR. DAUBERT:
Q. Can I -- so I'm -- I'm to understand that his

site doesn't smell, and I can ask the question -- that's the question then, and he says it doesn't -- it doesn't smell.

A. Can -- can I explain to you --

Q. Okay.

A. -- why it doesn't smell?

Q. I have another --

HEARING OFFICER ORTH: No, Mr. Rael.

BY MR. DAUBERT:

Q. I have another question.

Have you -- has S & R ever been fined for dumping in the Rio Grande?

A. That -- that was a --

Q. That's a yes-or-no question.

A. Have I been fined?

Q. I said S & R.

A. No, I haven't been fined.

Q. I didn't say you.

A. Yeah.

Q. S & R.

A. Okay.

Q. Has S & R ever been fined or pled guilty for dumping in the Rio Grande?

A. I'll answer it real good for you. I never --

Q. It's a yes or no.

A. Okay. I have never pled guilty, and that's no.
Q. I didn't ask you. I said --
A. I'm telling you --
Q. -- S & R.
A. -- no, no, no, no.
MR. DAUBERT: Can I submit this article then?
HEARING OFFICER ORTH: Certainly.
MR. DAUBERT: I don't know who it gets to.
HEARING OFFICER ORTH: Cody.
THE WITNESS: That was an article -- I never -- I never got fined for nothing.
MR. DAUBERT: I didn't ask you.
THE WITNESS: And I never --
MR. DAUBERT: I asked you --
THE WITNESS: -- I never --
COURT REPORTER: One at a time, please.
HEARING OFFICER ORTH: Hold on.
THE WITNESS: You know, that's a false -- that -- that is completely false, what you're reading there.
MR. DAUBERT: No other questions.
HEARING OFFICER ORTH: Thank you, Mr. Daubert.
Is there anyone else who wants to question Mr. Rael?
MR. DOMENICI: I do.

HEARING OFFICER ORTH: Mr. Domenici, do you have any follow-up?

MR. DOMENICI: First, I want to object to that as hearsay --

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: -- so I don't -- I don't stipulate to its admission.

HEARING OFFICER ORTH: Thank you.

MR. DOMENICI: I didn't get to see it, but a newspaper is hearsay generally.

REDIRECT EXAMINATION

BY MR. DOMENICI:

Q. So how much do you gross by dumping at -- at this site a year?

A. I really couldn't answer that because, you know, I haven't sat down to really --

Q. Is it more than $100,000?

A. No, I wouldn't say -- not even close.

Q. So the borings would cost not just your profit, but they would cost more than your gross for several years?

A. Yeah, what -- yeah, it would. It would take all my savings, everything I have worked for.

MR. DOMENICI: That's all I have.

HEARING OFFICER ORTH: All right. Thank you.

Is there any reason not to excuse Mr. Rael?

MR. DOMENICI: I do want to move a few exhibits, which are in my --

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: -- Notice of Intent, and then I have one additional.

HEARING OFFICER ORTH: All right.

MR. DOMENICI: So they're Rael 1, 2, 6.2, and 6.3, and then Exhibit 7, which I'll give to the court reporter, which is the ordinance, the Taos City -- the Town of Taos ordinance.

HEARING OFFICER ORTH: All right. Any objections?

MR. JOHNSON: No objection.

MR. BROCKMANN: No objection.

HEARING OFFICER ORTH: Thank you. They're admitted.

(Rael Exhibit No. 1, Rael Exhibit No. 2, Rael Exhibit No. 6.2, Rael Exhibit No. 6.3, and Rael Exhibit No. 7 admitted into evidence.)

HEARING OFFICER ORTH: So we're just a little past midnight, and on the break I was kind of running around talking with people about wanting to go a little bit longer, but not terribly much longer, and in particular, I spoke with Mr. Smith, who submitted a

document titled Notice of Intent.

Mr. Smith, would you come up?

Mr. Smith indicated that he wanted to speak tonight and that he believed his comment would be ten minutes or so. We'd like to hear from Mr. Smith.

Would you raise your right hand, please?

DION SMITH,

having been first duly sworn, testified as follows:

HEARING OFFICER ORTH: And would you spell your first name?

MR. SMITH: D-i-o-n. May I proceed?

