background audio 1 (00:00:00):

Good morning. Hi. We know. Yes. Good morning. I'm Peter Ez. Manager. Yes, this is Andy Malone. Engineer. Engineer. I'm a geologist. He's engineer.

Alonso Jurado (00:00:15):

Thank you. Thank you Brian. Guy,

background audio 1 (00:00:17):

Nice to meet.

Alonso Jurado (00:00:18):

We're good. Brian Guy over. There's non

background audio 1 (00:00:21):

Committee. He one the full representative. Yes. Full representatives. This is Alonso Rado.

Alonso Jurado (00:00:28):

Hi Alonso. Alonso is

background audio 1 (00:00:29):

Staff and he is our designated driver for the day, making sure all arrangements for. And Alonso will actually mic you up. Who could ask you to sign in? He'll mic you up. So everything Christa with City of Pomona. Nice to meet you.

Alonso Jurado (00:01:00):

All right, so we are currently on it's recording from time to time. Just give this a little look, make sure the light's blinking for us and put this on over to your liking and you can adjust it from the back as well. And then just click that on anywhere close there. And how do I turn off when I start cussing? Ah, that's a tough one. Yeah, that's a tough one.

background audio 1 (00:01:22):

Lemme introduce you to Mr. Finra. Judge, this is Bob Finra. Pleasure. Bob Finra is the chairman of the overlying agricultural force also. This is Kelly. Kelly. So this is us for today. We have three observers. You have Andy and myself. We're very comfortable going by first name, please is you. That's fine. So in terms of the arrangement for the instructions for the observers, your primary role is to observe. Feel free to answer questions the judge may ask of you. Feel free to answer if supplement questions. The judge asks supplement answers that Andy and I give to the judge. Other than that, your role is doing, we're all micd, all recorded. This all will be transcribed at the end of the day. In terms of tour logistics, we're going to have a brief introduction here. We're going to hop in the van, we're going to follow an itinerary.

(00:02:32):

We do have a lunch stop planned at a yellow park. Lunch will wait for us there. We do have stops along the way where there will be access to restrooms. If you do need a restroom in between, just let us know and we'll make a stop in between. We do have some waters and some snacks in the band in case somebody, their natural rhythm is a little ahead of themselves and they need to eat something. But it's

basic minimal things by way of introductory materials. I wanted everyone to know we've got a copy of the stipulation that was filed with the court here. You don't need it, but if you wanted a copy, it's here. We have some material that we're going to refer to. This is the material that was filed with the court as part of the stipulation and also other maps and exhibits that would've been filed with the court on prior occasions. And we will be referring to those during the tour. And finally, we have a laminated map because we love maps. Any questions, Pete? Can we just scrap this stuff now? Yes, please. Please. By all means. I got that on my phone,

(00:03:48):

So, oh yes. I was just wondering if maybe we could have some introductions. I know you've all introduced yourselves, but I'm really kind of interested is your background Yes. That brought you here. Would you like the observers to introduce themselves as well? Absolutely. So, so my preference would be to go with the pools are numbered in the judgment. Agricultural pool is number one. They also hold their largest water. And again, just the attic wrap and the non and the appropriation. So Mr. Fester, please introduce yourself in a little bit of you have glory and storied history in the basin. So please

background audio 3 (00:04:31):

Honor, I'll keep them really short. I can go on.

background audio 1 (00:04:36):

Well you have me all day.

background audio 3 (00:04:38):

Give you a little background. I think this's something. Anyway, and that is one main California, the gold rush and agriculture water. So Peter said we are the largest water holder in the basin and that was accomplished by giving water, water to the cows. We had 400,000 cows out here. We also had a lot of farm ground, what is the word also has been replaced by industrial buildings and homes. The state of California. We have two very, very large proof at the main institution for men. We release farm 1200 acres there for animal feed, fresh animal feed. So we do a lot of farming at that location and also some farming at the women's prison. All in all, we're down to about 40,000 cows from 432,000 cows. But that happened in Paramount, Bellflower, Artesia, dairy Valley, Palma, the cows sort of moved to the east. So

background audio 1 (00:05:56):

The basin, its history is changing, which is what brought us all here. They recognize that in the seventies and that's why the judgment in 78 came to being because from the twenties and thirties it just primarily agriculture to the seventies where there's a complete change really shows you where we are. But the best story about the importance of water is probably the Owens River Valley situation where it tells you how important water is to a community that really kind of built LA when they sold any, appropriated that water from the valley. And it has very dire economic consequences for the Owensville Valley, which continued to today the things that you don't even think about like air pollution because there's no water there to cover the dry lake bed and they have some of the worst air pollution in the state. You wouldn't think that because it's so beautiful there and there's not a whole lot of people or industry very important water lessons. And

background audio 3 (00:07:03):

You were the general

background audio 1 (00:07:03):

Manager of

background audio 3 (00:07:07):

I was the milkman. So my advocacy of the claim was this big milking hand and working on a dairy farm for the family. But being in that organization, we formed the of California male producers. We formed a big agency in Washington DC So because of regulations, because of laws, we needed a lot of help. And so that's why this water master is really important to all of us. What's going to happen with the future

background audio 1 (00:07:42):

Or ie. But economically and just health-wise, all the stakeholders and the water quality, definitely.

background audio 3 (00:07:54):

Well that's come up once or twice. It might have. Yeah, we have grade a milk. So the standard is the water has to be pristine. You cannot have contaminated water and giving it to cows. So yes, because of the water quality, because of the regional water quality control boards, state laws and so on and so forth. I'm happy to tell you we have in most of the area pristine water, great hay water. Now we have some areas that got contaminated because of the Korean War and World War ii, which is T C E and Chromium. But that is isolated and being treated constantly.

background audio 1 (00:08:41):

Well, I know we have great water in Rancho, which is where I read that water report every year that comes into the water district. I don't know how many citizens read it, but it's important. Not

background audio 3 (00:08:54):

Many. Yeah, probably not.

background audio 1 (00:08:57):

When were you first involved with water pa?

background audio 3 (00:08:59):

Oh god, how about at the beginning? So we managed the dairy industry and most of the agriculture. But right away I started in Paramount with the Paramount County Water District. I was 24 years old when I was elected. So the water thing has followed me my whole career. So water Master was formed and some interesting things happened that was political and that was a senator said, you're no longer going to have water rights, you'll have a pool of water, but we're going to form the water master so you will not own the water rights. So that was quite a challenge for a loud Mount Dutchman, what are we going to develop all those water rights. So there's quite a history. But yes, from the beginning and of course in and out because of all the legislation either in Washington or Sacramento. But we've had people here at the ag pool tending to board meetings that we were very much involved for a year.

background audio 1 (00:10:09):

Well one time in court whiskeys for drinking the water for Biden, right? Yes.

background audio 3 (00:10:17):

There's a bunch down the road as you travel down Archibald and you'll see a monument by a bus sea and that was one of our former chairman, a farmer from this area, gr grayer grower and wine of course, but quite a guy and he was still in his eighties serving on the water master. So there's a lot of history

background audio 1 (00:10:42):

And the land, you're

background audio 3 (00:10:44):

Like Obiwan

background audio 1 (00:10:45):

Kenobi.

(00:10:49):

The land use change that you're aware of is something that will come up during our tour today. It does. The past and the way it has changed, of course it was foreseen in the judgment, but it plays out in everything we're going see today. Brian, introduction from you. Sure. My name is Brian Guy. I'm the senior director of operations at the Speedway in Fontana. So I'm a NASCAR employee. We got into Chino Basin because the Speedway was built on the side of the old Kaiser steel mill, which was the original party, the judgment in 1978. So we took over the water rights from them. So we used those white rights at Speedway. I've been involved in Water Master I think 15 years or so and we had another gentleman had the racetrack who this was his baby for a while and he unfortunately passed away and I jumped in into takeover You Michael Mc, Brian, I dunno if you remember Les Richter at all.

(00:11:47):

That was before your time. And I've been to the Speedway since 1998, so I've been here a long time. Our neighbor is Cal Steel, who's another remnant of Kaiser Steel who has water rights in the area. They're on a agricultural pool. Ours is a smaller pool and so a lot of us share a lot of different roles. So do I chair non ag, but it's my turn this year to chair advisory. I'm an alternate board member. I hate to say we're a little bit of slim Pickens and warm bodies in our pool sometimes, but we are. But we're happy to be here and happy to be on the tour today. We just drive fast and turn off usually.

(00:12:32):

Brian, do you deal with any, the potential chemical booms from being on that old Kaiser property? Well, thankfully when they took care of the site, they were remediated. A vast majority of it. We have one small environmental cap parcel that we have to be very careful with. But otherwise, the site got cleaned up pretty well through Kaiser Ventures, which was the remnant of the steel mill one on bankrupt and the D T S C. So we think we feel comfortable every day in our office that there's not magic contamination floating up and we tend to try to not do a whole lot over the capped area. So that's it. Happy to talk about racing all day.

(00:13:24):

I'm Chris Digs. I work for the city of Poona. I'm the director of water resources. I held a number of positions actually in this area. I was also with font, Montana Union, the director of operations there. I worked for the font, Montana Water Company for a dozen years. And then I was also in Redlands for about 10 years. Been around working around Water Master for about 20 years. I've been in the industry over 28. Actually started the field with piping around fixing leaks, things of that nature. As Brian said, I

also was vice chair of advisory, vice chair of the appropriate pool and apparently the chair of the appropriate pool. So been around a while myself on as long as Mr. Tantra, but to me it seems like a long time.

(00:14:15):

And so LA County I assume has some water massacre for their basin. And why is it Simone part of that or is it just because of the natural geology? It just kind of makes it, it's not as, those lines aren't drawn by county lines or city lines or anything of nature. It's drawn by the boundary of the basin itself. So the geology? Correct. And so we produced, we Pomona produce a little under 10,000 acre feet per year from the basin. Our production's about 25,000. It's down since a lot of conservation, trimmed back probably 10,000 acre feet, somewhere in that neighborhood. We overlay three different basins. The spotter basin, very small. We don't actually produce anything out of the basin. It's very, very small. Chino Basin is definitely our largest source of water, about 9,500 acre feet per year. And then we overlay a pretty significant portion of the six basins, which is north, includes Pomona and then goes north into Claremont and Laverne Pomona straddles geology faults.

(00:15:23):

And so they're partly in one basin, partly in another. It's all geology, no lines on a map. Three groundwater basins, actually. Yeah, it's six basins. And Chino, Andy? Sure. Andy Malone. I'm a principal geologist at West Yost. Formerly it was a company called Wildermuth Environmental. You may have heard of that name. Mark Wildermuth was an important engineer here for many years, but I was educated as a classical sedimentary geologist. And when I hooked up with Mark in 1996, he was in the groundwater business. And so everything I've learned about groundwater was on the job training. But back in those days, mark was hired by the water master to help develop the optimum base and management program. That's one of the first things that I started working on here and been working here ever since. So really grew up in the industry in this basin and it's been a long time now going on almost 30 years. So yeah, we work here. We work in the six basins where Chris pumps from as well and in the spotter basin. So just really familiar with the area and it's become a second home.

(00:16:56):

So a little bit about me. I have a degree in civil engineering, very broad based civil engineering. And in the beginning of my career I had an interest in structural engineering. So I moved on to structural for a little bit until I came to realize that water resources was my calling. So at the time, the beginning of my career, I worked at Water and power and I switched from the power system to the water system and I worked in the aqueduct division in the aqueduct division. I learned everything I know about groundwater. I went back to school and got my second master's degree, this one in water resources. I was assistant to the water master for the San Fernando Basin. I worked on Owens Valley, I worked on Native American water rights supporting the city attorney's office there. I worked on Mono lake restoration and the more and more my career went, the more and more I came closer to water and nature, which are the stuff that near and dear to my heart. So eventually I left the city and I went to work for the city of Glendale. I ran the water department there for about a decade. And about 10 years ago I came to Water Master. I've been here ever since.

(00:18:29):

Okay, well I'll just tell you a little bit about myself. This is my 38th year in law. I was an attorney for 22 years as I've been on the bench. I started out as a DA in Orange County for a few years after I left that I had done civil for the rest of my career as an attorney. And virtually all my years on the bench has been in a civil assignment other than one year that I did criminal as an attorney. Like I said, I practiced criminal law as a prosecutor with a defense attorney and as a civil attorney I did both prosecution and defense

and worked for small law firms, large law firms, worked for the government obviously being the DA and have my own office as well. So I did a lot of different stuff as an attorney. I actually had a lawsuit a couple years ago that I tried.

(00:19:35):

It was a Kaiser case where they had fought over some water rights that weren't clearly identified in the whatever agreement they had to purchase the land. And that was about a four week trial, if I recall. Very interesting, but have had a few water cases over the years. But you all know that Judge Riker had this case for a long time and Riker, nobody really kind of knew what Riker was doing with the water case. We just knew it was an area that nobody wanted to go to, so to speak. And he did all his own research and was kind of this hermetically sealed bubble as far as what was going on there. So consequently when he left, we were looking for somebody to take over and unfortunately we didn't have any of his research for his opinions. So whoever was going to take it over is just pretty much going to kind of take over from scratch and didn't really have the benefit of all that research that he did on it.

(00:20:46):

But he started as a research attorney for the courts. So I'm sure he was a pretty good researcher. He's probably on top of everything for all of the court hearings. But anyway, I ended to get up being the assignment and I'm very happy to be here. I don't think I've ever asked for a jury view. You'd like, oh, these things kicking and screaming. But I'm really excited to be here today to learn a little bit more about what happened and what you do. And it's a tremendous resource for the county that needs to be managed sustainably to the benefit of all the stakeholders. So that's a big lift for all engineer and I really appreciate the work that you guys do that to accomplish it. And the public member hears about what happens here and that's a good thing. It means you guys are doing your job.

