ALBUQUERQUE BERNALILLO COUNTY
WATER AUTHORITY BOARD
VINCENT E. GRIEGO CHAMBERS
ONE CIVIC PLAZA
ALBUQUERQUE, NEW MEXICO 87102

Wednesday, June 22, 2016
5:00 PM

Present:
Councilor Trudy E. Jones, Chair
Commissioner Art De la Cruz, Vice Chair
Councilor Pat Davis
Commissioner Debbie O'Malley
Commissioner Pablo Rael
Commissioner Robert Perry
Commissioner Klarissa Pena

MADAME CHAIR: Let's start with a moment of silence, then the pledge of allegiance led by Commissioner O'Malley, please.

[Moment of silence and pledge of allegiance observed.]

Thank you all for being here this evening. I would like to make a motion to approve the May 18th, 2016 minutes.

COMMISSIONER RAEL: Second.

MADAME CHAIR: There is a motion and a second. All those in favor say yes.

ALL COMMISSIONERS: Yes.

MADAME CHAIR: Opposed? Motion carries.

There are no proclamations and awards, so I will make an announcement, and that is that the -- due to Councilor Sanchez's absence, item R-16-9 will be deferred to the August 17th, 2016 meeting. Also, item 10-A will be heard on the next agenda -- as the next agenda item. I'm sorry, not reading everything they write for me. So we will simply move -- defer Councilor Sanchez's item.

Let's do public comment. Ms. Jenkins, how many do we have signed up?

MS. JENKINS: We have three.

MADAME CHAIR: All right. Each speaker

will have three minutes with a warning at two and a half minutes.

MS. JENKINS: Kathy Minsky followed by Geraldine Amato.

MR. MINSKY: What I want to talk today about, well, when I came to New Mexico, we used to say every -- this town everybody knows each other. I am today want to talk about some of local politicians, and now here, especially -- well, one, Ken Sanchez, city -- city councilors, last Sunday, according to my understanding, he went on TV bragging that he is doing business with Water Utility Authority.

I believe that that's a little bit too far. Where is some ethic? Where is ethic? Oh, well, he -- he probably has many relatives, family, relative and friends in this town that is old fashioned business. Well, it needs to be stopped.

Thank you.

MS. JENKINS: Geraldine Amato followed by Elaine Hebbard.

MS. AMATO: Good evening. Again I'd like to emphasize that the pledge to the federal flag is a fraud, and we do not have any control on the policies regarding water in this area, in this local

area, because of who controls all the resources of this nation. Water, the most vital resource that the human being requires for life is being squandered, toxified, polluted and otherwise a valuable vital resource going to waste and no one is held accountable at the local level for any of these misdeeds.

If we are to revive a way of controlling our own resources we must resist the agenda of those who now control this nation. We are under a private commercial jurisdiction. Water is just another commodity. It is not regarded as a vital resource for human life. It's -- it's -- it is regarded as a commodity to be bought and sold the cheapest way it can go. They even talk about exporting water to other nations as a profit-making business.

I'd like to take just a moment regarding a subject that I've tried to bring up here since it was represented as of each of the counsel and commission here. I've asked about making this restroom accessible to those with physical disabilities. Nothing has been done with these double heavy doors to make it accessible to anyone with a physical limitation. Nothing, absolutely nothing, and I've asked this question at this

microphone on more than one occasion.

I have been harassed and hindered since I have arrived back in town since February, why I as an elder, a woman with a physical disability with no discretionary resources being under the restraint of Social Security income is considered a threat to the establishment. The establishment here is wealthy and powerful. Why is my voice considered such a threat that I have to be harassed and hindered in where I may be or go? I've been run out of two places of habitations of being here since February, and I am still a rather displaced person.

I came back here to resume my work that I began when I was doing a television program on public access. My family is a victim of organized crime in the legal judicial network with no remedy or recourse. The damage done to my family continues to this very hour, and many people's lives are being destroyed at this local level here.

MADAME CHAIR: Thank you, Ms. Amato. Your time is up.

The next speaker, please.

MS. JENKINS: Elaine Hebbard.

MADAME CHAIR: Thank you.

MS. AMATO: What about the accessible --

MADAME CHAIR: Thank you, Ms. Amato.
MS. AMATO: Yeah, thank you.
MADAME CHAIR: Thank you, Ms. Amato, your time is up.
MS. AMATO: You're welcome too, Ms. Trudy Jones.
MADAME CHAIR: Your time is up.
MS. AMATO: You're a rude person.
MADAME CHAIR: Thank you, Ms. Amato.
MS. AMATO: Yeah, you're welcome. Thank you too.
MADAME CHAIR: Thank you for coming up.
MS. AMATO: Your phony stuff. Yeah, your time is up.
MADAME CHAIR: Good evening, Ms. Hebbard.
MS. HEBBARD: Good evening. I would like to turn this on, please. Thank you.
Good afternoon. My name is Elaine Hebbard. Given that it's June, I thought there might be a presentation on the third quarter financial report, and given that it's been so dry, we've had 1.31 inches rather than a normal 2.91, which to anybody living outside of this area sounds like a little bit, but it's a really little bit. I thought we might have a water use update and a prognosis of

what El Nino, La Nina might be in play.