HEARING OFFICER ORTH: Please.

MR. SMITH: My name is Dion Smith, and I am on the board at Stagecoach Hills Association for the neighborhood.

I'm going to speak about airborne contaminants. I'm not an expert in the field, although I do have a health background, which is connected to this.

What prompted this research that we did was because we have had people in the community express smelling odors from time to time over the past four or five years that I've been here.

So we did some research, and since New Mexico Environmental Department does not monitor air quality as it relates to sewage lagoons or cells, we have research

studies by experts and scientists in the field concerning this, and the evidence was overwhelming. Breathing raw sewage fumes can not only be unpleasant, but physiologically damaging.

Somebody brought it up earlier about gases. Gases, compounds, common colorless gases encountered in sewage systems --

COURT REPORTER: I'm sorry; could you -- could you say that again?

MR. SMITH: Common colorless gases encountered in sewage systems includes hydrogen sulfide, carbon dioxide, methane, and ammonia.

High levels of these gasses are toxic, and high concentrations of methane and carbon dioxide in particular displaced oxygen.

In addition, industrial solvents -- like those from household cleaners and fresheners and biological contaminants in sewage -- may become airborne and cause adverse health effects, and that's where the community is very concerned about that -- not just about the water. We've been focusing a lot on the ground; this is in the air.

There are an array of symptoms that can happen. I want to talk about -- one is volatilization, which is the evaporation of gases, loss of a substance to the

atmosphere.

Agitation of raw sewage -- which Mr. Rael just talked about him doing that -- can cause volatilization of biological contaminants in the sewage. Although the microbials are short-lived, they can be spread, and in particular by the wind.

So some of the things that we need to look at here, we do recognize that the sewage contains contaminants and can cause serious illness or disease.

These infections and diseases can be caused by transmittal of bacteria and virus by water, wind, dust, insects -- like flies and cockroaches -- plants, animals -- like dogs and cats -- and other animals that roam on the mesa here.

One of the things I would like to talk about that was mentioned earlier is that the heat helps to dry, but heat also increases the bacteria -- the amount of bacteria that exists.

So what I'm concerned about is that it's not static just in that area, but it is moved around into our neighborhood in particular.

Disease, what I'd like to share is some of the diseases because -- and -- and things change over time, and I want Mr. Rael to understand this is not about, we don't like you, or anything like that. It is about --

well, you want to protect your business; we want to protect our lives.

Disease and illness is very threatening, and recent research over the last 15 years has demonstrated that the science doesn't always -- that was 15 years ago is not the same now.

So some disease-causing agents in raw sewage cause bacteria, fungi, parasites, and viruses, and can cause serious illness, including bacterial infections, a lot of tetanus, hepatitis A. Some of these things I have trouble pronouncing.

There's an infection caused by a corkscrew-shaped bacteria causing symptoms like headaches, muscle pain, fever, to severe symptoms with bleeding from the lungs and meningitis. It can cause respiratory and gastrointestinal illness. We could have trachoma, which is an infection to the inner surface the eyelids. There are skin issues, pneumonia, abscesses that can happen.

And these things have happened not only in this country, but throughout other countries -- progressive countries in the world, like Australia and Canada, where we -- we also saw some of that -- some of the research from there.

In exploring -- in my -- in our exploration, we also found some of the science research. As of March

2016, their statement -- this is a statement from the scientist -- the science does -- doesn't support the disposal of sewage on the landscape. The supposed benefits are more than offset by the risk to human and environmental health.

Efficient systems are needed along the complete chain of service, from collection to disposal, in order to protect communities from health threats.

Human excretion contains harmful pathogens that can cause disease and present health risks if not buried or treated.

Pollutants from -- from ground -- to groundwater, we obviously know that. What we want to focus in on here is the airborne ones.

So in summary -- in their summary, they said liquid waste includes human excretion and other wastewaters. It is essential to ensure that this excretion is separated from people and to protect water sources from contamination by liquid waste, as well as the air.

This is my summary from our concerns is, locally, in view of the known evidence of geological fractures and faults and permeability and all the things that were talked and speculated and assumed about tonight, those raise fears because there still is risk.

Nobody has given any definitive information here about that. I know they want to check and see what the situation is. There's also inadequate information due to the process in geological exploration and health considerations.