(00:21:42):

If you guys are screwing up, you'd probably review the paper a lot more. But I just appreciate all the hard work and effort that you put in. Pretty rewarding to be such a valuable resource. I think I can speak on behalf of everyone, all the stakeholders on the board and saying how much everyone appreciates you for asking to do this. It shows tremendous commitment on your part and I think everyone's confidence in your engagement and your future decisions has gone up dramatically because of this. Because you're not just taking it on as a case. I'll figure it out as it comes. I want to run from scratch. So thank you for that. So this is the laminated map that's available, copies available for you there. It's also in the little packet that everyone's welcome to today. I wanted to just give you a brief orientation of the basin and our tour today.

(00:22:47):

We're very familiar with this map. We look at it all the time, but to somebody who's not seen it before, it might not mean as much. So what you have in the red line is the adjudicated boundary of the basin itself. And you'll notice that there are different colors. The peach is actually the geologic, the physically defined chino basin, and you'll notice that it doesn't exactly overlap with a red line when it was adjudicated, it was done for legal reasons, didn't quite match up with the geology. As a side note that came up when the Sustainable Groundwater Management Act was adopted, that created some challenges for us because we have some portions of the basin that are not adjudicated and yet needed to be managed according to state law. So that was a whole other chapter we'll have to gas there. Prominent features are the Santa Ana River, which begins up at Seven Oaks Dam. We are in the Santa Ana River Watershed. We're a small portion of it. The Santa Ana river begins to the east of us and flows through the southern part of Chino Basin. It has tributaries that come up from Tesco Canyon. It necks down at Prado Basin and from there it goes out to Orange Cow.

(00:24:20):

So that is a very important feature and the Santa Ana River will come up many times during our conversations. Today to the north we have the San Gabriel Mountains and generally water flows from the north to the south toward the river and from a basin and out of the basin. That is the case for surface water and it goes through the drainages. Mount Baldy, San Antonio Mountain drains through San Antonio Creek. You have Cucamonga Creek Day Creek and they all drain south. They catch the river, they neck down upon the basin and flow out. Groundwater flows in the same general direction. It flows from the north to the south water that is delivered to customer's homes. After it's used, it becomes wastewater. It also flows from the north to the south. So accordingly, our trip today is oriented to go from the north to the south.

(00:25:27):

We're going to follow the flow of the water all the way down. We'll find ourselves. At one point we'll find ourselves in Prado Basin and that's when you'll know you've reached the bottom of the basin. So we can't talk about groundwater without really talking about imported water because the waters are intertwined. In the beginning of time, it was only farming. Farmers relied on wells that pumped groundwater and then when it rained, rainfall in the Santa Ana river replenished the basin. But as time changed and population grew, there had to be more water brought to the region. You're probably familiar with the formation of the Metropolitan Water District, Colorado River Aqueduct State Water Project. So imported water was brought in. That by the way, is why the Chino Basin Municipal Water District was formed in the first place was for the region to have a Metropolitan Water District member agency and have access to imported water. Chino Basin Municipal Water District was of course the first water master appointed by the court, which changed in 1998 with the subsequent court order to be the nine member board that it is today. I don't want to go too far into that. I'm going to stay focused on our tour and the basin. But speaking of imported water, there is a facility owned by Metropolitan Water District called the Rialto Feeder that runs along the foothills of the mountains and it takes state water project imported from the north and it moves it to the east.

(00:27:14):

So this region here has access to the imported water through primarily two locations. One is the Cucamonga Valley Water District, Lloyd Michael Water Treatment Plant, which we're going to visit today. That's where your water comes from for your home. And the other is the Water Facilities Authority Treatment Plant, which will also drive through today. And that is owned by a Joint Powers authority formed by local agencies such as Upland Chino, Chino Hills, Monte Vista Water District in the city of Ontario. So does that mean I have a ring at home? So we'll talk a little bit about that because supplemental water in the basin is imported water, which is imported here and it's also recycled water. So after the water has flown, has been used, created as wastewater and then treated, it becomes recycled water, which is then reused in the basin. So those two types of supplemental waters, imported water and recycled water, the imported water from this line can also be used in raw form.

(00:28:38):

It can be released through another connection down San Antonio Creek channel and going to recharge basins, which we're also going to visit today. So imported water can become treated and used in the basin. They can become treated and recharged in the basin through wells, or it can be untreated and recharged in the basin through ponds. So we'll visit all those facilities. Today we are approximately, let's see, here's the airport and here is Archibald. We're approximately here right now. So our tour, we're going to go up, we're hoping for a little more clear morning, but we're going to go up at one the preserve. Have you ever been there? I have. I've hiked that to trail many times Falls. So if we don't get a

great view today, next time you hike it, you can look back, you'll get a better view of the basin. But the idea is to look from there and look and orient you to the Harpa Hills.

(00:29:38):

The Harpa Hills over here that are sort one of the boundaries of the basin. From there you can see the La Sierra Hills, even the distance you would be able to see the Santa Ana River. We're going to go to the Lloyd Michael water treatment plant. We're going to go to the Santa Vein recharge basins. We're going to visit a piece of agricultural land that is farmed by Galliano for grapes. And this year we have an experimental recharge project taking place where we're actually using agricultural land to recharge the basin. It's not been done here before. So at the top of that Sylvania recharge basin, there's imported water coming in there. Correct? From big pipe. Where does that water come from? Is that from Silverwood or Rialto? It would come from Rialto. Rialto, yeah. Okay. But that does come from Silverwood. Which comes from Silverwood.

(00:30:34):

Yeah. Okay, so it comes down from Silverwood. Yes. Through an underground pipeline, I'm assuming. Right. And then they pump it over to the top of the SAN thing so that it recharges and lifts back down. Yes. We also have access to recycled water there. We also have access to local storm water there and you'll see where the local stormwater comes in a couple of places. So we are going to visit these facilities here and then we're going to catch the two 10 and drive to the AGU Dejo water treatment plant. That's the water facilities authority, water treatment plant. And so you'll have an orientation to what the treatment plats look like for the imported water. From there, we're going to travel south and we're going to look at an injection. Well, it's owned by Monte Vista Water District. The typical well, so the reason we chose that is when you look at that, you will see what a typical well looks like.

(00:31:36):

In this case it can inject water as well as pump water. So it's a two for one. Then we're going to visit the Montclair basins owned by the Conservation District, which is another piece of the history of Chino Basin. The conservation district was formed by the Chino Valley Chino Basin Protective Association, which was formed by farmers who were thinking forward, how are we going to keep this basin working for us? They formed the conservation district to recharge local water and they formed Chino Basin Municipal Water District to bring in importers. How long ago was that? Fifties. Fifties before population one. Kipa.

(00:32:18):

Very insightful, the farmers. So we'll visit that there and then we will wind our way down. We're going to drive through the GE Flatiron treatment plant, which it used to be an old GE facility that made flatirons for iron clothes. Their platting and solvent use created a plume. So we're going to drive by and look and see what a onsite cleanup facility looks like. It's a quick drive-by and then we're drive through the Ely basins and from there we're going to make it into the agricultural area. What is, in the past you had most of the area was agricultural. Now the agricultural area is basically south of the 60 freeway. It's interesting that you said that was kind of forward thinking of them to start that, but commercial agriculture started like that a hundred years before that. So it took a hundred years for them to start thinking, oh, maybe we should start preserving this.

(00:33:21):

It seems a little light to me. Well, okay, in terms of, I'm going to argue, we got to just kind bring that point out that generally we're kind of behind the eight ball in looking forward on things like this. The way I see it in my mind is that at that time they started seeing that their groundwater production wasn't

sustained. And so they started shifting their thinking to how are we going to have water resources? So they knew the block table was going down and not replenishing just going down. And it took another 20 years from there to get to a stipulation. That became the court order for the basis.

(00:34:07):

So we're going to continue going down and we're going to go down through ag area, we're going to get to a yellow park. And at that point we'll be talking a little bit more about the monitoring of the basin, the sustainable management of the basin. We're going to look at the extensometer, which is a state-of-the-art facility for measuring land subsidence. And then after lunch from there, we're going to transition and look at the treatment facilities, both the chin desal authority as well as the regional plant. Number five, which is a wastewater, the largest wastewater treatment plant that I u a has. So where's the salt coming from that from agricultural use? Salt is in everything. It's in every glass of water that we import from up north. It's, it's ubiquitous in the environment. Salt management is the biggest challenge for a groundwater base because salt continues to accumulate.

(00:35:10):

SALT is something that the regional Water Quality Control Board regulates. And so how a basin manages with salt becomes the subject of a salt nutrient management plan. In our case, we'll talk a little more about the solution for salt management is basically was to build two treatment plans, the C D A treatment plans and a picket fence of about 30. That pump water that is very high in t d s, primarily in the agricultural area. That is a major contributor, but it is t d s total dissolved salt is in everything. And how do they get that out? Just giant membranes or something? Yes, well drive through the two treatment plants so you get an idea. There's a membrane treatment to get that out. We'll talk a lot about salt today. We'll talk all about sludge today. That is the stuff that is sort of the byproduct of all that.

(00:36:07):

We don't really think about it firsthand, but it is a real concern for water management. And then we'll dip into Prada basin. We'll take a look at the, we'll get close to the river, the riparian habitat. We'll look at one of the monitoring walls there. That is part of our monitoring scheme. We'll take a quick drive through C D A two and we'll be back here. So you'll have seen a little bit about imported water. You'll have seen a little bit about recycling, a little bit about groundwater. And Andy, do you want to maybe give some thoughts about the sustainable management on the base and just a brief introduction to the O B M P in the program elements? Sure. So you heard me mention O B M P and I'm sure that term is familiar with you, but it's our groundwater sustainability plan that was formed in 2000 years before the Sustainable Groundwater Management Act, but very similar in a lot of ways is what the state's trying to implement now through that law.

(00:37:10):

And it touches on recharge. There's a whole program element on recharge. There's a program element on subsidence management. There's a program element on salt management. There's a couple of program elements on storage on how to manage the storage in the basin and conduct storage and recovery programs in the basin. So we store imported and storm waters when they're really available so that we can use them through drought periods. So that's another management strategy to sustainably manage the basin. And so we'll be touching on a lot of that as we go through. And are the desalt also dealing with other opponents like sewage and I dunno, chemicals or is that done separately? The desalt? Yeah. What do they remove? Well, other than the salt. Yeah. Are they removing other pollutants? They remove everything. Yeah, because the reverse osmosis process is pretty much making pure H two O and

everything else is left behind so they can remove everything. And in fact, no sewage, it's groundwater. They're pumping.

(00:38:25):

So this is groundwater, correct? Yeah. Got it. It is groundwater. Would it be two inch polluted from groundwater? Because it looks like septic system, but it's not removing a sludge or a sewage per se. It might be remnants, so to speak from the contamination, but it's groundwater pumping. But wouldn't that have perchlorate and other chemical pollutions too? Yes. Yes. So there are eight plumes of industrial pollution inching a basin. The largest one is emanating south of the airport and it's pretty much flowing with groundwater. And what's that plume? That is like everything else has history. It was water that was discharged from a wastewater treatment plant. So there was industrial discharge that went to that treatment plant that made it through the treatment plant and went into recharge ponds south of the treatment plant seeped into the ground and it's now TCEs PCEs primarily, but also other per chloride and other things in it.

(00:39:35):

So it wasn't caused by the airport? No, no. It was not caused by the airport. Right. I just happened to be assuming it was caused by the airport. No, it was just south of just location wide. South of the but direction of the plume was headed straight for that picket fence wells for the C D A. So the C D A retooled the treatment process increased the treatment processes available to also remove the industrial contaminants found at that point the same thing. So we have two C D a plans on either side and the wells run in between. There is a plume that is associated with a Chino airport and there is contamination that did come from there. And that is being captured and treated at CEA one again with the enhancement of the treatment processes there. And what's that problem like dumping fuel and oil, dumping fuel, dumping oil and firefighting foam, which has a lot of bad things. Mr. Fetra said those are World War ii, Korean War types of practices when everybody just dumps stuff in the ground.

background audio 3 (00:40:42):

Yes, we wash their engines and stuff. For some reason, your honor runs downhill. And so it came into the dairy area and there was a tremendous loss of life over a period of decades which caused cancer. But it wasn't manure, it was a nitrates, it was what came from manmade

background audio 1 (00:41:06):

Material. So just to touch on, in the old days, we just kind of dumped everything. The grant, do you run any education programs out of here for schools? So the conservation district does that is they have tremendous emphasis on education for water use and environmental protection. But that's not what this organization was created for. You asked question about septic. This area here has this portion of the basin is still on septic. The rest has been pretty much sewed. That's mostly unincorporated area, unincorporated county. Okay. Yeah, so Bernard County it, it's actually in the city of Fontana for the most part. But outside of that, everything else is sewer and the collection of wastewater and treatment of wastewater is handled by Inland Empire Utilities Agency, I U A. They run the regional plants, but there's four of them that collect the water. So what happens to that water is it either gets pumped and used for recycled direct use or recharge to the basin or it's released to the Santa Ana River and used by Orange County for their purposes.

(00:42:28):

So is that agency trying to get rid of the septics and try to replace it with sewer lines? As far as I know, a few years ago they approached the city of Fontana and asked Can we convert the capital expense?

Apparently is pretty large. So that's not going any further any further. But it would be good to be able to do that for the residents. It's an expense they would have to pay for their lateral from the sewer to their home and then have to pay a service charge. Whereas now they just have a septic tank and they don't have to worry about it. So it becomes what do those customers want? It's a lot of moving parts to what you guys do. Yes, that's for sure.

(00:43:17):

We just look at one small piece of it. You look at what Chris does and he looks at another piece of it and you look at what IU Wade does, it's another piece of it. It's a remarkable assembly of interest and management pieces to actually get water to people you that pipe, all that pipe that they would've to construct in there. Kind of a thumbnail number. It's a million dollars a mile pipe. So a lot of costs, a lot of infrastructure. Well the great cities of antiquity were not built by wars. They were built by government who figured out a way to get fresh water to their people for help and economic growth.

background audio 3 (00:44:02):

We had brilliant engineers were so blessed, I u A when that was formed and their treatment facilities, their state of the art and run by really brilliant, brilliant people retired now of course are gone. But the treatment was just is amazing. And you'll find that today as we travel, it's not all agriculture. Some of it comes from us.

background audio 1 (00:44:32):

So anything else Andy, for orientation? Well, yeah, you asked a fundamental question about salt accumulation and I want to just give you a little creamer on it that like Peter said, there's going to be salt and water and when we pump it out of the ground and we apply it to the land surface, the plants use the water, but they don't use all the salt. They just use a tiny bit of it. And some of that water that's applied to the ground surface will go past the root zone in a more highly concentrated form because the plants have used up that water that'll return to the aquifer system. That is a very important part of our water budget for the basin. But over time, that process of that concentrated return flow and then pumping it back out and reapplying it to the land surface again, keeps building it keeps building and we've lowered groundwater levels in this space and so we don't have as much groundwater outflow to the Santa on river anymore.