And such information, I think, helps to fulfill policy with the water resource management strategy, which is to encourage and facilitate public involvement and support. For those many reasons, I look forward also to the computerized version of the water budget model, which will allow us to individually play with various management decisions and understand them in terms of water resources.

I continue to request the board to discuss and determine the guiding vision for the new water resource management strategy. I have suggested in the past striving for resiliency might be a good one. And to secondly hold a hearing on the pros and cons of changing the groundwater reserve management policy, and if so, by what criteria envisioned, such as that resiliency one. Part of deciding what needs to be changed to enable it to be implemented.

I would also argue that the ABCWA is much more than just in the business of providing water, and that it can be seen -- that can be also seen in those policies known as the worms. Considering those, I would like to focus today, again, on the need to plan outside of silos. Perhaps because

various agencies and entities have different missions, there's little formal integration of land use transportation, economic development, and other planning efforts with water resources management, and yet that is policy L.

And so what I've done here is I have drafted a draft resolution to request, as policy L does, that each of you take it back to Los Ranchos, the county and the city to request that water supply availability and cumulative impacts be taken into account when making land use development decisions and that member governments adopt policies integrating a land use transportation economic development and other planning efforts with water resource management.

I've also noted that the water utility is now a member of net blue, an initiative aimed at water neutral growth, so working on these policies together with the land use planning entities makes a lot of sense. So I proffer this draft with all of that in mind.

Thank you. Any questions?

MADAME CHAIR: Thank you.

The next scheduled meeting will be August 17th, 2016 at 5:00 PM in the Vincent E.

Griego Chambers. And now we will be having a status update for the Kirtland Air Force Base bulk fuel facility fuel leak clean up.

Welcome everyone. Is someone going to come speak? Would you please introduce yourself when you come up to speak to us?

MS. ROBERTS: Absolutely. Madame Chair, Members of the Board, thank you for having us. My name is Kathryn Roberts. I'm the resource protection division director at the New Mexico Environment Department. I am here on behalf of Secretary Ryan Flynn. He sends his regards. But, again, thank you for having us and so that we can provide you with an update on the jet fuel spill at Kirtland Air Force Base.

It is really truly my privilege to oversee the program that's charged with the regulatory oversight of the jet fuel spill. We've really got a wonderful team at the environment department, and I'm very proud of what we and our partners, including the Water Utility Authority, have been able to accomplish on this project over the last year and a half.

And without further ado, it is now my great pleasure to introduce likely some familiar faces to

you all who are going to take you through the presentation this evening. First, Mr. Dennis McQuillan. He's our chief scientist for -- at the environment department, and Ms. Diane Agnew. Both have been pivotal to the success of this project, and I honestly could not do my job without them. So I will give you Dennis and Diane.

MADAME CHAIR: Thank you.

MR. McQUILLAN: Madame Chair, Members of the Board, we have a PowerPoint. Did they give you -- scroll, okay. Okay, thank you. So easy.

So we have some really big news to share with you tonight on progress on this project. And -- and our hydrologist, Diane Agnew is going to give you the details, but it's a really, really significant milestone towards collapsing this plume.

These are the partners that we have working on this project right now. You can see that the Albuquerque, Bernalillo County Water Utility Board is a major member of the project team, RUKSHA and others, so the success that we're going to tell you about tonight, you guys should feel just as proud as we do on this achievement that we're going to tell you about tonight because it's been a long two years of drilling wells and getting to the point where

we're at right now with this major milestone.

But we have some of the best scientists and engineers in the United States and certainly in New Mexico working on this project, and we really appreciate the assistance we've had and the collaboration from the Water Board.

The work that we're doing is consistent with the strategic plan that the New Mexico Environment Department has put out. This is our plan because we are not just dealing with the resource conservation recovery act, the hazardous waste program, but we also administer the safe drinking water act, and we're the regulator on that. We regulate the water utility to ensure that the water is safe for people who drink.

And we had four strategies this year regarding a robust monitoring program and wellhead protection program. We have sentinel wells located between the plume and the drinking water wells to provide early detection. We had a very aggressive plan to investigate and remediate the fuel, the so-called LNAPL that's trapped in there and is providing a source of dissolve phase. We want to collapse the dissolved EDB plume, which has moved furthest and closest to the drinking water wells,

and we also want to meet or exceed all the public requirements by statute, and we're doing that.

This is the current timeline. You can see where we're at in 2016. A major milestone later this year will be the RCRA facility investigation report, and this is going to pull together almost two decades of monitoring and analysis into a single report, and that will provide the basis for the corrective measures evaluation, which will decide the final remedy. Right now we are an interim corrective measures. All the work that's been done in attacking this plume has been done under the hazardous waste program as an interim measure.