Along with the risk of disease-causing threats into our air and water environment, which consequently pose an ongoing threat to local public health and safety, this is -- every day is the potential for us here. Okay?

Also adding to our apprehension is the long history around this open pit sewer dump. As mentioned, there have been numerous regulatory violations and failures to be compliant with -- with New Mexico Environmental Department, mandated protocol, and proposed remediation.

There has been the apparent failure and inability of New Mexico Environment to monitor and enforce their protocols and remediation enforcement. This raises the question of, who knows what is happening there.

Finally, there is the element of the seemingly callous, indifferent response -- maybe not on purpose -- it sounds like they don't have enough manpower -- person power there to pass -- to take care of the efforts, because this has -- this is not the first time that this has been contested.

This -- this is, I believe, the third or fourth time that this has been contested, and there seems to be a pattern of rubber stamping, because there's the inability to hold accountability here.

So this -- this perspective is in reaction to the fact that much of this information has been expressed repeatedly since 2002, and the governing body, which espouses a mission to protect the environment and related public health, rubber stamps a permit renewal every five years.

S & R and New Mexico Environmental Department need to understand that they have a responsibility to protect from such environment and health casualties. Failure to do so and any resulting casualties make them legally liable.

It is not like S & R does not have a viable alternative in dumping their waste. They do have the treatment plant in town.

We had a representative here earlier who had to leave who met with the Taos treatment plant and assured her that they were capable of handling the treatment -- I mean, the dumping of sewers there -- including S & R if they chose to do so.

This situation repeats a continuing ethical question in our culture, which is, what's more important,

money or people's health and safety?

And I would like to ask -- to finish -- if this is in your neighborhood, would you not want valid assurance and accountability to make sure that your neighborhood was safe?

Thank you.

HEARING OFFICER ORTH: Thank you, Mr. Smith.

Mr. Domenici, do you have questions of Mr. Smith?

MR. DOMENICI: No questions.

HEARING OFFICER ORTH: Mr. Johnson?

MR. JOHNSON: No questions.

HEARING OFFICER ORTH: Mr. Brockmann?

MR. BROCKMANN: No questions. Thank you.

HEARING OFFICER ORTH: Anyone else?

Okay. Thank you very much, Mr. Smith.

It's now a quarter after twelve. Is -- is there anyone who has something very short that they would like to say tonight and not rejoin us on Monday morning? Okay. I see no hands.

What we have left then is Mr. Brockmann's witness, Mr. Painter, right?

MR. BROCKMANN: Correct.

HEARING OFFICER ORTH: And witnesses from the Bureau; yes?

MR. JOHNSON: (Nods head.)

HEARING OFFICER ORTH: How much -- so I heard an estimate now from Mr. Brockmann of 30 minutes. Remind me of the estimate from the Bureau of its witnesses.

MR. JOHNSON: We'll probably have 45 minutes --

HEARING OFFICER ORTH: Okay.

MR. JOHNSON: -- or an hour.

HEARING OFFICER ORTH: Sorry?

MR. JOHNSON: Or an hour. Or an hour.

HEARING OFFICER ORTH: Yeah, or an hour. All right.

Mr. Domenici?

MR. DOMENICI: I don't think we should finish tonight. I -- I have commitments tomorrow morning, and we -- with cross-exam, we're going to be till 2:00 for sure.

HEARING OFFICER ORTH: Yeah, I agree with you.

MR. DOMENICI: And -- and I would -- I'm ready -- I'll conclude my case first thing. I have some more exhibits I want to tender, and then I will be done with my case, but that's -- I do have that one thing. I'll do that on Monday --

HEARING OFFICER ORTH: Okay.

MR. DOMENICI: -- if that's okay.

HEARING OFFICER ORTH: So at the moment, the

venue on Monday is the Taos field office. Give us the address there.

MR. HERMAN: I'll have to look it up.

HEARING OFFICER ORTH: Okay. And shall we start at 9:00? Is that a good time to start?

MR. DOMENICI: No.

HEARING OFFICER ORTH: No.

MS. HUNTER: It's too early --

HEARING OFFICER ORTH: It's too early?

MS. HUNTER: -- because we have to travel to get here, so it's --

COURT REPORTER: Ma'am, could you state your name?