(00:45:41):

So we set up this kind of closed system and that's the reason why salts have accumulated in the basin when we've applied fertilizers that adds to it as well, including the nutrient loads. That's just an inherent process that every groundwater basin has to deal with. This basin here has been on the forefront of salt and nutrient management for a long time and it's one of the models, in my opinion, on how to deal with salt and nutrient management when the salters are a key part of that. But recharging, import, clean, imported water, clean storm water is also a big part of that. We'll see a lot of our salt nutrient management strategies as we move through the tour today.

(00:46:35):

The de salters are something that of course had to be approved by the regulator, the original water quality control, and it was just an absolutely cutting edge way to manage a basin. Nowhere else in California has a basin been allowed to in exchange for the investment in 30 wells and two treatment plants that are here and remove salt and they keep salty water from going to the river into Orange County. So in exchange for that investment, we were allowed to put in recycled water to good use of stream. Otherwise the salt accumulation in the basin was so high that we would not be allowed to use

recycled water. So the resource would have to be wasted. This regulatory move to allow controlling the groundwater flow and extracting salt is something that it's only happened in this regional board in this space in California. Really? Yeah.

(00:47:43):

So you'll see that today and it's something that certainly before my time, it's before Andy's time, but it is something that we all live and manage. It's something that there's a strong financial commitment by all the agencies. There's heavy reporting, there's heavy monitoring, and it's something that the region should be very proud of. One final note before we get on the van, the salting, you might ask what happens to all that salt you remove? And that goes to another investment that was made in the entire watershed called the Santa Ana River interceptor, which is brine line.

(00:48:27):

That too doesn't, I don't know of any other place that has a brine line brine. We make lithium batteries out of it. So the brine line begins up here and collects and goes out to the ocean and collect super concentrated salty water. So in our case it allows us to desalt the base and then preserve the resource Other places you have food industry, you have linen industries, you have tech industries that wouldn't have the ability to do their business if they didn't have the ability to get rid of the high t d s, the highest salt water. So they have that brine line and they either get a direct connection or they go to connection points where they can dump it. So where's that concentrated brine going? That's what prevents people from putting desal innovation plants all along the coast. They don't know what to do with that. It goes down to the coast and Orange County takes the brine and takes the brine out of the super concentrated brine water. The brine eventually makes it back to the ocean where it started, millennia go. But they're starting to make clean drinking water out of it now too. So they're treating it their salter facilities down there.

background audio 3 (00:49:48):

The technologies, even for agriculture honor, it's just amazing. I've watched three generations and good things are happening and they continue to happen on how we manage the salt, how we collect the salt, how we do different things with those, let's say methane and other things that come from agriculture.

background audio 1 (00:50:16):

So with that as an intro, I think we can hop in the van unless you have any other questions at this point I can speak to release some nitrates,

Alonso Jurado (00:50:27):

Euphemism, who else

background audio 1 (00:50:30):

As well? Can I ask you to use down the hall to your right? What's that? There's two. There's two. I just realized,

Alonso Jurado (00:50:43):

Peter, do you need me to take any of this items to the van or?

background audio 1 (00:50:47):

Let's see, let's, I'm going to make sure that everybody knows we should take 'em to the van if they don't want them to. Okay. And I'll remember don't fiddle with your No, no. I'm just taking, make sure everybody is red and flashing

Alonso Jurado (00:51:02):

Red. I'm going to load these and I'll be back. Okay. Thank.

background audio 5 (00:52:35):

Turn right onto San Bernardino Road then turn left onto Archibald Avenue.

Alonso Jurado (00:53:05):

Go time, huh?

background audio 4 (00:53:07):

I know. It's like let's get this party started.

Alonso Jurado (00:53:09):

That's right.

background audio 1 (00:53:15):

Did you

background audio 4 (00:53:17):

Want what

Alonso Jurado (00:53:21):

Peter? Was this the intro that takes place up in Rwanda?

background audio 6 (00:53:25):

No, we're still doing okay. Sounds

background audio 4 (00:53:27):

Good. Looks good.

background audio 6 (00:53:29):

So thanks Kelly. Thanks for everything Judge. How about your material? I love this map. I love maps too. Oh good. I can keep this right? Yes you do. Yes you do. Let's see.

Alonso Jurado (00:53:46):

Thank you. Yes. Good stuff. Howdy, howdy, howdy. Box of goodies back there. Yeah. Hey. Oh, the door closed on me. I was going to say. Alright, so they put that emergency open, huh?

background audio 6 (00:54:46):

I do have a logistical question.

background audio 7 (00:54:49):
We would like our annual report. We have photographs. Yeah, we got two seats like

background audio 6 (00:54:55):
To take photographs.

background audio 7 (00:54:59):
Good. Are you okay with being Oh absolutely. Okay, very good. Thank you. We'll do that. Is that okay if they're

background audio 6 (00:55:11):
Of course.

background audio 7 (00:55:12):
Absolutely.

background audio 6 (00:55:13):
County supervisor.

background audio 4 (00:55:16):
Alright,

Alonso Jurado (00:55:16):
All a board.

background audio 4 (00:55:22):
We got

background audio 6 (00:55:23):
Room, we have drinks there for anybody that needs some. Did you say that you did some work here at the Salton Sea or we're familiar with that? We are right now developing a salt and nutrient management plan for the Coachella Valley,

background audio 4 (00:56:02):
Which

background audio 6 (00:56:02):
Is a really interesting situation. The regional board there is very concerned about the recharge of Colorado water, water, which has a higher salt concentration than the state water project. The t d s concentrations in the state water project is 200 to 300 milligrams per liter, which is really high quality water is 600, 700 milligram per liter concentration and that's above the 500 milligram per clear

secondary MCL for the state of California. And so the region board is really concerned about that recharge of the Colorado River water, which is a really important resource for the Coachella Valley because it sustains their groundwater levels there and they are highly dependent on groundwater out there. So it's an interesting problem. But yeah, so that's what we're doing out there. Yeah, in fact that's probably the only way they could farm is because they have that underwater storage facility, natural storage facility that has been holding water for eons and didn't really start to probably dipping into we got there. Yeah, it's interesting if you've ever gone to Salton Sea, obviously it's a lot smaller than when the dam broke back around the 20th century. But as you look to the right, as you're going down 86 south, as you look to the left, you have the salt sea and to the right you have the mountains that had a quarter

(00:57:45):

There. It looks like a little bathtub, rain about a hundred feet up in the rock formation and was like an ancient shoreline because originally the Sea of Cortez came all the way in where Salt Sea is that one time and cliffs in that area where the natives have drawing some ships Spanish

background audio 4 (00:58:17):

And wonder

background audio 6 (00:58:19):

Spanish time, which is kind the history of it is really interesting. Yeah, very interesting. We usually take four or five trips here in San Re, so we pass that salt seal all the time. We stop one time just to check it out because it's kind of an interesting story of what had gone wrong, just how it was created, how it was developed, and it's kind of a hot spot for a while and it just wasn't really sustainable and salt is obviously a huge issue there all now have the salt and sea, which obvious includes the high fish. Nothing still, I don't know, a til out here, the dial and stuff really bad. Have you ever spend time in an borrego? Not really Cab Air once, but most of the time just passing through occasionally on our way back from San Felipe, we'll go through Angela Borrego. It's longer but it's a very beautiful drive. And if we're coming back when it's a holiday or there's, they have that concert out in Palm Springs, traffic is just a nightmare. We'll just go through. That area is changing quite a bit. Also because of the sustainable groundwater management, they're going to back off their pumping and consequently the farming was happening to follow a lot of land

(01:00:46):

And as we're making our way toward the mountains, which you can't see, but you know they're there. We have a moment to maybe, Andy, can you describe a little bit, how does the land change over time? This shift from ag to what it's today, which is residential, commercial, pe, how does that affect water? Yeah, so we were talking a little bit about it back in the office where back when all this land was originally agricultural, there was a lot of irrigated, irrigated plants and the irrigation a lot of times are flooding the fields which would

background audio 4 (01:01:37):

Natural recharge.

background audio 6 (01:01:39):

Recharge as land use burn into urban land uses those irrigation practices are still irrigating that. What do we do? Concrete? Everything. Everything. What do we do to avoid flood? Concrete,

background audio 4 (01:02:02):

Concrete

background audio 6 (01:02:04):

Recharge.

background audio 4 (01:02:05):

We

background audio 6 (01:02:06):

Help you create our own problem. That's the first thing. Protect the infrastructure. The storm water recharge and then we entering into this of water conservation, which is good water, but that means that less water outside, so don't typically think about is the reduced return flows. Reevaluate our state yield basin coming down and a big part of that basin is coming down is becauses because of this land, river, river, the attempt to try to renaturalize it, whatever and kind of take out those concrete channels to just water fire. They did it for a reason, right? You prevent flooding and there's a lost wine potential economy, flood it down. But you always have that tension between deconstructed give that infrastructure, you look up to your right. That's one of our recharge basin. Which one is that lower day basin.

(01:04:11):

We'll talk a lot about recharge basins. This is not a recharge basin that people said, oh we need recharge. Let's build a recharge basin. These are bases that were built for flood control purposes. Along with let's concrete line the channels is the concept that you build a little storage off to the side in case the storm is still too big. So you push the water off to the side. Now in the early two thousands, so really big storms. Yeah, for big, got that kind of safety belt, let's go for retention base. So it retains stormwater until you can manage it through the channel and shoot it out in the area. So in the early two thousands, agencies that started focusing on managing the space by I u a had an agreement with the flood control district, separate flood control district, the conservation district, which also also remaster. It's a four party agreement and that laid out the terms for how those basins are to be used as retention basins during the storm, but recharge basins the rest of the time. So then I u a member agencies and all the parties and stakeholders to judgment agreed to pay

(01:05:37):

For the operation and maintenance of the basis for recharge during normal times. And that way they get the benefit of that because as you know the area is built out. There are very limited opportunities, if any, to build a dedicated recharge facility. Recharge facilities of the future are going to be wells that inject water in the ground as opposed to these open is just too expensive. Ask if you can probably inject any yes, as long as it's the right soil, not clays, but sands are gravel. You can inject and you can inject the different depths and achieve different results by injecting in different things. There are considerations of water quality, there are considerations of plant sub sites, all those things going

background audio 4 (01:06:45):

Into

background audio 6 (01:06:46):

The design of notification

background audio 4 (01:06:49):

Injection.

background audio 6 (01:06:51):

The recharge basins are pretty much where the drainage happens. The injection wells be put. So you have to rely the natural.

background audio 4 (01:07:03):

Exactly.

background audio 6 (01:07:06):

And you'll see that.

background audio 4 (01:07:08):

You'll

background audio 6 (01:07:08):

See that with That's right off the drainage. Right off the drainage. Go right

background audio 4 (01:07:19):

To,

background audio 6 (01:07:23):

So we're going to go to anyone to preserve our thought. We could have a nice clear day and we can look at the basin, but as I'm seeing we have somewhat limited visibility. So we're going to stop there and see if it's worth getting out the van. How long has the EDDA plan been there? You said you're, if I mistaken, we're going see Lloyd. Michael. Yeah, Lloyd. Michael was built

background audio 4 (01:08:18):

In 82. So

background audio 6 (01:08:21):

Lloyd Michael was built in 82 and it was expanded in

background audio 4 (01:08:24):

2015.

background audio 6 (01:08:26):

Part of the way of the water industry is it is a water districts are basically human health organizations. Yes, they provide water, but it is something that affects human health. So as technology evolves, our ability to understand what

background audio 4 (01:08:47):

Evolves,

background audio 6 (01:08:48):

Our ability to detect it evolves. And then our regulation evolves. So you take a water treatment plant like Lloyd Michael built in 1982. It had a break at the time treatment process by today's standards that's driven

background audio 4 (01:09:07):

Because

background audio 6 (01:09:08):

It has to remove more things. So when we go through there, you'll see the original treatment plant and then the 2015 expansion that added treatment drains that are more sophisticated, more energy intensive, more chemical intensive. And that's the story of every drink of land you're going to see, whether it's potable water or whether it's wastewater. You have an initial design and then you have additional treatment process that goes on. The c D A plans are like that. They were not built to handle industrial pollution, but lo and behold, industrial pollution comes along. So they get expanded by additional treatment training. That by the way, is a Cucamonga Valley Water District tank right there. Right there. It receives water from the treatment plant and water is pumped up there and then it's used to serve the area below and it maintains constant pressure as where is the tropical water coming from? The falls. It goes into the Trico plant. Yes, Deloitte. Michael, you live near nearby here. In fact, my house sits on the SAN on fire. Okay. Right on the border. And I can see the importer water being pumped out from my back balcony. Why go there? And it's interesting that

(01:10:45):

When they turn it on, when they turn it off, it seems to me like they try to keep water in there during the fire season. Because many times when we have fires, they have helicopters come down and we'll suck water out of there helicopter fire, fire copters, and they'll fly. If you're standing on the balcony, you'll get wet because they're still dripping as they're pulling that water out. Yeah. So let's step outside here for a, so we were hoping for a little more clear day. It was a broad geology orientation, but you are familiar with

background audio 7 (01:11:46):

The area

background audio 6 (01:11:47):

Still

background audio 7 (01:11:49):

Through.

background audio 6 (01:11:51):

Sure. Yeah. We can't see much here, but you can see the from a onic perspective, geology

background audio 4 (01:12:01):

Here,

Alonso Jurado (01:12:04):