So the -- just about a year ago, the first extraction well went online in June of 2015. We had a temporary groundwater treatment system. That was a huge milestone. Since then, the full scale groundwater treatment system went online in December. We had -- we had a tour of that in April for the public, and the second and third extraction wells came online in December as well. And they're each pumping at about 400 gallons a minute. We've been using the water for irrigating the golf course at the Air Force Base.

We're now doing a pilot study, had started

a pilot study in injecting it back into Kirtland 7, which was the former drinking water well. This is going to be really good for the sustainability of your aquifer. We're pumping the water out, purifying it to less than detectable levels, and injecting it back in as well as inject -- landing it on the golf course.

We have treated more than 70 million gallons of contaminated water, removed any detectable EDB from that. And that water, again, has been used to irrigate the golf course or to -- for reinjection to preserve the sustainability of your aquifer.

The -- we've had a busy year with the technical groups. This is -- these are the groups that the water utility staff participate in. We've had a lot of work in the soil or the vero stone and we have a very aggressive plan. We're going to fill data gaps, drill some more wells later this year. We have one more extraction well that we're going to put in south of Gibson, and Diane is going to show you in just a minute the progress we've had on containing or the attack on that end of the plume.

There have been no detections of any contaminants in the drinking water wells, either

yours or those that belong to the Air Force or those that belong to the Veteran's Administration Hospital. In this sentinel wells, they're located between the plume, and the drinking water wells are also clean. These are typically nests of three wells that are located between the plume and the drinking water wells. Those are also clean. So we're pretty confident right now we're going to keep this contamination out of the -- out of the drinking water.

So we have a plan to attack this plume. It's going to involve multiple technologies, deployed both simultaneously and sequentially. We have a plan for the soil of the vero stone. We have a plan for the source area where the oil is trapped, and we have a plan for the dissolve phase, which is the portion that's gone into the groundwater and has migrated furthest downstream and closest to the water supply wells.

We're also on the verge of doing -- commencing the required risk assessment that's a required element of the hazardous waste corrective action, and I just want to talk a little bit about that. We basically gather all historical data and all the current data and we look for pathways where

humans can be exposed to contamination. And we evaluate those pathways. If there are any, they are known, and I'll tell you that in just a minute. And we have a guidance document that the Air Force has to follow to do that. If there's any new data during the process to come along, then we update and reevaluate the risk assessment.

But right now we've identified the potential exposure pathways, and there are no pathways that are complete. These are just potential pathways where there is no way for the contamination to get into humans. The drinking water pathway, all the drinking water wells are safe. The sentinel wells are safe.

The surface soil, what contamination there had been over on the base, all that has been removed to the extent that we didn't want to undermine buildings. There is no pathway to surface water into Tijeras Arroyo. Vapor intrusion, the groundwater is much too deep, and the -- the buildings are too far away from where the leak actually occurred on base.

We've had vapor intrusion, like along Isleta Boulevard, historically where the groundwater is six feet. We're at 500 feet here. It is just

not going to happen. And similarly, vegetable gardens are safe. There's not going to be a vapor intrusion into the gardens, and the water they use to irrigate comes from the water utility. It is safe. And they're way too far away from where the leak occurred on the base. And recreational activities in Bullhead Park and the dog park, even though that's over the top of the plume, there's nothing coming up. So there are no exposure pathways right now for this plume for humans to be exposed to this.

COMMISSIONER DAVIS: Okay. I'm sorry.

MR. McQUILLAN: We have copies of this --

MADAME CHAIR: Excuse me just a minute. Councilor Davis has a question.

MR. McQUILLAN: Sure.

COMMISSIONER DAVIS: Thank you, Madame Chair, and thank you. Briefly, and I'd appreciate that if we go back to that -- or there it is there. On the issues about vapor intrusion in garden vegetables and whatnot, I recognize and I realize that the science says there is no pathway there. But there have been a number of folks who have or requested or looked at or asked a question about whether we have done verifiable real world analysis

to verify that information and if there's a process in place by which to do that work. I understand there's a health analysis or a health assessment, I'm going to use the wrong word, and I'm looking at the people who are going to tell me I'm using the wrong word, currently underway or being planned. Can you tell us just a little bit about that to give the folks at home who will see this later some updates there?

MR. McQUILLAN: Sure. One of the reasons that we're really confident about this is that the vapor intrusion only occurs from contaminated groundwater in a really shallow environment. And I've investigated a lot of these over my career, Albuquerque, Espanola, Santa Fe, Las Cruces, and so on, and you have to have really shallow groundwater. And you basically have to be within about 20 feet of even soil contamination. Let's say it didn't get all the way to the groundwater, but if you had a hot spot in soil, buildings, crawl spaces, basements, anything like that, underground utilities are also another area where vapor intrusion can occur. We're just not going to see it at 500 feet.