MS. HUNTER: Michelle Hunter.

COURT REPORTER: Thank you. Sorry.

HEARING OFFICER ORTH: Michelle Hunter.

So Mr. Brockmann, you're the one who -- who -- what?

MR. BROCKMANN: It -- it sounds -- if -- if you're -- if the total estimate is two hours and we're done by noon, I should be fine.

HEARING OFFICER ORTH: Okay. Sometimes things take a little longer than --

MR. BROCKMANN: And the other thing, I can consult with Mr. Painter, but -- but if we look like we're

going to get in a time crunch, we might check with you and NMED and maybe ask Mr. Painter to go first, and then if I need to leave before Groundwater Bureau is -- is finished, that's a possibility.

HEARING OFFICER ORTH: Okay. So 9:30, is that okay?

MR. BROCKMANN: That's --

MS. HUNTER: 9:30 seems good.

HEARING OFFICER ORTH: All right. Is 9:30 good for you?

MR. DOMENICI: 10:00 is better.

HEARING OFFICER ORTH: 10:00 is better?

MR. DOMENICI: Well, I'm coming from Albuquerque.

HEARING OFFICER ORTH: I'm sorry?

MR. DOMENICI: I'm coming from Albuquerque, so --

HEARING OFFICER ORTH: You're coming from Albuquerque, that's correct.

MR. DOMENICI: And so is my witness, Mr. Snyder.

HEARING OFFICER ORTH: Okay. And your stopping point was more like 3:00 p.m., Mr. Brockmann?

MR. BROCKMANN: Pardon me?

HEARING OFFICER ORTH: Your stopping point was more like 3:00 p.m.?

MR. BROCKMANN: You know, noon or 1:00 is -- is best for me, but again, if Mr. Painter maybe can go first.

HEARING OFFICER ORTH: Does the Bureau object to that?

MS. HUNTER: No.

MR. JOHNSON: No.

HEARING OFFICER ORTH: Okay. So --

MR. BROCKMANN: And then if I have to leave --

HEARING OFFICER ORTH: Yes. So this is the plan for Monday: We'll start at 10:00. The venue is currently the Taos field office. The address is -- just read it.

MR. HERMAN: 145 Roy Road, Suite B, Taos, New Mexico 87571.

HEARING OFFICER ORTH: All right. It's a very small venue. They are going to actively look for a larger venue between now and 10:00 Monday morning.

If you would like an email -- we'll put a sign on the door if we move somewhere else, but if you'd actually like an email to be sent to you as soon as we know, please put your email on here.

I don't mean counsel; I mean anyone else. Counsel will definitely get an email if we're going anywhere else, but if anyone else would like an email, if we know, for example, we're going to a larger venue, please put your email on that paper.

Okay. So at 10:00 Monday morning, Mr. Domenici will wrap up his presentation. We'll hear from Mr. Painter, and then we'll here from the Bureau.

I'll solicit any public comment that has not yet been offered. People just go once, so if anyone has not offered public comment tonight and would like to do so on Monday, they'll have an opportunity.

Also, let me mention that if, for example, you have something else you'd like to say in public comment or maybe you can't actually join us Monday, please write your public comment, and so long as you get it to Cody by -- by the end of Monday, it will become part of the record.

MR. BARNES: I'll also put my cards next to the sign-in sheet in case you all need to email me, call me, whatever.

HEARING OFFICER ORTH: And could you give them your phone number?

MR. BARNES: Yeah, it's on -- it's on there as well.

HEARING OFFICER ORTH: All right. Any questions about our plan? No.

Okay. Well, thank you all very much, and drive safely home.

(PROCEEDINGS ADJOURNED AT 12:20 A.M.)

STATE OF NEW MEXICO)

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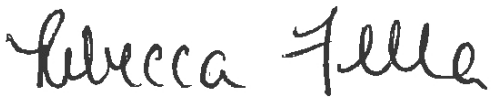
COUNTY OF BERNALILLO)

I, Rebecca Fella, the officer before whom the foregoing PUBLIC HEARING was taken, do hereby certify that the foregoing PUBLIC HEARING was personally recorded by machine shorthand; that said PUBLIC HEARING is a true record; that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this PUBLIC HEARING is taken, and that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in the action.



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