I'm going step out and take pictures. Peter, just move. I said it's okay. Okay. I'm going to back up and take pictures.

background audio 4 (01:12:11):

No problem.

background audio 7 (01:12:47):

Got very soil. We've got very coarse spring sediments, especially up here.

background audio 6 (01:12:56):

We basically,

background audio 7 (01:13:19):

Andreas and it provides a groundwater barrier, that barrier, right? The movement lines up slow, slow, can also groundwater flows through standing grave and so offset grave that, so water levels over here, there's a little bit of, and then again, a good barrier to groundwater flow here fall. And so water can spill underground spill over this fall, recharge the basin. They pump out of this basin. Basin. They've got some surface water all

background audio 4 (01:18:53):

Good morning. Might want to hold that one before it gets in.

background audio 7 (01:19:52):

I got it. Thank

background audio 4 (01:19:53):

You sir. I missed it.

background audio 6 (01:20:06):

You're

background audio 4 (01:20:12):

It's

background audio 6 (01:20:12):

A big van. So we are at the highest point. We're going to be all day today. Right here? Yeah. It's all down here. All downhill from here. That's right. So this is a good hike up

background audio 4 (01:20:39):

From

background audio 6 (01:20:40):

Here. It's a pretty good hike. I don't do a lot of hiking, but by the time I get to the top I'm pretty tired. Plus it's not a real, I don't think it's a very safe hike because there's a lot of boulders about this size. They're really too big to walk over and too many to walk around so you can very easy to break an ankle if watching. Yes, but it's very popular on the weekends. In fact, you can't park here on the weekends unless you get here. And they do have enforcement here, so you can't just kind of make your own spot. But it's a good hike. It's really, you've never hiked to the falls. It's kind of a neat little fall

background audio 4 (01:21:29):

And

background audio 6 (01:21:30):

It seems like it flows like year round. Doesn't matter if we've had rain or not, I don't know if it's coming out of grand fissures or what, but this year's going to flow along. It seems to flow year round and you can hike back

background audio 4 (01:21:46):

In up the creek.

background audio 6 (01:21:50):

Just a really nice cool area. It's always a few degrees cooler here. The summer. So those waters that are in those fractures in the bedrock, we are up high and it is flowing downhill and in the subsurface you can recharge the groundwater basins. In the subsurface, we call that mountain front recharge. That's something you simulate where groundwater flow models do. And what's interesting as you do the hike, you can see where

(01:22:37):

Probably the people that first had their orchards out here or whatever had started to divert water off that channel in very crude concrete iron channels where they're converting water off. Stick a pipe in, right, exactly. Bring the water on as far as you can. None of 'em function now, but you see them sitting there. Yeah. The history is really interesting. The surface water diversions that took place back in the early 20th century, late 19th century, it was mostly surface water conversions that were supp supplying the agricultural fields that were then eventually with the advent of the vertical turbine pump, after they had diverted most of the surface water, they started going to the groundwater because they could punch holes in and water would flow in artesian ways. Then they started pumping. Once the artesian water went away, they started pumping. Eventually all the decline and groundwater levels and the groundwater basin led to the adjudication.

(01:23:55):

Full history is extremely interest. Yeah, a lot of people don't know that this is one of the largest growing regions in the world. Back in the twenties, turn of the century. In fact, the basin was named after a wine Kroger and agriculture was huge in this area and you wouldn't know it was the largest wine region in the whole United States. Just a few remnant patches now Unfortunately, it's kind of like where I grew up in Norwalk. Norwalk was a dairy, hold on one second. Excuse me. We just crossed over the real. That

alignment right here is plants right here, right next to me. This is Lloyd Michael. This Lloyd Michael. Have you read Tangled by I have mine, yes. Very fascinating, interesting. Local history book. Really kind of scandalous with the murder and everything. Yes. But it's very interesting to read if you're interested in the history of this area.

(01:25:12):

I don't think I've ever met anyone else who's read it. Probably the first for us, it's a part of our culture at Water Masters. Well, yeah, I guess that's be a natural. But the ag pool is a very big part of our lives and the grape growers, Mr. Fester mentioned Don Ano his. You're going to see some of the grapes owned by Gallo Winery. That is just a big part of the presence of the agricultural, right? It's the vineyards and so on. It's kind of unfortunate that the air is kind of lost a lot of that history, but I guess that's progress. It's progress. So Lloyd Michael treatment plan built in 82, we're not going to get out of the van, we're just going to do a drive-through. So you just get a flavor. The connection to both Canyon Water and the Rialto Feeder is just behind this building and the original treatment was the part that you see on the left right here.

(01:26:16):

And what are these? These retention ponds? So, or they're just using gravity to kind of help? So the process separate, the process is it's clean water. So a little different than wastewater. So clean water coming from the mountains and the feeder pipe. And the feeder pipe, you get a little bit of an additive to it called flock. So flocculation is the process that by which the flock mingles through the water and tracks particles and becomes larger in particle size. So is that something they're adding? Yes. Okay. Then it goes through ponds where the water actually slows down and now that the particles are heavier, they drop out of the water. So there's sedimentation. Then after that, the water is returned with a channel and it goes through on the right side, just this side of the building, far right portion of what you see all the handrails. You have filters where the water actually goes through filter beds and they're usually granular activated carbon filters. The water goes through there and it finds them just fed by gravity, by gravity, and then G a C, the granular activated filters then remove any other impurities that are in the water. In 1982 when the plant was built, that was the treatment process. That was state of the art, state of the art. You add a little chlorine, you're done. So Alonso, please take us down a little bit.

(01:27:58):

What you see in front of you is the expansion of the plant. This is the holding to the right, to the immediate right is the finished water tank where the water that has been treated chlorine has been added. It's waiting for service to customers below us. And how much does this hold? That is 16 million gallons. 16 million. That's what 16 million gallons look like. Yeah. And the one next to it is six actually. And there's room for another one behind that as they expect demands will grow. So now what you see, stay here on those ones. What you see here is the expansion of the plant is you have a whole new building that's added, which has new granular activated carbon contactors and room for more. Why? Because there's more impurities to remove and to the right of it, the small building is a building where you have ultraviolet light because there's more organisms that we know need to be killed.

(01:29:04):

So you see treatment process being added and being added again to the point. So you have the carbon filtration and then ultimately you have the UV light. Yes. Have the same system might house down south Felipe. Okay. Yeah. A little smaller scale. Little smaller scale. So is the district Valley water district, are they required to keep a certain amount of gallons in reserve for emergencies for some disaster, I would imagine Requirement? Not necessarily, except there are certain flows that they would be required to meet from firefighting demand. Typically the health department will want to see a certain volume

storage things that we see here. And those volumes are based on an hourly or daily amount. So we wouldn't be talking about storage or something of that nature. It could be eight hours or something of that nature. Size of a utility. You might be looking at say 75 to a hundred million gallons of storage throughout the entire system.

(01:30:16):

And so how are you managing or rather monitoring the water that's coming in and the water that's going out. How's that done? I can tell you from my past experience of water coming in is measured through a fairly precise meter. Metropolitan has a meter and in this case Cucamonga likely also has a meter. So they both get a meter read and they compare because water costs money in terms of what's going out. The same thing, flow meters going out. Then you have the customer's meters where the water is being sold. So measured at many different places. In terms of what you have in the storage facilities, there's instrumentation that gives the district system control. There's a term for that. It's called S cada, which we love acronyms. In our business it's supervisory control and data acquisition is SCADA and this entire plant is instrumented. It all shows up on a computer screen operator's desk there.

(01:31:19):

And so he knows where every drop of water is through the entire plant. So let's, why do you have some iron tanks and some looks like cement tanks. Old. Old. Those are new. Okay. This is the backflow tank. So the filters flow through gravity in one direction, but once in a while they need to be back flushed. So there's some finished water here that is used to push up and freshen up those activated carbon filter beds and then click and unclog them. And on the far right, I don't know if we could see them or not, they're behind the circular tanks. They're actually not very visible from here are the sludge ponds and sludge is important in our business. In this particular case that they have a hauler of waste, I think it's the company waste management. They will assess the what's in the sludge and haul it off to the right disposal site. Everything that's collected from the water has to go somewhere. And is that sludge just buried or is it actually used for landfills? Landfills. Some of the agriculture goes everywhere, but there's sludge is constantly produced. We'll talk about sludge again at the W F A treatment plant because there it is actually an operational concern here. They've got their sludge management so that it doesn't restrict the operation of the plant.

(01:32:54):

If you ever want a detailed tour, I wouldn't be the guy to give it to you, but Cucamonga would be happy to host you and give you a detailed walkthrough. Okay. I'm good to walk through. See ponds and Sure. Ation what they call one solar panels. Solar panels. You'll find that in general districts have property that's available for needed for expansion of treatment plants, but also available that can be used for, you'll see solar facilities install other places

background audio 4 (01:33:38):

As well.

background audio 6 (01:33:44):

So this plant meets about half of along

background audio 4 (01:33:48):

In total

background audio 6 (01:33:49):

Just this one plant? Yes. They have another smaller one that treats canyon water. Correct? Yeah. Do you know if the solar panel system play all the power that's required for that plant? Oh, no, no, no. Treatment of water is very energy intensive. Actually trying to push that water through the filters. Yeah, run membrane. Actually water in California is the largest consumer of electricity. The pumping of water for movement and treatment is the largest

background audio 4 (01:34:44):

Consumer's

background audio 6 (01:34:45):

Energy intensive. All that water from Northern California to Southern California. Oh, that's okay. Yeah, I guess that would Or to pump it over the mountains. Yeah, that's probably pretty expensive energy. And pump that water too. That's a pipe lot of energy. That might be gravity fed. Actually, do you know Chris is the realto feed of gravity? Oh, it probably is because the silverwood is it's hot higher elevation. Yeah. So we're going to look at sense vein basins. You're familiar with them, but hopefully you'll see them with a different perspective after our conversation. So these basins are owned by conservation. Owned by who? Conservation district. Separate

background audio 4 (01:35:45):

County

background audio 6 (01:35:47):

District, I believe. District. Several different districts. I believe they're tax funded. District number one is the area that

background audio 4 (01:35:56):

We're in right now.

background audio 6 (01:35:59):

The bases are owned by them. They're operated according to the

background audio 4 (01:36:04):

Party.

background audio 6 (01:36:06):

The four parties are i u a, obviously the conservation district, I mean the flood control district, the conservation district and water master because recharge to the basin is done according to the judgment only by approval by water master. So it's the county that comes in there periodically and cleans out all the vegetation. It's growing. The vegetation above a certain line is cleaned by the county according to the four party agreement. The vegetation below a certain line. It's done by i u a funded by i u a and water master. So it saves them money and it allows the party's use of the facility. So you have a channel here and this is being fed by just one of the streams in the hills behind us. Yes, this is, I believe that's San Vein Creek that we want past and it brings water from the mountains behind us. Yes. So normally this would probably be dry this time of year. Yes. But there's still quite a bit of water in it. Yes.

background audio 4 (01:37:32):

I'm just

background audio 6 (01:37:32):

Going to stop here for a second. So I'm not seeing that this is concreted. So the water's not given an opportunity to recharge anything. Not much. Now you'll notice on the left purple pipe, which is the insignia for recycled water. And you ask yourself, why in the heck is there purple pipe out here? So one of the projects that parties funded according to the, so we do a recharge master plan update every five years. Actually the board just approved the 2023 recharge master plan yesterday. It's going to be filed with your court in the next week in that recharge master plan update, the parties in 2013 identified certain projects that would enhance recharge to Chino Basin and you're in the area of one of 'em. And so recycled water is brought here to the San vein basins, which are right behind the berm right here.

(01:38:33):

And from here it's pumped. The basins run from uphill to downhill in a dog leg. 1, 2, 3, 4, and five is the lowest. Five doesn't percolate as well, but it's a really great collection point and is large. So the project was to take water from five and pump it up to one and give it a chance to percolate again, mostly funded by grants. By the way, there's a lot of ability to fund projects with grants. So once the party said we want to do it, then they apply for a grant, they get a grant and it cuts the cost in less than half. So the manifold you see here is to bring recycled water in and there is a pump station that pumps that water up to a one. And so this water ends up in one of those retention ponds. In five. In five, okay. In five. And that has to percolate. Well because just the soils, right. Okay. Imagine as water is flowing, the heavier things, larger rocks, gravel drop out first the finer things carry further down. So by the time you flow down to San Bank five, it's more packed. It's like clay. Yeah. Yeah. So here's five to the right.

background audio 4 (01:39:55):

Okay.

background audio 6 (01:39:58):

And water is going to come from the north, from ahead of us. It's going to flow all the way down and down and down. And it has some internal Bering and internal spillways to control the flow of water. But the waves viewed from a recharge management point of view. This is primarily for holding water and giving us a chance to move it back uphill to San vein one and recharge it later. So will the water ever get to the above, that roadway there? Above the spillway? Hopefully not. That's a hundred year flood like waters. Some frequency. Yes, some very, and you can see of course sediment management, right? Water, even storm water with it. A lot of sediment. And we always have to scrape it to keep the basins from clogging up. Have an operation to keep scraping, keep the basins percolate. This basin does percolate also just not as well as the other ones. You can see some of the instrumentation coming up here on the right is probably measuring either water flow, water levels, some telemetry, transmitting the data. Squeaky clean. That a good job. I'm just wondering why you missed that spot. There must be a reason I was thinking of the same thing.