So what we've done is more than 300 vapor monitoring wells have been installed beginning at

ground zero where the source -- where the leak was and moving out to define the three dimensional extent of the soil vapor contamination. And -- and that's the basis for it.

Yeah, and we have -- we have copies of this. It's in your packet. And I appreciate the question. Very, very good question. And so I'm going to turn it over to our project hydro geologist Diane Agnew, and I didn't steal any of her thunder.

MS. AGNEW: Good evening. And I -- I am excited to have the opportunity to present to you a success story, so this is a major milestone in the progress of the project. In June, as Dennis indicated, we started the first extraction well in the plume collapse, and the data I'm about to show you is exciting. I think it was exciting to everyone a non-hydrologist, but I'll let you decide that.

So this -- this slide is really just to help get everything in perspective. So the pink dashed line is the Kirtland Air Force Base boundary. You can see there's four -- three blue diamonds on the graphic. Those are the existing extraction wells that are currently in operation. And the purple diamond is for the fourth extraction well

that will go in this summer.

There's a lot of lines on here, but the ones that are really important are the yellow arrows as showing you the route that the water is flowing. It goes into the treatment system. It's a very small green dot because it's a really small footprint but it packs a lot of treatment power. And then it goes down through pipe, underground pipe that goes either to Kirtland 7 where we're doing our reinjection pilot tests or it goes out to Kirtland Air Force's golf course where it's used to irrigate the golf course.

Here's a picture of our treatment facility. This is a facility that officially went online on December 31st, 2015. It was a great New Year's Eve gift. And you can see in the photos down below there's two 20,000 pound granulated activated carbon treatment beds, and these are where the heavy lifting of treatment is conducted. The total treatment capacity of the system as its built right now is 400 gallons per minute and has been in operation continuously with a few maintenance downtimes since it began operation in December.

So here is the exciting graphic. This is showing one of the major milestones of the treatment

system. One of the things that we had done to place these wells is we had gone through numerous technical meetings, simulated models, looking at extraction rates, placements of these wells to make sure that we could fully capture the EDB plume and the down gradient extent of it.

And what this graphic is showing you are the water levels that were measured in quarter one of this year. So that's actually only a couple of months of operation with all three wells, that you can see that we've got groundwater depressions in the water table, and we can show the spread outline which I'm calling the Kona depression. That's just a technical term indicating that we know that we have lowered the water level in this area and that we're pulling the entire EDB plume into the extraction wells.

That will be verified by EDB concentration data that we collect over time. But this is huge. This is showing us that we placed those wells in the exact right location and we've been on target with our extraction rates.

And then you can see -- oh, I don't know if I can do the laser pointer. I don't have a laser pointer. But you can see that the two wells down

just off of Gibson, you can see that there's little, you know, donut holes over those. That's actually showing the effect that those two wells are having on the -- the water table in just a matter of months. So this is really promising data.

So what's in store for 2016? We actually have quite a bit on deck. We will be installing additional data gap monitoring wells. I'm going to go back to this graphic really quickly. Up here in the northern-most extraction well you can see that there's a nose of the EDB plume that we haven't quite boxed in yet. We've all decided through a series of technical working groups that we could really install three more monitoring wells to further define that and have high confidence in the complete delineation of the plume.

We're going to do aquifer testing of the last two extraction wells that were installed. And this is really to help us understand what's happening in the aquifer and inform future extraction well design and operations. So this is just another data collection event for site characterization and optimizing the treatment system.

We'll do the fourth extraction well this

summer. That will be on Ridge Crest Drive south of Gibson, and then we'll expand the treatment system so it has the ability to treat up to 800 gallons per minute.

And then we'll also be starting to zero our focus in on the source area. So that's one of the areas that we have data on and we feel like after a year of additional testing, including the In Situ remediation testing that we can put in some pilot tests this year. So we expect a work plan actually any week now on the In Situ Anaerobic degradation pilot test work plan. That will actually be to remediate in the source area. It will be a predability study to see -- we've done a bunch of bench skill tests so we know in the lab and based on theory that it will be good. It should work, and so we're going to scale it to a field scale.

And then we'll begin work on that later this fall. So they expect to mobilize in August, so start drilling the wells and installing the system. We also know from the data that we've collected over the last year that bioventing is an interim measure that we should look at because we believe that it'll be an effective remediation method in the source area. Bioventing is the reverse concept to soil

vapor extraction, which I think the board is familiar with from the last 12 years at Kirtland. We've been pulling soil air out and treating it. And bioventing is actually the reverse concept of injecting air back into the soil, and that provides oxygen to bugs that we know are existing in the soil and enhancing remediation.

We'll also be soil coring in the source area, because there's a couple of data gaps we know we have. One of the things the team would real like to understand is what the nature of the fuel contamination is, how -- what's the age of the fuel, how degraded is it, are there hot spots, can we target our remediation even more.

And then there's also the idea of a source zoned depletion. This is a technical term, but there's several bits of data that we have in house now that indicate that we may actually have natural remediation happening in the soil, and we'd like to better quantify that moving into the corrective measures evaluation. And so we'll keep doing technical working groups. This is a great tool to their project, and this is where the Air Force, NMED, and contractors bring in their A-plus team to the meetings and we look at the data. We find out

what data we need, how to collect it, and really keep moving aggressively in the remediation at the plume.

This is a slide just to show what we've done to date. You can see that we've had six outreach events since the start of year. The bulk of them were in April. You can see April was a very busy month. I'd like to highlight a couple on here. February we presented to the Highland High School. This is an initiative of the team to reach out to stem programs, engage students, inform them. What we was go and give them a presentation of the data and the site and then they pick out a chunk of it and they do a presentation on it.

Highland, actually, the kids designed entire filtration studies based on the data to test the hypothesis of what would be the best way to filter contamination and presented that at the public meeting. So that's -- each -- each public meeting we hope to have another set of high school students.

And then we also have the engineering club, so we went down to New Mexico Tech. We've been talking to UNM, getting their engineering students engaged, and there may be opportunities there for

some further data deep dives as part of a senior project or a master's thesis.

And then this is -- these are upcoming events. We have a public meeting in July. It will have the standard format we've been using of a poster session and a presentation, but this time we're actually adding a technical workshop and we're calling it a Technical Deep Dive. It's an opportunity to go and sit in the room with experts. We're going to focus on groundwater modeling this meeting and see the nitty gritty of how a groundwater model is developed, how it's run, and how it's used to make decisions. And so it will be quite a bit more of a technical presentation than we typically do, but will provide a level of detail that the public has been asking for, for quite a while.

MADAME CHAIR: Ms. Agnew, if I may interrupt you. Mr. --

COMMISSIONER PERRY: I'll wait until the end.

MADAME CHAIR: All right. Thank you.

Go ahead.

MS. AGNEW: And then we also have a listening session that's the -- I believe Maggie

Hart -- Commissioner Hart Stebbins is planning with others in the community as being an opportunity for the public to come and provide questions and comments to both elected officials and the project team.

And we also are going to be presenting at the Rotary Club. And October is a new feature in their project. Again, the public has been really asking for the ability to roll up their sleeves with us and get down into the data and really understand how we're getting to the conclusions we're getting to. So that's what we're going to do in October. We're going to break out several hours where we'll have all the data that we have in house, and we'll just get into the bottom of the data and walk along the path. And then again in November, a public meeting.

So with that, we're happy to take any questions.

MADAME CHAIR: Thank you, Ms. Agnew.

Mr. Perry?

COMMISSIONER PERRY: Thanks.

I'd first like to start with thanking you all for coming down and giving this presentation.

I think that the New Mexico Environment

Department, as the regulatory authority for the state, has done a good job of staying on top of this and any significant environmental contamination. And we obviously have the federal government, at least the U.S. Air Force as the contaminator, and they have the resources, and it doesn't have to go super fund through congressional acts and all kinds of other regulations that probably we would still be talking about instead of having straws in the ground, and, of course, I'm using that kind of simplistic terminology, but for a reason.

What I'm amazed at, though, is that since December we've had three wells operational which are pump and treat facility, supposedly the most aggressive remediation method possible for removing the ethylene dibromide from the water. And we've pumped 72 million gallons of water through there, in the photograph of that groundwater treatment facility, I'd venture to say the Air Force has spent probably close to the initial $50 million that was appropriated for this, and what we've pulled out of there is about this much EDB, less than one ounce. It's probably less than that.

Can you help me understand that? Because I'm not a scientist and just why that's significant.

Maybe we'll hit richer patches of being able to extrapolate the primary contaminant and the like. But that strikes me as kind of a strange phenomena.

MS. AGNEW: Yeah. No, that's a great question, and one that takes some time to wrap our heads around even with the technical team. The thing to remember about the portion of the plume that we're working in is it's very low concentrations of EDB. So where these wells are located, the yellow outline on the slide that I have up on the screen is -- those are the concentrations of EDB greater than the EPA drinking water standards. So we have 5.05 micrograms per liter, and I think, I would have to go back and check the fourth quarter data, but I think the highest concentration of EDB we have out here is 1. So it's very low concentrations, so you are going to have to pull a lot of water to be able to remove all the EDB in -- in a given gallon of water.

And we are targeting the down gradient portion of the EDB plume because we know we can get after it and if we pull this back towards the base and then we can -- I like to think of it as like having several lines of defense. You know, when you have -- you have different levels of artillery you

deploy when you're going to battle, and that's exactly what remediation is like, is you're not going to be able to apply the same remediation to the entire plume.