(01:41:51):

Probably endangered sand fly or something. We do have because of standing water, there is breeding of fly. And so the vector control is another aspect of the parties in i u a fund. Yeah. So you have these standing pools of water which attracts mosquitoes. How is the mosquito abatement district also here? Monitoring and Yes. Do they that control? Yeah. And that is also funded by i Uua and the parties

primarily because the homes nearby would be heavily impacted otherwise Yeah, that's what I'm asking. Yeah, yeah, yeah. Do they put fish in there or no? I think it's all spray. I think so too. So this is all five to the right immediately passed it. So it's much larger than the others. Yes, it's huge. Passed it and off to the right is four. And what's that gate letting in? That would be a storm channel from the freeway, from another bank. Storm runoff from the freeway. Yep. Possibly. So storm runoff from the freeway is going to have all sorts of contaminants. Yes. So they would let that come in here. Yep. Really got to go somewhere. The earth is a tremendous filter and a lot of the gases, oils

(01:43:34):

Suspended, solids get filtered out. But those are very expensive to remove, right? Yeah. So the earth just does it naturally. So you stop here for a second. What you have is to the right, you have it's number four. Number four. And straight in front of us is number three, which has water in it and water is percolating. I wanted to share with you in the booklet we handed out and tab number two is a page from an annual report file and wanted to share with you the data that's on that. We didn't have a chance to talk about this in the office. Excuse me for one second. All the materials that are in the tabs are from things that have been filed with the court in the past. So you have in this case a page for the annual report. Behind it is the actual filing of the court, where it came from and the document for the file. So we haven't, you can see the history of types of water recharged in the basin going back to the mid seventies since the beginning of the judgment. And you can see that you had stormwater and dry weather flow is the low blue, the light blue in the bottom and then imported water is the grain.

(01:45:16):

You can see that starting from the mid eighties on recharge in the basin was getting lower and lower. That coincides with the agricultural pumping diminishing. It coincides with channel lining, concrete channel lining, and relatively little management of recharge in the basin. What happens in 1998 is the court reassigned water master to the nine member board directed water master to create that O B M P that Andy mentioned. And part of that included program element number two, which is recharge management and creating those recharge management plans. And so in the years that followed, the plan was created, facilities were built in different tranches and then recharge started improving. And now you have a completely different picture including the ability to recharge recycled water because of the C D A being conceived. So recycled water didn't even start happening until 2005? Yes, yes. And it looks like it became gradually larger and larger. And that coincides with the construction of C D A. It coincides with maximum benefit, which the approval by the regional board to use recycled water and it's a very consistent source of water compared to imported water or storm water. So very reliable. What's the definition of storm water? Again? The natural runoff that comes off the mountains or the concrete and paved surfaces that enter the channels and then are diverted out of the concrete channels into these percolation basins. That's what we're showing there on that chart.

(01:47:33):

So it's artificial recharge of stormwater. Stormwater will fall on pervious surfaces too and will become part of that sort of aerial recharge as well. But that's not what's shown on that. So this water right here that's coming up, is that flowing in from number two? That's probably, I want to say that's recycled water coming into the basin. Storm water would come through the channel that you see there, that's called the Hawker Crawford channel. And it would bring stormwater in if it were maybe after a big rain. But right now it's being filled with probably recycled water being bumped up. Do you have to deal with the fish game with any of the migratory wildlife that comes in here? I've never heard in my time here, I've never heard of any issues with fish and game, any habitat issues at all. Because this is a stopover for this migratory birds. We'll have all sorts of different that fly over stop in our backyard. Yes. In your sense of being one or is it two? Two. Two, two. So these are the big producers in terms of recharge collectively

the complex, the sense of a complex is the largest recharge facility. And on a good year it can recharge up to 20,000 acre feet of water. That's a big gulp of water to

background audio 4 (01:49:08):

Go on the basin.

background audio 6 (01:49:10):

And because we're still relatively high up, it benefits the entire basin. How deep is the water right now? I don't know. Probably not that deep. Maybe a foot.

background audio 4 (01:49:37):

And

background audio 6 (01:49:37):

Here's one. And you can see immediately here on the right, you can see stormwater coming in from a channel for stormwater coming

background audio 4 (01:49:51):

In from,

background audio 6 (01:49:55):

So you must, your home must be somewhere

background audio 4 (01:49:57):

Here.

background audio 6 (01:49:58):

Correct?

background audio 4 (01:50:04):

Just a moment.

background audio 6 (01:50:06):

Stop right here. I live right there. Did you have any fly issues at home? We do. You do? Mostly it's mosquitoes when you're getting mid-summer, late summer until the water goes back down or the cold will kill 'em. But the last couple of weeks I've, and they're called ankle mosquitoes because they apparently will fly low to the ground and I've been covered with mosquito bites for the last couple of weeks. Well we should definitely pass that on to I uua to wear high socks. Yeah, imported water bubbles out about upstream here. And also you'll get a lot of wildlife. Wildlife uses these obviously very important during the hot summer months just for coyotes, deer mount lions, just to have a source of water. So there's a lot of wildlife that comes back there all the time as a neighbor and they have the very large channel underneath the road here. As a neighbor to this facility, how do you feel about the wildlife that Well, I love it. In fact, I was very disappointed when we first moved in the vegetation in this pond. This was back in probably 93, 19 93 when he first moved into that house. The vegetation here was very

thick in connection with water that was back here. So it's a really very cool, you could tell just natural landscape that wildlife first able to use. And then I realized very shortly that the county would come in and just clear it down to the dirt, which that bothered me because it took away all that habitat for that wildlife. I mean there might've been a lot of salamander frogs, a lot of reptiles, nesting spots for birds. But obviously if you're going to have that

(01:52:43):

Vegetation there that's going to, it's going to be very thirsty. It's going to be vegetation good for recharge that is water intensive just because of the nature. So I understand why it's got to be cleared out, but even obviously weeds, it can be very invasive. And so there's always spots there for wildlife will figure out a way to utilize that resource. And you'd have a lot more migratory birds like geese on a much more regular basis because of the loss of weapons and everything. If that was a permanent feature of it, that'd be a waste station for them. So there's obviously human needs, but there's also wildlife needs and you find that balance. But yeah, where do you find that balance? And obviously there aren't any environmental groups that are making any issues with it if they could.

(01:53:48):

So we wanted to stop here and show you what you're looking at. But as a neighbor, just to kind of answer your question, as a neighbor living next to it, I find that it's just very non-intrusive and it's always nice to have a body of water, even if there's mosquitoes coming around. But it's definitely better than having more houses, right? It is open space. Yeah, you're right. And not having a neighbor behind you. So I much prefer it than to be in the middle of the housing track, which is one of the reasons why I bought the house because I wouldn't have anybody behind me. That's your backyard there? That's my backyard. Awesome. And we always call it Lake Ochoa.

(01:54:43):

You stand off our balcony and look at it, pretend that you have a water feature. That's awesome. So this right here is one of the last remnants of vineyards. The vineyards. And across the way there's another large portion. Yes, you're looking at a hundred year olds in findel grapes that are dry farmed. I have a couple bottles of those at home. Galls binds. Yeah, Felipe Winery. The grapes probably came either from here or just across the channel. So the practice, it's called Amar Agricultural Managed Aquifer Recharge. That is very popular especially in coastal California. And it's a concept that we picked up and thought, well we do have some open spaces. Could it work at Gino? So back in 2019, just before Covid, we talked to Fontana Water Company that has a waterline running through Cherry Avenue, the one that is just immediately to our right and they built a turnout just about where their truck is.

(01:56:00):

Of course they didn't have any extra water to put in because we had a drought since then. Last year it rained and rained and rained. And so for the first time this year they had water to put in, would put water in and watched what would happen. Would it work, would it travel all the way down and evaporate? Would it damage the grapes? And to our surprise, we found it went straight down into the ground. It had no negative effect on the grapes. And so Fontana Water Company ended up banking not a large amount, but it's a pilot 25 acre feet of water, which is cost savings to their customers. That was water that they had in excess. So that'll keep the rates down for the customers and more importantly, we have a project that could work in the future or we could actually plant, maybe even bring recycled water here and this site could turn into a few hundred acre feet of recharge on a more regular basis. Well you notice that these graves are not irrigated. So how does this grape plant get its water? So if you look at say this vine that's right in front of us here. Normally if you go to Napa Valley, the grapes are beautiful, they're in very straight rows. They're trained to be trimmed along these rows and people can

very loosely walk down the rows and pick the grapes. That's not what you have here. And those grapes in Napa Valley are irrigated because they obviously have a lot more water up north than we do down south.

(01:57:45):

What they've done is they've let this grapevine grow as more like a bush. So we don't get a lot of rain obviously, but what we do get is a lot of condensation in the air for day. For today, what will happen is the condensation will condensate on the leaves and then drop off onto the ground. And if the bind is self irrigating because of the way they let it grow, and that's why you had grapes here because you didn't back when it was the biggest wine growing region in the world, they didn't have irrigation for anything. They all grew like this unless you were next to a source where you could vine and stick them. But for this area, which was at that time the hinterlands, nobody was out here. This is how they grew. The grapes when you don't have irrigation, the grapes I've been told that these have. So it's really kind of interesting deep roots as well to go down and find any moisture that may be available deep in the soil. So we wanted you to see this. It's just another way of recharge. We're actually very happy that Fontana Water was willing to go along with a pilot.

(01:59:05):

Very happy that it worked with them. Yeah, I'm just happy they haven't built a gas station here. The land eventually could get developed. Yeah, I'm sure it will. Unfortunately you might get some papers, but as the few remaining parcels, they become more and more valuable just from a historical perspective. I mean because today if you drove around Norwalk, I dunno if you've ever visited Norwalk, there's really no reason to, but it's all Norwalk was built after World War ii. My dad and mom bought that house for a dollar down and $7,400 and Margaret's was $46 a month. But before World War II was all dairy and you would never know that Norwalk was a dairy town if you lived in today because it's all strip balls and post World War II housing. It's interesting how in that history, in 30 years or maybe 10 years when that's gone and that side of the road has gone, people won't know that this was the largest grape gurney region in the world. No grapevines anywhere. So hopefully they won't develop it. Our agricultural pool meetings convenient cine because we've got the old farmers that are there and they can remember what it was like. Exactly.

(02:00:41):

Gino Philipp is what is in the admiral and so he's got a lot of old interesting stories Mr here. We've lost a couple over the years. Ano his passing Don. Well I think, yeah, I think the winery, what's happening? The Felipe wineries almost unfortunate. Is that Gino's brother? Gino's brother, yeah. So a lot about, a lot judge. Yeah, I'm kind of a trivia guy in that way. I like history buff, which is the first thing I did when I moved here was just was interested in history area. I moved here from Huntington Beach and my wife grew up in Long Beach. I grew up in Norwalk and

(02:01:50):

We moved out here for years. I brought the world and in one sense it kind of was because you could at that time be on my back balcony and look east and at night it was completely dark because there was nothing, it was all grapevines. None of this development was here and we were the last housing track to the east. So you didn't have Hunter's Ridge and Hunter's Ridge, which we just passed through called Hunter's Ridge because when we moved here they still allowed hunting there. Hunt whale coming from Norwalk. I thought it was a gang shooting in the afternoon. So I'd hear gunshots but they were still hunting hunter's now all houses. But history is just always been very interesting to me. When did you move in 93 actually 91. I moved out here in 91 because my job brought me out here. Came out here to manage our house council operation Century

background audio 4 (02:03:04):
Insurance Attorneys company

background audio 6 (02:03:09):
And then I actually moved into this house in 93.

background audio 4 (02:03:15):
Have you

background audio 6 (02:03:16):
Come across information about

background audio 4 (02:03:18):
Politan

background audio 6 (02:03:18):
Water

background audio 4 (02:03:19):
District? Much

background audio 6 (02:03:20):
About just a little bit. I'm mostly focused on just kind

background audio 4 (02:03:31):
Long

background audio 6 (02:03:33):
Up fire agriculture and there's still all the

background audio 4 (02:04:09):
Right

background audio 6 (02:04:09):
Down the street plan for lemons or oranges or

background audio 4 (02:04:17):
Whatever.

background audio 6 (02:04:20):
And if they're smart, they'll save repurpose, make breweries, restaurants or whatever. Yeah, they do. They

background audio 4 (02:04:32):

Did.

background audio 6 (02:04:37):

Reason that Kaiser Steel was here,

background audio 4 (02:04:40):

As I understand is that this was

background audio 6 (02:04:47):

Coast in case of an attack. And so this was where Kaiser Steel was huge and that's why they got a large chunk of the non, if you talk to people about Kaiser, they think of

background audio 4 (02:05:03):

Kaiser

background audio 6 (02:05:04):

Realize that Kaiser Medical started from Kaiser steel plant, which is the health plan for the employees. Yes. And so a permanent day is related to Kaiser steel plan. That was employee's health plan steel workers. I said people don't know that connection. That connection you don't as the media trail of five different trails west, there's a reason why people, the freeway there, there's a reason why all the trails the same reason there. Ontario is an area warehouse today and that's why it's so valuable for all of the industrial warehouses that you have here. Because it is just like the home pass is kind the center of where our material focal point of all transportation, planes, trains and fields. So you need that transportation hub to be able to store things and then send 'em out from a location. That's why you,

background audio 4 (02:06:51):

That's

background audio 6 (02:06:52):

All those ag turn into buildings commercial. So water master language we call that is water that's associated with water becomes now commercial industrial. There's a water exchange to a GIS that's interestingly Ontario is at a location where a truck can take a load from the Long Beach

background audio 4 (02:07:50):

Harbor

background audio 6 (02:07:52):

Driving here on unload

background audio 4 (02:07:55):

And return back

background audio 6 (02:07:56):

To

background audio 4 (02:07:57):

Block.

background audio 6 (02:08:01):

So that is significant there for the trucking from here. There you got the rail distribution one day is an important factor. That's the same reason why all of the missions are built. That's where you start your journey up and down California. It's very important the world. So I think for our purposes today, the things we wanted you to know about Metropolitan Water District, I apologize a lot, apologize, if any. The water district was formed to bring water from the Colorado River and when it was formed by the original 13 cities later acquired member agencies, municipal water districts to be more specific. And this area here formed the Gino Basin Municipal Water District, which now purchases water for Metropolitan Water District. This Gino Basin and WD later renamed itself to I U A based as you likely know, was the water master appointed by the court. In 1998 the court at the of advisory committee renamed the water master the 1998 quarter we're today and how we operate. And so it created the distance from the MET Member Agency was that agency now I u A as member agencies that buy a board and water and they bring it through the two treatment plants, Lloyd Michael and that we're going see And how long have you been the water? 11 years.