EDB was -- it was a given. We knew it would work. We could get it going quickly. We could get after the EDB to instead of holding ground, we could pull it back having high confidence we'll never get to the water supply wells and in the meanwhile get these interim measures in place in the source area. And that's where you're going to see the heavy lifting of removal. So it is a significant -- it is a significant volume of water for grounds of EDB removed, but that's what -- it's doing exactly what we wanted it to do.

COMMISSIONER PERRY: I appreciate that.

And maybe, Dennis, if you want to --

MR. McQUILLAN: Yeah, we really appreciate that question. We've had to answer this several different ways. The EDB is the most mobile constituent of the plume. It's also the most toxic. And it's that portion of the plume, which is at very low levels, like Diane said, that has migrated out and was threatening the wells. So we wanted to start there, collapse that plume, pull it back. Now

when you look at the anatomy of this plume, when you look over by the source area, you have much higher levels of contamination. And in addition to EDB, we have benzene and all the hydrocarbons go with the fuel.

The soil vapor extraction system has either recovered or biodegraded a million gallons of fuel, so that's -- there's a large mass over there. Unfortunately what's migrated out and is posing the biggest threat to the water supply wells are these concentrations of EDB that are at a part per billion or less. The stuff is so toxic, unfortunately it's also very water soluble. So like I said, there's going to be different engineering strategies simultaneously and sequentially for different parts of this plume.

COMMISSIONER PERRY: Okay. And I appreciate that explanation. It makes perfect sense. But once you get to the richer areas that have the EBD -- EDB, do you anticipate higher removal rates than an ounce?

MR. McQUILLAN: Absolutely.

COMMISSIONER PERRY: I mean, you know, when I think about this and jet fuel contamination for however long it happened, and I know there's some

debate about that, and I think about volume down there and contamination, I'm just wondering like what realistically the strategy is to bring this back to drinking water quality EPA standards and what the extraction looks like.

And I understand what you're saying about SVE being effective against some of the other contaminants and the like. But like so five years from now, what do you think? I mean, you've probably pumped at that point a billion gallons of water.

MS. AGNEW: Well, so one of the things about the plume collapse system is that it's going to continuously be evaluated to make sure that we're not pumping water needlessly. So as -- as the plume comes back pumping rates will be adjusted and, you know, wells may be turned off as -- you know, as the EDB plume, if it comes down to Gibson, we may evaluate whether or not we need to run this northern-most well, for example.

So there's that that's going to be in play. And then absolutely, once we start treating the source area we should see higher removal numbers. I mean, you really should be -- I mean, like Dennis said, the soil vapor extraction removed a million

gallons of fuel. That's a huge number.

And we -- this was one of those moments in the project where I think we were all surprised at how well it had done. We had done 12 years of soil vapor extraction, and we were sitting in a room and Dennis was looking at some pressure data and he was like I wonder, you know, are we actually starting to see depression in the groundwater, are we treating the groundwater with SVE?

We said, I don't know, let's -- let's do a test to find out. You'll hear us call -- talk about the shut-down test. We shutdown all SVE and we've been measuring soil vapor concentration since then. And what we've been able to figure out is the soil vapor out there is much slower than we had previously been assuming it had been and the SVE had really shrunk down and we identified just two hot spots that needed to be treated, and also looked at biodegradation data so we were able to say, oh, you know, at 250 feet we have this hot spot but we also know the bugs are screaming and are eating away at the hydrocarbon very effectively. What can we do to help them out? Let's get them some oxygen, and so you should see these numbers keep ticking upwards.

MR. McQUILLAN: And we love talking about

this stuff and really appreciate the question. So with regard to the groundwater -- with regard to the groundwater below where the leak had occurred, that's where there's a lot of mass. There's still oil. Not dissolve phase, but liquid oil trapped in the soil. So one of the things that was done previously is they took samples of the soil in the aquifer in the groundwater itself and they sent it to a laboratory and they began adding amendments because this water in the soil had bacteria in it that occurred naturally in the groundwater.

And basically the purpose of these, what we call laboratory microcosms, was to figure out what the bacteria like to eat and what -- and what's going to help them biodegrade the fuel in the EDB faster. And on the basis of those microcosms we're now going to be gearing up -- I guess the wells will be drilled later this year and actually around sometime next -- this coming winter, we're going to set up a cell in the groundwater, which is the next step from the microcosms, we're going to be injecting amendments and circulating it and see if we can achieve the same results in the groundwater in the source area where the high levels are and where the fuel is.

And this is how it's done in this industry. You gear up for microcosms, take that information and see if you can get the same results in the -- in the aquifer. And so this will hopefully lead to our attack on the 44-acre area where we have the oil.

COMMISSIONER PERRY: Well, thank you for that answer. I didn't do very well in math and science, and that's probably why I went to law school. But I do find you very, very interesting, and I've known Dennis for about 24 years now when we were doing meth labs, and I have the utmost appreciation for your expertise and your scientific commitments and I know we have good people on it with your team. And thanks for the good work, and I wish you well.