(02:10:21):

So AOS was built by a joint power authority. His joint power authority is i u a member agencies, their together

background audio 4 (02:10:34):

Treat.

background audio 6 (02:10:35):

And so those are cities of public genome. The city of Ontario and Monte Vista Water District, five of them,

background audio 4 (02:10:50):

They

background audio 6 (02:10:50):

Have their own staff that runs treatment,

background audio 4 (02:10:54):

Runs the treatment.

background audio 6 (02:10:55):

So remember Rialto Peter is following us. They take water over from the east side and Monte Vista covers Montclair. Chris Monte Vista serve any of on the surface area. Yeah, yeah, a little bit of lace work. The boundaries. That's usually self. It's perfect. No, go for it. Yeah. So what we'll see is

background audio 4 (02:11:47):

Again, over time

background audio 6 (02:11:51):

Actually building coincidentally similar timing as micro water from here is used to be direct demand and it can also be used. So

background audio 4 (02:12:08):

The term blue

background audio 6 (02:12:09):

Is something that is used quite a bit in our business. So Metropolitan water district can water in the base in a store water under a storage recovery called I know know about it. We're not going to go into the case at all, but d y. So how does m w put water? The account? They either take water from real alpha feeder and flows the channel and it goes into recharge bases that will see later or it goes through

background audio 4 (02:12:43):

The

background audio 6 (02:12:45):

Treated order. Goes through Objection. The third way is

background audio 4 (02:12:53):

If takes

background audio 6 (02:12:55):

Certain that counts as put, how are they taking surface water from the treatment? Okay, so in other words they have an account, we would've taken imported water, we would've covered all the rest. But for you we'll take a 50 acres water, storm water, so the water that can also be

background audio 4 (02:13:40):

Used.

background audio 6 (02:13:49):

So we'll see the plant. We're going to do the same thing and drive through and I'm going to see we're old friend the rial. What was the real Peter forties? 1940. Yeah. Anybody have an exact date? Is that coming up for issues? Every treatment. Every expense. That's always a challenge. The water agencies be a city water enterprise fund or a public agency always has a challenge. How do you tell the public we have to raise rates and they, having worked for a city myself, I can tell you it is the most difficult thing a manager can do. A manager like Chris has to go to city council and say, I know you don't see me very often, but I'm here with that news. Don't have enough money. Yeah, not the message you want to deliver, not the message you want to get to do The only people,

background audio 4 (02:16:01):

The water

background audio 6 (02:16:03):

Romans that had come to their homes.

background audio 4 (02:16:06):

General public.

background audio 6 (02:16:13):

Do you know the role of the nature, nature Italian cities? Well generally they were in the, oops, my apologies. Just general plaza where people would gather or talk about politics and water. It was after the fall of Roman Empire, another probably 1500 years. People fresh drinking water of water in their homes. What was the goal? So water was brought a water, water. They had some storage capacity they had, but they didn't have a way. So once water was coming, you run through the city to let the water out. They had the water was just constantly, the public was.

(02:17:22):

And as in Pompeii, they actually had valves for water pressure and they were these pompei. There are these towers throughout the town which tires that like build strain you. Wow. What does that thing? Well they actually control water pressure. Pressure and the flow up lies amazing to do. The one thing the Romans didn't figure out was how to actually measure flow. They couldn't figure out that the area of this circle is pi r swipe. They couldn't figure out the exponential. Tell you about that in a second. So let's look at the water treatment plant. So we're going to do a loop here. Here, slow down here for a second. On the left there's water underneath this floating cover. This is their finished water. Oh, that's a cover. Yeah. I didn't realize that. Thought that was concrete. So you see the little bubbles on top. Those are buoyancy sewn in buoyancy foam if you will.

(02:18:30):

And the reason for the cover is because water exposed to the sun starts bioactivity and so you have algae growth. So the answer to that is covers. There's covers of many different types. You put a cover on it, you have a floating cover. It's better than a solid structure. It's more difficult to AP access and maintain. The only problem we ever have with these is an occasional re tear. What about balls? About balls? Yes. Very innovative. LA water and power did it in some places. That works for me from as long as they don't pay themselves, don't buy it right in the sun. What you see here on the left is their sludge box. This we'll talk a little more about their sludge. Sludge in this plant is a problem. When they designed the plant, they didn't figure out exactly how much sludge they would be producing sludge to be. Remember that's all the soils that have been harvested off of the water coming in. So there's always sludge that's being produced. Sludge needs to reach a certain moisture content dry. In other words, to a certain point before it can be hauled all. And so the rate at which sludge dries matters

(02:19:51):

Because if you're producing more sludge then you can actually get rid of because it's still wet. Then your plant has to slow down and produce less sludge, meaning process less water. This is the weakness of the plant. And so what does that mean? Well, it still needs all the demands, but if we ever wanted to do in lieu, water puts in the me account, we can't process more water. I speak generally the J P A can't process more water through this plant because of the bottleneck and the sludge process. They can't just make another sludge pond. They can't. Apparently they're landlocked. What they can do is have some mechanical measures where they can, in many places we'll have some mechanical filling of the sludge

that airs it out. Here they hire local farmer that comes in with his truck, it drives through and scoops it and dumps it and scoops it and dumps it. He's going to spread it and then eventually it dries and then it gets hold off but not fast enough. So that's a weakness in the plant, which affects basin management. Actually, it's interesting how it ties into basin management. So we're going to head up to the top where we have the R alpha feeder.

(02:21:15):

Like every other plant water has a flow through the plant. The treatment process is essentially the same as you saw micro, similar year built similar technology. What's a spillable water treatment by the plant is that trail? It's a trailer. So Headworks is here to the left. Water comes in from the Rialto feeder, which is right behind the farm. They take water in. They don't take canyon water like Michael, they just have water coming in from we. So just the theater plant? Just the theater plant. So that's the plant water comes in. You have your chemical storage on the left, like the other plant that look micro microview. You have flock being added. So you have, it's mixed. So that happens. Then you have sedimentation bases where it can settle out. So water flows very slowly through valve. So slowed down, but every material drops, water flows south into the next structure. And that's the filters. Actually if you want we can, we can run up with the filter structure and stretch.

background audio 3 (02:23:37):

I will only say this once. Big responsibility. I really appreciate

Alonso Jurado (02:23:46):

It. Thank you. My pleasure. Talking about you appreciate it.

background audio 4 (02:24:29):

Oh shit. Pictures

background audio 8 (02:25:00):

One of the

Alonso Jurado (02:25:37):

Good stuff. Good stuff

background audio 9 (02:25:45):

Into this system. Realistically our customers are using it in the system. If they're not, the red will just all those tanks that you'll see drop, they're breathing. So they're constantly up and down during the day. Steady state the system from the plants and the wells and then during the morning get home from work, shower starts, go down. So we see this all day. We'll have a little CT contact time. We'll have to sit there for a little bit. 20 minutes or so. Did that be determined before

Alonso Jurado (02:26:47):

Peter? Peter, this is nice. Looks like we just turned something on here.

background audio 9 (02:29:58):

All

background audio 4 (02:35:11):

Thank

background audio 6 (02:35:12):

You. Yes,

background audio 4 (02:35:14):

My pleasure.

background audio 6 (02:35:18):

So now water from the Rialto feeder can go through this plant and it can also go, like we said, it can go untreated for recharge, but the treated water gets recharged and our next stop is going to be an A S R. Well aquifer storage and recovery a well that can put water in and take water out. So Andy, if I can ask you to use tab three in the booklets and tab three in the booklets is a map again from an exhibit filed for the court. We'll start talking a little bit more now about basin management. And Andy, maybe you can introduce the management zones. Yeah,

(02:36:17):

So we're actually, the treatment plan is a little bit north of where the Chino basin is. Management zone one M one is. So we're up here and this water now is in a pipeline coming down this road to serve the agencies here in the Chino Basin in management zone one. Now these management zones were delineated as part of the O B M P and what there were meant to be is areas where we recharge typically in the north groundwater flows to the south and it ultimately discharges in the south here. So we call 'em management zones because it's recharge groundwater flow to discharge and so you could manage them separately. These are the three main management zones, one, two, and three across the base management zone. One is experienced the most decline in groundwater levels prior to the judgment. Almost 200 feet of decline in groundwater levels in management zone. Why was that? This was the area that initially developed Pomona and so it was just higher use pumped.

(02:37:47):

And so it experienced a lot of drawdown. There's a lot of clays clay layers over on this side of the basin too, which when you have draw down and clay layers the water and the clays begins to drain out of them start to compress. So we have land subsides over here too. Low groundwater levels, land subsides a lot of issues that needed to be addressed in the o p in management zone one. And then hence that's the reason why the water master prioritizes a lot of its recharge efforts over in management zone one is to address the land subsidence that's occurring there to address the low groundwater levels. So when you see some of our maps that show how groundwater levels have changed under the O B M P, we see groundwater levels that have been rising over the last 20 years in management zone one. Groundwater levels have declined in management zones two and three over this last 20 year period. And that is really by design under the O B M P. So we're going to spend a lot of time over here throughout the rest of the tour looking at subsidence monitoring facilities. Some of the recharge facilities like a S r and some of our recharge basins over here too are part of management plan for this part of the basin.

(02:39:29):

So what you're saying is you're ignoring the part of the area where I live have some side there, yeah. Right. Yeah, the eastern side of the basin is generally more coarse grained. There aren't as many clay layers over there. And so like I said, you need the clays in order to experience the subsidence. And so

we've been monitoring subsidence over the years and it just doesn't seem to be an issue on the east side of the basin because of the cosme nature of the aquifer sediments. We do file a report with the court is prepared under Andy's supervision and it has input from the stakeholders through a committee process, the ground level monitoring committee. We have a scope of work of monitoring work analysis work, and that's all compiled in an annual report, compiled report.

(02:40:35):

If you have time to read everything we produced judge, then I have no life then You have no life. Exactly. But you notice with regards to that clay issue though, when we were looking out from ED to fall, you can really see shape with alluvial plane as it's coming down off of the mountain and all that alluvial plane is all about rocky setup. Such a great marine region for that air right there. And so that's probably why you don't have as much there. Yeah, that's the geography. That is true. You got light cream that's off to the east. It's a big alluvial fan that comes out of the smaller greens. A lot of that being the further you get away from the mountain front, that's where you start to have clay settle out lower energy where it's now settling at the bottom of that plane. If you got the shape of the UV fan from the reserve, then it was worth going there. Most people would miss that. What was the next location? We were Monte Vista. The types of, in order to inject, you have to have treated water. And so it's the water that is treated there in awa delays. It comes down this pipeline called feeder and it can take water off of that feeder and inject it, but it has to be treated water.

(02:43:40):

It can't be raw imported water that is injected. The amazing thing is that nobody thinks about where their water comes from. They just think that there's a do facility near their house. They turn on, it comes on, but it's from the tap. Yeah, it's from the tap. But you've got all this infrastructure set up

background audio 4 (02:44:02):

From

background audio 6 (02:44:02):

Decades and not, you can't just build it and forget about it. Right. You can't even just maintain it and forget about it. You have to constantly improvise. Yes. As you will soon find out with that theater pipe's probably reaching the end of its life. Is it pre-stressed concrete? It's reaching end. It's coming up on a hundred years,

background audio 4 (02:44:42):

Right?

background audio 6 (02:44:43):

Decade and a half. It's a highly regulated

background audio 4 (02:44:50):

Industry too.

background audio 6 (02:44:52):

Regulations change over time, usually getting more restrictive, particularly with water quality. Yeah, thankfully it's not highly litigated either right to the left this otherwise you can speak. Used little facility

normally pass by and not know what it's and blue pipes are what? Monte Vista's choice of color. So no significance in color. Yeah. So now we're past the imported water to, and we're getting more into groundwater base and as we said at the beginning, supplemental water, be it imported or recycled that we can't really separate that completely from groundwater management. So

background audio 4 (02:46:09):

Now we're going to see a, well,

background audio 7 (02:46:45):

A well, sorry. So typical you have a big motor on the top, you have sub pump that's deep down inside and so I don't have a dive.

Alonso Jurado (02:47:07):

Please, please.

background audio 2 (02:47:22):

Yeah.

background audio 7 (02:47:24):

That steel pipe has perforations at depths that are designed. That's where you,

Alonso Jurado (02:48:25):

Thank you guys.

background audio 7 (02:48:26):

Not a problem.

Alonso Jurado (02:48:27):

Thank you. Thank you.

background audio 7 (02:48:30):

Water.

background audio 2 (02:48:44):

Is there a lake here or is it just a flush?

background audio 7 (02:48:49):

Soil power glass of ice water that's half full. So strong all the way to the bottom. That's what it's, so it has to flow through the forest spaces of the soil

background audio 2 (02:49:09):

To get to

background audio 7 (02:49:10):

Inside. So every water district

background audio 2 (02:49:17):

Has, our farmers

background audio 7 (02:49:21):

Are non just like this, some bigger and some smaller. And every dairy and every method, it's some very special geologic formations, mostly limestone water supporting those slowly slow, it has to go through the forest. So this flow mathematical equation, that's the basis of, that's how we predict. That's a way of doing it. Case in point is, well there is contamination. So I through the pipe, down through the pipe, the street site, reversible water from that feeder comes through that blue pipe as it comes, goes past red valve is shut right now it's shut. That water comes from manifold. It goes down into the well aquifer and goes back out of those sand. Yes. That is a s r. Well operation. You put your hand on the pipe, you'll feel water flowing in. There is water right now dry your yield program water.

background audio 10 (02:53:29):

But most likely the interesting thing, the well doesn't work the same. Taking water out as water, put water in about half the, we can take it out. The physics of it don't work quite the same way. But this is a great example of what a typical wall looks like and what a typical A S R

Alonso Jurado (02:54:06):

That gauge there that he's looking at. Does that show how much water's flowing at

background audio 11 (02:54:11):

The flow meter is over there?