MR. McQUILLAN: Thank you.

MADAME CHAIR: Thank you.

Thank you. Excellent presentation.

Any other questions?

MR. McQUILLAN: Madame Chair, if we may. We wanted to introduce Kate Lynnes who is with the Air Force.

MADAME CHAIR: Yes.

MR. McQUILLAN: And also Nancy Verses with one of the homeowner's associations who has

partnered -- one of the partners on our project. I just wanted to acknowledge that it's not just government that's working on this. We have a number of homeowner associations that are working with the team to help us tackle this problem.

MADAME CHAIR: Great. Thank you. And welcome, ladies.

MS. LYNNES: Thank you. And thank you for inviting me here this evening. I just started in September. My name is Kate Lynnes. I'm the senior advisor for the Bolt Fields Remediation Project. And I was hired by the secretary of the Air Force's Office of Infrastructure Energy and Environment to work here in Albuquerque as a representative of the secretary of the Air Force's Office for the -- because of the importance of this project both to the Air Force and this community.

And I just -- I want to echo what Kate Rob -- Katie Roberts said. We're working with wonderful people and very talented people, both our technical staff and with the New Mexico Environment Department and our neighborhood stakeholders. And I have been in this business for way too long, over 30 years, and this is a really impressive project when you look at the intellectual and practical fire

power that we have brought to this project to get this done.

To your comment about law school, I'm one of those crazy people that actually got an engineering degree, then went to law school and said, oh, God, I don't want to do this and I went back into engineering.

I just briefly want to touch on two points. Your question, Mr. Davis, about the risk assessment. The risk assessment report will talk about why we absolutely know beyond a shadow of a downtown that there cannot be anything from that plume up to the soil. And all the calculations and everything will be there. It will be totally transparent. It's basically this thing called Henry's law that was created by a chemist back in 1801. And it's been used since 1801, and we're really confident in it. So anyone can look at those calculations and hopefully see them and say -- you know, bring in an expert to look at them and say, yep, they're right. The vapors can't get that high.

And second, I just want to make another quick point about why so little itty bitty of EDP when we're pumping so much water. I think it's important to look at the pump and treat system, and

this is -- you know, this is -- maybe say it just a little differently than Dennis and Diane said, is that I view it as it's really doing two functions.

And one of the main ones is that collapse. When we talk about collapse and the figure with the Kona depression on there, one of the main things we're trying to do here is pull that sucker back, make it stop moving forward and bring it back towards the base. This means that the Ridge Crest wells would never be impacted. We want to make sure that never happens, it hasn't happened, and this is our way of making sure that plume doesn't keep moving forward, which is like the main thing this pump and treat is doing.

But our obligation to the community and under our RCRA permit is to also clean the water as we go. And so we knew based on those very low concentrations of EDB that are in that distal part of the plume that Diane and Dennis described so well that we're going to get very little amounts out from that. But that's not the only thing we're doing. We're also stopping that plume from moving and we're treating it as we're pulling it back. So please think of it that way when you look at that little bit that we take out of there that also is that

plume being stopped and pulled back, and I think that's a really, really important thing that sometimes gets lost when people just look at the little bit that we're taking out right now.

And also we're doing remediation in the source area. We have been for 12 years before this with the soil vapor extraction, and we will continue to do some more things as Dennis and Diane talked about to help finish the job in the source area. Every ounce we take out there never dissolves and gets into the plume to feed it.

And lastly, for those of you who weren't at our April field trip, if anyone wants to come out and look at our treatment facility, feel free to contact me. I would love to take you through it. The tanks are much more impressive when you're standing next to them than when they're in a photograph. Thank you.

MADAME CHAIR: Thank you. And, Ms. Lynnes, I want to thank you. I can understand your technical terms when you say to me and us we're going to pull that sucker back, I understand what you're saying, so thank you.

MS. LYNNES: Oh, good.

MADAME CHAIR: And to the rest of it, maybe

not so clearly but --

MS. LYNNES: You know, hydraulic control and collapse sound fancier but pull that sucker back is really what I want to do.

MADAME CHAIR: I get it. Thank you so much.

MS. LYNNES: Okay, good. Thank you.

MADAME CHAIR: Thank you.

Ms. Pearce?

MS. PEARCE: Good evening everyone. Thanks for letting me speak for just a moment. We've been on a three-year journey right now with these folks because we were the ones that were really screaming about we don't want to hear the technical terms of pulling it back, you know, making dimples or, you know, EDBs or whatever else it is that they are talking about. And I know they're behind me and they're probably staring at the back of my head right now, but that's okay because part of this process is involving stakeholders and for 12 years it did not or if it did it did a really rotten job at it.