Alonso Jurado (02:54:13):

Okay.

background audio 11 (02:54:14):

That's just

Alonso Jurado (02:54:15):

Pressure. Pressure. That's just the pressure. Pressure. Perfect. Thank you. There's the Come on. Yeah.

background audio 7 (02:54:26):

Flow meter. Flow

background audio 11 (02:54:28):

Meter guys. Yeah, that's the flow meter right there. That's just the pressure.

background audio 7 (02:54:33):

Pressure coming. Pressure of the fiber, keeping back pressure. So is the flow meter, is it there to say 975 gallons per minute

background audio 10 (02:54:42):
Joint? Correct.

background audio 11 (02:54:42):
Okay. Technically that's the backward flow. So that's why it leads negative.

background audio 10 (02:54:46):
That's why it's negative. Very good. Is

background audio 11 (02:54:48):
It under pressure or is it just pressure down to the valve that's controlled, regulating

background audio 7 (02:54:53):
The

background audio 10 (02:54:53):
Flow.

background audio 11 (02:54:54):
So that's why

background audio 7 (02:54:55):
You got

background audio 10 (02:54:57):
60 powers reporting back to.

background audio 11 (02:55:00):
So that's just normal system pressure that we're getting

background audio 7 (02:55:03):
Here. And then it goes down to a valve. It goes down to a valve and that opens and closes, which is creating the back pressure up. You don't want, from what I've understood, cascading water down below creates problems with the aquifer. Lot of air

background audio 2 (02:55:37):
Drain this water,

background audio 7 (02:56:01):
This pressure release question Air. Oh air. Air, yes. Air release.

background audio 2 (02:56:07):
High

background audio 7 (02:56:21):
Water level. Water level two way. One is a pressure transfer. This is that. Down this way we also have an airline. We have two ways,

background audio 2 (02:56:37):
Four wells.

background audio 7 (02:56:38):
This is the well that

background audio 2 (02:56:39):
We're here,

background audio 7 (02:56:40):
It's injection capacity. We've got one year left.

background audio 10 (02:58:04):
Storage management

background audio 2 (02:58:06):
Basin, which is part of the retail are

background audio 10 (02:58:11):
The most value added.

background audio 2 (02:58:13):
How do we make it so that

background audio 10 (02:58:15):
We put water

background audio 2 (02:58:16):
In?

background audio 10 (02:58:42):
So this is to encouraged,

background audio 2 (02:58:47):
Sustain.

background audio 10 (02:58:56):

That's what Mandy was talking about earlier. Legislation.

background audio 2 (02:59:04):

That's right.

background audio 10 (02:59:06):

Demand. And at the same time to make one these. So this is where a lot of our monitoring data comes from. Obviously we're measuring what's going in and out water, but we're also have the capability of collecting the samples of that water. It's coming back out. The little valve right there. And so you come with bottles and milk, the bottles. Yeah. But I'm sure there's sampling going on what the quality of our water is too. But yeah, on what's coming out. Those samples, that's a tremendous big effort. It's done by not only the water agencies but by Water Mastery has its own sampling and

background audio 2 (03:00:30):

Analysis program.

background audio 10 (03:00:32):

So we measure that in quality. And then there's locations over here at the well hub where we have sensors and we come here periodically and measure the depth to ground

background audio 2 (03:00:45):

In

background audio 10 (03:00:46):

The well and

background audio 2 (03:00:47):

Track that

background audio 10 (03:00:50):

Levels supply.

(03:00:54):

So it's really at these wells where all of our basic data comes from. Andy, you may want to draw a distinction also between production wells. So this obviously is a production, well that has a pump that can extract water. But we also construct an strategic locations, just a simple well without anything in it. And we can collect samples and measure water levels and more static environment. That is just sampling that portion of that. If you're doing that here. Well here where we have the pumping interference, so this is where you have the con of depression and the water cable because the well is constantly pumping water out.

(03:01:53):

We want to get away of the pumping. Well understand what's going on in between company. Then we put in, we'll visit a, this is a well like this, it's about a million dollars to install monitoring well on a bunch

of data points. Doesn't need go downtown. You're just going to hit the table. So Karen, what is the rock table here? So here we're probably a three, maybe even four to five. Oh feet. Feet. We get down to the southern end of the basin. The water table is right at the ground surface and we're having groundwater rise, the surface water exit the basin. And what was the table 30 years ago, four years ago? Deeper. It's recovered since we've had the adjudication, which has controlled the pumping since we've had the state water project come in and supply an alternate source of water. So you're not completely dependent on groundwater.

(03:03:22):

So there's been some recovery of groundwater levels and now we're fairly stable under the judgment. Now we're controlling where water levels are right where we want it to rise and where we want it to. Lower groundwater management is largely a control of water levels across the basin. We want higher water levels where subsides are occurring, where we can have lower water levels in the southern end of the basin. Don't want water levels to get really high because then that water's flowing out of the basin, the Santa Ana river. So we're purposefully controlling lower water levels there in this southern, yeah, a big part of the O B P is controlling the groundwater levels.

background audio 3 (03:04:11):

Water still runs down here, so it's seven and eight feet on Pine Avenue. It's still about seven, eight feet and you're in the water table closer to the dam. Then you have a storm and then you have a lot of water.

background audio 10 (03:04:32):

So the way you control water levels is control the stresses, the pumping stresses and the recharge stresses. That's the way you control the ground water levels.

background audio 3 (03:04:42):

Did you mention what you taught me about subsiding? We have the area sub.

background audio 10 (03:04:49):

We're going to talk about that at lunch. We'll talk a lot about that. So any questions about this installation? No. Okay. So our next stop is the conservation district. We're going to look at the Montclair basins. There's a restroom there for a restroom break. Nice clean facility. So we'll be there in about five minutes at the end of the day. Let's

background audio 6 (03:05:24):

Make sure we give Ruby all the photos and so she can send them to the clerk.

background audio 10 (03:05:30):

I'm very happy.

background audio 4 (03:05:32):

Good, perfect.

background audio 6 (03:05:57):

They're operators of Monte Vista have been exceptionally helpful people to us. Very nice to work with. Very pleasant,

background audio 10 (03:06:06):

Very knowledgeable.

background audio 4 (03:06:11):

Thank you. Appreciate it.

background audio 6 (03:06:23):

Well that was nice of them to stop by. Yeah, they're super, super.

background audio 3 (03:06:30):

30 years of

background audio 6 (03:06:31):

Arian. You want to make sure nobody was turning knobs. Yeah, they're a little bit skittish about that. But we came by here once a couple of weeks ago just to make sure it was worth a while to bring you here. And it was the same thing. They showed up. They're just super cordial, hospitable water. I do have one request of the group. If we use the restroom facility at the conservation district, if the judge needs to use the restroom facility, we'll let the judge go in by himself and then anybody else can go and have that. That could be dangerous, I promise. I thought I'd throw that out here. Yeah, beware. So the conservation district is really interesting to me personally. It's a district that was created in the fifties. The idea was conserve water and that's why it's called a conservation district. So they have the recharge basins right along or San Antonio Creek and they can take storm stormwater there. San Antonio Creek can also take water from

background audio 2 (03:08:13):

The

background audio 6 (03:08:15):

Rialto feeders so they can take imported untreated water. And some of them can also take recycled water if they're not too close to wells because the Department of drinking water regulates how close a drinking water well can be to recycled water being recharged. So is the Monte Vista district, are they taking the water that runs off the streets here and using it? Or are they just, where's that going? That's storm drain water and storm drain water ends up in the channels and it can be recharged and recharged basins that we consider that to be part of the native yield of the basin. There is their treatment block, by the way, and other one on their a s R wells. A lot of tanks.

(03:09:10):

So they are using the stormwater right off the street? Yes. The basic stakeholders get the benefit of stormwater. For some reason, I just thought that that water was wasted, went out to the sea. Well some of it does. That's a big issue is because all comes rushing at once. So a lot of it does exit and you can't process all at once. So we try to capture as much as possible. And that's a lot of what our recharge projects are all about, is trying to improve our ability to divert and then store and recharge and store

water. But that's more expensive to treat because of the chemical pollutants. I assume it's actually really good quality water really. You might have some of those oils bases, but again, when it goes into the recharge basins, the soil filters it out. By the time it makes its way to the well's really high quality water clays in the soils can really absorb a lot of contaminants apparently. Well, it's like you said, the earth is a natural filter and the microbes in the soil also chew up a lot of the unwanted things. Conservation as a concept has changed over time,

(03:10:46):

At least in my opinion. When the conservation district was formed, the idea was conserve the natural resource as in capture it and recharge it. Conservation today typically means use less of, it's more on the consumer side than it's on the fire side. And what you'll see in The conservation district here is a very robust education program. They have a remarkable demonstration garden of how to use native plants that have very low water demand. They have a lot of, all the local schools actually come through here for school field trips. Yeah. That concept isn't limited to water. It's also across the board and other things. Like California, the Department of Vision game is now called the department, so there was a conservation effort to it when it was initiated obviously, but the focus has been away from gang as in shooting and killing them to preserving protect environment. That's why they changed the name. So their headquarters are to the right. Their pre-public garden is just beyond their building. You go through their building, you can get their republic garden. There's a park in front of us, so we'll step out of the van here and the restroom is straight through the double doors if anybody needs to use it and we'll wait a few moments, make sure. Yeah, we'll make sure everybody has had a chance to and then we'll walk over to the rejo.

background audio 10 (03:15:31):

Can I ask you, I'm going to use the restroom quick. Can I ask you maybe show judge the display here. Oh, oh, I got dam here in the Santa Ana River. Cool. Yeah, the

background audio 2 (03:15:48):

Sierra Hills and the This is the speedway.

background audio 12 (03:15:54):

Nice. Here

background audio 2 (03:15:55):

We were up here at San Basin.

Alonso Jurado (03:15:58):

That's awesome.

background audio 2 (03:16:00):

So they have a focus on the recharge basins Airport square. Yeah, the cable Ontario port over here. This is where we are. Yeah, these right here are the mock player basins. It looks like we've got the freeways on here too. I appreciate the

background audio 12 (03:16:27):

Frequent nitrate stops my 65 year old prostate. Definitely. Thanks you. Are you getting up in the middle of the night? Oh god, the night every night. It's hard to get good sleep. It's terrible. Yeah, I was have probably 12 and 2 33 o'clock. You have something to look forward to young

background audio 2 (03:16:54):

Guys,

background audio 12 (03:16:59):

Not kids waking you up or animals waking you up. Waking yourself up. Oh, I got those too. There's always the middle of the night there's coyotes that'll come up to the fence there and the dogs. Oh yeah.

background audio 2 (03:17:14):

Stuck

background audio 12 (03:17:14):

While we've got three big dogs just drive crazy about or any wildlife, coyotes. Do you ever hear the coyotes get a rabbit and start They go crazy? Yeah, they go crazy just screaming and yelping and there's tons of rabbits because we help 'em in our backyard every night and letting the dogs out to do their last potty break and there's always chasing rabbit out of the yard in the morning. Let 'em out. They're chasing a rabbit out of the yard. There's lots of things to eat in our yard for rabbit. I'm surprised at how many there are, but when you have a big rain, there's just lots of food for everybody. Oh yeah,

Alonso Jurado (03:17:56):

Definitely. Definitely, definitely.

background audio 2 (03:17:59):

You guys joke, you

Alonso Jurado (03:18:08):

Thank you. How's it going? Oh, straight this way To the right screen's in the middle. How you doing? Long time. No see. How are you? Good. Good. Hey, how's Good? Good, good.

background audio 2 (03:18:21):

The judge

Alonso Jurado (03:18:22):

Is out there. Yes, yes. I'm curious,

background audio 12 (03:18:23):

Which

background audio 2 (03:18:23):

One is the No, that's popping.

Alonso Jurado (03:18:27):

Yes, that's to the white dress shirt to the right next to Peter. I think he's covered. He's 10 kind striking the gray hair. You can't see 'em right now. Oh

background audio 2 (03:18:39):

No.

Alonso Jurado (03:18:47):

Great guy. Great guy. Thanks again.

background audio 2 (03:18:52):

Sure. Oh thank you. Have a good

Alonso Jurado (03:18:53):

Day. You too.

background audio 2 (03:18:58):

One, that's where multiple research comes when you get that here. Shallow water levels. You get closer, get the opportunities

background audio 10 (03:19:23):

And when we transition, we'll be going through just above where you're standing, which is we're going to go over here. Oh yeah. We're going to drive to sink

background audio 2 (03:19:32):

GE Flatiron treatment facility right about here. Ely basins are right here. And then we're going to go on south here.

background audio 10 (03:19:40):

Look at a side of subsidence. The chino are monitoring cooking beer and that's where lunch is about, I'm guessing about half an hour. Are we doing okay? Sure. Alright, we'll walk up the fence here

background audio 2 (03:20:05):

You

background audio 10 (03:20:05):

See the basin.

background audio 2 (03:20:08):

It's also the education theme of the conservation district. Hi. There

background audio 8 (03:20:46):

You go,

background audio 10 (03:20:47):

Boy.

background audio 2 (03:20:48):

Good job.

background audio 8 (03:21:06):

Who's your soccer player?

Alonso Jurado (03:21:07):

Yes.

background audio 2 (03:22:01):

Am I correct? The bases have an overflow. The other, yeah. Number 4, 3, 2 and one. Spill's do that once a year. Once a year. In the E two there is some I just fish. They do have fish. I think these do run dry, right? They have to dry out. Okay, let's

Alonso Jurado (03:26:44):

Judge if I may check your recorder just for a second. Sorry,

background audio 4 (03:26:47):

It looks like this. Lemme sure.

background audio 6 (03:26:49):

This guy's, I didn't know they had such perfect. You're good to go As purview, that's permeable ping and you help because of the color. It has four spaces that allow the water to percolate in another water conservation district with Riverside, which has a lot of that too. Water. Great. Now interestingly, this is not that permeable gravel if you're looking outside right here. And it was weird because they just repave and I don't know, I thought maybe it was permeable. Then they repaved over side. Here's their guard. Very nice. What city are we in? Montclair. This is Montclair. So now we're headed toward the side of the former GE flat hire and that was where they made the flat irons, which is something that I felt so naive like You mean they had a factory just to make those? Apparently I never thought of that, but they did and apparently it's not the only site, the United States where flat irons were made that caused water because of the plating and the solvents that were used on the site. So don't expect to see a factory but is a nondescript kind like a little house that houses facility from a historical point of view, the T c E and chromium, T C E I think is chloro were detected in 1987.