And I'm here to say these past three years have been the difference between night and day, and that's a credit not only to this team behind me but

also to the neighborhoods that had the courage and came and spoke to some of you that said this isn't happening well. It's not good enough for stakeholders to understand and to participate in this clean up process. And part of it was nobody wanted to talk about it.

And we know what happens when people don't want to talk and keep it in the dark and keep it quiet. Your imagination runs wild. You can imagine that your gardens are going to be affected, that especially in our area in the International District we have over 10 community gardens. Can we even eat that food? Should we even bother to plant? I mean those were very basic questions, and if you're not talking about it then things become secret, they become hidden, and again your imagination just one runs wild.

We didn't want that. We knew there was scientists out there that could speak our language and we could speak theirs and it was just a matter of making that a priority for everybody. And I think over the past three years we've done that. When you talk about funding and using more money than we ever thought we would have, yes, we have, but it's been a critical piece that we've had to.

You've seen two or three people here that you didn't see three years ago. They are on the project now, on the ground, additional resources that we didn't have, and those resources are very invaluable to community because they can talk our language because we're supposed to be on these -- some of these technical committees and we have to understand what they're saying.

And I don't know how many times Diane behind me has had to explain in a public meeting when I keep raising my hand, I don't understand, I don't understand, please explain it again, and she has and she's done it patiently and respectfully, and for that we thank her and the rest of the team as well.

When you talked about the strategic plan that's gone into effect, please know that the community did put forth a public comment in that. We were only one of two public comments that were received. I would encourage you, either individually as a commissioner or as a councilor or as a water authority to make those public comments, to put something in writing and get on record about any goals that you want to have for this clean up. It's very important. I should be preaching to the

choir. I hope I am, but I didn't see your comments. Please write them down and send them in. You're part of the stakeholder process too.

Thank you so much.

MADAME CHAIR: Thank you, Ms. Pearce.

Thank you for the presentation. It was very well received and we appreciate it. Thank you.

The --

COMMISSIONER PENA: Madame Chair?

MADAME CHAIR: Yes, Councilor Peña?

COMMISSIONER PENA: Just quickly, I just wanted to congratulate Nancy on her recent primary win.

NANCY: Thank you, Councilor.

MADAME CHAIR: Okay. The next on the agenda is an introduction or the first reading of a legislation. This will be R-16-8 authorizing an agreement with Pulte Homes of New Mexico for the Montecito Vistas Units 1-4 subdivision for water and sewer service.

I think Mr. Price is going to talk about this.

MR. PRICE: Good evening, Board Members. I'm David Price, the engineering division manager for the Water Authority. I'm here substituting for

Chris Cadana who is out of town.

As you just stated, Pulte Homes has submitted a request for a development agreement to provide water and wastewater service to a new housing development up in the northwest portion of the city, actually near the intersection of Unser of Rainbow, consists of 136 residential units. And that's about it. It's located in the volcano trunk. And as I said, it's just west of Unser of and Rainbow.

MADAME CHAIR: Are there any questions?

There's a motion and a second. Actually there's no approval if this is the first reading, so it'll be at the next meeting.

MR. PRICE: Great.

MADAME CHAIR: Thank you, sir.

Next on the agenda is the consent agenda. Any board member may request that a consent agenda item be placed on approvals.

COMMISSIONER DAVIS: I move approval.

COMMISSIONER PERRY: Second.

MADAME CHAIR: There's a motion and a second to approve the consent agenda. All those in favor say yes.

ALL COMMISSIONERS: Yes.

MADAME CHAIR: Opposed? Motion carries unanimously.

Next on approvals is R-16-6 which authorizes an agreement with Woodmont Paseo, LLC for the Durango units 4 and 5, subdivision for water and sewer service.

I think, Mr. Price, you're going to tell us about this one too.

MR. PRICE: That's correct, Ms. Chairman. This is another housing development up in the northwest portion of the city. Again, it's near the intersection of Rainbow and Paseo Del Norte. It's a housing development consisting of 36 lots. It lies within the purchase zone 4-W of the Corrales trunk. And they're requesting water and wastewater service.

MADAME CHAIR: There's a motion and a second for approval. Is there any discussion? All those in favor say yes.

ALL COMMISSIONERS: Yes.

MADAME CHAIR: Opposed? Motion carries unanimously.

And then we have R-16-7 authorizing agreement with Rio Grande Realty and Investments, Inc., for Holly Estates for water and sewer service.

Mr. Price?

MR. PRICE: Yes, this is another housing development up in the -- actually in the northeast portion of the city along Paseo Del Norte that consists of 16 individual residential lots, and they're requesting water and wastewater service.

MADAME CHAIR: Are there any questions? There's a motion and a second for approval. All those in favor say yes.

ALL COMMISSIONERS: Yes.

MADAME CHAIR: Opposed? Motion carries unanimously.

MR. PRICE: Great. Thank you.

MADAME CHAIR: Thank you.

Seeing no further business, the meeting is adjourned.

[Meeting adjourned.]

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

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