(03:29:54):

The monitoring. Well,

(03:29:56):

And it took a few years. The regulator was the regional water quality control board and after design and permiting and approval, they installed two wells to pump the contaminated water. The treatment was G A c granular and exchange. So exchange six with an salt salt that becomes part of and when they began operating in 96, they were discharging the water in the storm ramp, which led house daily basin and so

on. And that continued for about 10 years or so and then later about 2010, they built three projection wheels. So they pump the water, they treat it and they put it back in. And because they do that, the water is no longer part of the stream in the channel. Now they the base. When did they detect that? Did you say 87? 87. There are two agencies because they just started looking for it or that's because one out. I think that's the era where the environmental monitoring regulation and the regional board Department of Substance started gathering data. That was 70, right? Yeah. Started this whole Let's protect environment, let's developing these things starts showing the way. So once again, it's a drive. It's a drive by. It's not, you won't see anything that'll allow you, but you will from time to time come across either mention of an industrial pollution plume or industrial cleanup site, wanted you to have a visual. Definitely. Actually the whole process about intricate, like I said, developed over a long period of time and many different agencies involved

(03:33:06):

And you just take it for granted and you can imagine the battles because ge, well, you have to clean up. No, we don't. Here's the data. We'll get our own data all. I lived a lot of that working Glendale, we had a lot of pollution. We have meetings with the polluters and you're responsible to maintain the operation and the expansion. Remember, expansion is a thing that the water industry has to live more treatment trades, more things that are detected. They don't see it as their mission and so they see it as an additional expense. So they typically, typically fight it. Eventually we'll get to when you'll see the state of the basin report next year, as I mentioned, we'll file it early with the court early in 2024. You'll be able to get a great review of challenges as well as totales. You need anything you want to add about the coordination from the regional board?

(03:35:00):

Well one of our program elements in our O B M P is to coordinate with the regional board board. They're not very well staffed, so our master really helped in collecting data, sharing data with the regional board. The regional board shares data back and we really have developed a collaborative relationship with 'em and not only for these sorts of groundwater plumes that were caused by point source contamination of the aquifer, but in our salt nutrient management, which we're going to talk more about the softers that they are regulating agency on soft nutrient management as well. So just groundwater quality in general. It's regulated by them and the O B M P has called more Water master to also try to manage groundwater quality too. So it's a natural relationship between water master and the regional board. Peter had come up with a really good idea that we call Chino Basin Day where once a year we have a meeting with the regional board staff and they love it. Regional board loves it, but we just sit down and spend the whole day just talking about all the different things that are going on, the new emerging contaminants and our salt nutrient management plan and how that's coming along. And so it's I think a real positive outcome cooperation of our Optima Basin management program.

(03:36:52):

We include that day. We include the Chino de Salter authority that is also a separate J P A that has its own management, so they're included in that day. I U A staff and management also attend because they run the regional wastewater plans that are regulated by the regional board. We invite sampa, the Santa Ana Watershed Project Authority, which is kind of some would say a paper entity, but they have a role to play within the entire watershed and the regional board staff that deals with all of that, it's like the three mice and the elephant. Their staff has a job to do over here. Somebody else may have a job to do over there, but you pull 'em all together in one place in one day, then their jobs make more sense to them and their decision making is more consistent throughout. We understand their needs better. They say, I wish I had this, can you give me some data on that? So it just really works to enhance the relationship. The regional board and D T S C, they maintain on their websites, they maintain databases

of all the cleanup sites everywhere. So as part of the service for the parties, we gather all the latest information and developments on our cleanup sites and provide them every six months. Complete update on all the reports on all the clean sites.

(03:38:59):

Why a lot water down here? Yeah, pipe broke or something. You should tell the need to capture that. There's something, this area reminds me a lot of Bur Lockheed was big and thriving Burbank, there was everything around. So to find a facility like GE Flatiron here, the aviation industry has spurd. The growth that's up in California before during World War two too. And the McDon Douglas plan closed down in Long Beach, which built the C 17 one time kind of like graves. We the largest aerospace industry in the world right here in Southern California. Now there's not one plane that's built out of southern California. Went from the biggest to zero, the Long Beach plant coast. So this would've been the site of geo flat Earth. As I said, nondescript. They built the treatment facility and put it in a house that kind of blends kind of doesn't. And this is what it looks like today. Two extraction wells, three injection wells, and a typical treatment process. This van came here today just to open the gates for us. We drive through, not much to see in there. We're not going to stop, we're not going to get out of the van again. Wanted you to have a visual of this is where it is and what one industrial cleanup site can look like. Fairly well contained

(03:41:48):

Small footprints, not very big. Not very big small

background audio 4 (03:41:51):

Footprint

background audio 6 (03:41:53):

From a water master accounting point of view. It used to be that when they would pump, treat and waste the water down the stream, we would charge them. They would have to replenish the basin because they didn't have the right to produce. Now that they reinject the water, they don't have to pay for replenishment. It does kind of blend in well with the neighborhood. It does, yeah. I mean they didn't have to put those walls around. It could be just big tanks. Yeah, there are a lot of monitoring wells dispersed around the area here that are part of that facility to monitor the plume and the effectiveness of the cleanup solution.

(03:42:34):

All that data we collect back to our databases to better understand is there an end date for that plume? What's that? Is there an end date for that plume or is it pretty much taken care of? It is typically based on the monitoring data itself. What is the monitoring data saying about? It's saying it's still there. Cleanup? Yeah, so then the regional board requires them to produce quarterly and annual reports and the regional board will read those and then maybe one day make the decision, okay, we can close the site. And when did that plant close? I dunno, it must've been the eighties. The eighties, yeah. So it's kind of the gift that keeps on giving. Yeah, right. And how long was it in operation?

(03:43:24):

Probably 10 months. My experience with cleanup sites, some for chlorate sites up in Santa Clarita, you're looking at a minimum 30 year premium and the challenge is who's going to keep paying for it? Case of ge. So that's coming from a super fund monetary fund. This isn't Superfund. Oh it's not? No Superfund is a ge. How can they possibly have the money to do that? That's another problem. So the

challenge with Kevin, an industry like ge, okay, they're going to be around for a while, but ine cla, you had Whitaker bur that was a munitions manufacturer that no longer exists. You go after them, right, exactly. And fund 30 plus years worth of, is there federal money available for that? There can be, but generally you go through their insurance, which trails their activities.

(03:44:32):

Well Chris, you might want to speak to some of the groundwater contamination of Pomona that we don't really know who the responsible party is for that, but the city's stuck with the cleanup costs. How could you even attract something like that, especially if you can't trace it back to a particular source. I'm sure there's something with the flat iron that said, oh, this is where this came from. It's really loud. The back can, yeah, I was just saying that it could be really difficult to track if there's not a specific chemical marker, which I'm assuming there's some way that they knew that flat ironed with the contamination here. There must have been a specific chemical that said, hey, that's from that plant. They're the only people that produce that. But something I don't know, more general, it'd be hard.

(03:45:28):

The city recently won a case with S Q M just received the money last week. That was just as you mentioned there a marker in the chemical natural, natural form of chlorate that would be imported from common desert. Wow. Can that we deal with are nitrate crop six MCL established. What's the M C L? What is an M C L? The maximum contaminant level. So in essence water we have 10 parts per city will certainly be impacted by the M C L and have to construct treatment. We're currently working on a preliminary design or to identify what are some of the options to remove the chemical from the water. There's also, I'm sure you're well aware of A P F A S, have you heard of P F A S? No. That's the latest chemical that has been studied, found to be harmful to human health and needs to be removed from quotable water. Where's it come from? Primarily it comes from fireproofing. Yeah, firefighting, foam non-stick, any non-stick type of surface stain resistant chemicals. It's a three M product primarily that has been used and that has been, I'll say in large part litigated and there's in essence a fund that you can look to receive funds from. And so the city will be looking to do that shortly.

(03:47:39):

There's what's called the U C M R, the unregulated contaminants that require to says Hey, here's this list of contaminants we'd like for you to see in they're in your water so that we can understand how ubiquitous this is, what are the levels of the chemicals and the water and so on and is on that listing. We believe that will be impacted by, so the preliminary design report that we're working on now is intended to address both and six so we can get both of those kind of knockout so to speak right away and so we can address the candidates. So in a situation where you have a company that's no longer in business and maybe the insurance company is no longer in business or maybe they didn't have insurance, are there any state or federal monies that you would look to? Yes, there are From time to time grants.

(03:48:55):

An example is 1 2 3 T C P. That's a chemical that recently impacted one of our largest producing wells and we received a 1.6 million brand. However, the treatment costs are just under roughly two and a half million dollars. So obviously we'll have to bridge the gap between the and the grant funds received Chrome six though we don't know of any point source in our area where that might have been the cause. So we'll be likely funding that through rates to our customers. The P F O SS also doesn't completely cover all of the expenses, so I'm hoping to get maybe 50% of the cost of pfos, but I dunno that it's actually going to cover that.

(03:49:58):

So you get the idea that there is the water quantity aspect of the business and then there's more quality aspect of the business. As Chris said, there is this federal law that you see m r which is looking ahead and every five years there's a new list of chemicals that agencies are supposed to monitor and the e A collects the data while they're being studied for effects on human health. Pause for a second. Eli Basins. To our left and to our right, the far right is Eli Basin. Number one. Immediate right is Eli Basin number two and to the left is Eli Basin number three, one and two are owned by the San Bernardino County flood control district and number three on our left is owned by the conservation district. All three percolate really well and our good producers, they take storm water, they take recycled water and are sort of the lowest part of the basin. What we want back to recharge like that. So something I noticed here is that there's a lot of trash in there compared to the other. Yep. Trash and no vegetation. So yeah, each facility it's got its own little unique signature. You see the trash when the stormwater, the

background audio 4 (03:51:24):

Recycled water obviously doesn't have that so as Peter mentioned, flight control basin comes trash.

background audio 6 (03:51:35):

That's just stuff coming off the street. Then in some cases there's also the recharge basins, especially a little further up, attract homeless people who make their encampments there and so on a good storm, usually the material they've collected shopping carts and everything in them get washed out. Occasionally there are drownings with

background audio 4 (03:52:03):

People

background audio 6 (03:52:04):

As well, so if there's a encampment down there, you go out and clear 'em out right away. We try to work with the local police I uua does with the local police. When we see an encampment we ask 'em to go remove them but it's, that's a whack-a-mole. So to close out the thoughts on water quality, never ending, never ending chase for water utilities, never ending chase for groundwater basin management because all that stuff begins in the groundwater basin. New regulations always come out. Lower detection technology is always coming out. New treatment has to be implemented. So we are now starting to move through, this is technically the ag area but you'll see a lot of it has already converted but

background audio 4 (03:53:11):

We're

background audio 6 (03:53:11):

Going to move toward Ayala Park in the Aex in Soter and Andy will use the maps on the handout maps number four and five. Four is the listing of all the monitoring that is done for Mason and five has a map related to some cycle. So Andy, we want Judge, we can always take a break too if you need to. We're giving you a lot. I'm good unless anyone else needs a

background audio 4 (03:53:40):

Break. Where is

background audio 6 (03:53:44):

Four is a list of all the monitoring. Oh, okay. Alright. So yeah, as far as our, we spoke a little bit up there at the last, well about the monitoring and how the wells are really our eyes into the subsurface and that's where we do most of our ground monitoring,

background audio 4 (03:54:11):

Production

background audio 6 (03:54:11):

Monitoring, groundwater level monitoring or groundwater. We're also monitoring all the surface water recharges the groundwater basin too. So that summarizes the groundwater monitoring we're doing. I mentioned a couple times land subside and speed and issue

(03:54:42):

Before the O B M P and this was in the early nineties. We had ground fishers open up down here in this area that we're traveling to right now. Big cracks in the ground open up. There was even a report of a pond that just drained overnight into one of these fishers. It was not related to earthquakes or lines, it was just no, it was related, it was land society and we later figured out it was due to too much pumping and too much draw down of water levels and this draining of the clays which resulted in the land subsiding in one area, not really subsiding another area just stretching the ground surface and causing the ground fisher. We call that type of subside differential subside ground fishery. The, you don't really hear about that too much in the central valley. You hear about it a lot where it's even, it's such a severe problem up there.

(03:55:45):

It's changing the gradients and the capacities of canals that are bringing us the imported water and reducing their, they're flow capacity. So there's a bigger problem up there, but here it was about two and a half feet of subsidence that occurred over maybe a 10 year period and there was some finger pointing going on amongst the parties. Your pumping caused the subside and said no, it wasn't our pumping, it was something else and there was threats of litigation. And so we incorporated into the O B M P A specific program element, we call it program element four to better understand the subsidence and what caused it and then to develop a management plan to manage it going forward. It was that important and contentious of an issue that it demanded that we address it as part of our larger groundwater management plan. And so the facility that we're going to go is a key monitoring facility that was part of our initial investigations in trying to figure out the cause of the land subsidence and it was just supremely successful.

(03:57:16):

We found an old retired U S G S geologist that was an expert in these types of facilities and he advised us, when I say us, we put together a committee of all the pumpers in management zone one and they brought their technical consultants to the table and so it was just a really good scientific endeavor. And did you figure out who was liable? What's that? Did you figure out who was liable for Yes, we did figure out what the cause was and I'll go over that at the facility in a little more detail, but essentially what it was was the city of Chino Hills come in and had drilled a number of deep wells that went down into the deepest portion of the aquifer that hadn't been pumped before and they were trying to exercise their water rights. They exist up in the hills where, but they have pumping rights in the basin.

(03:58:16):

They came into the city of Chino and drilled these big wells and then they conveyed the water up to their service area and yeah, the big argument was really between the city of Chino and Chino Hills at that point in time that the city of Chino was claiming that their pumping was caused the land subsidence in the ground fishery and the city of Chino Hills was not convinced. And so we being the big group, develop the data to better understand what happened and what's happening now this is back in early two thousands and based on that improved understanding, let's develop a management plan and our management plan really boiled down into, we call it a guidance level where water master's providing some guidance to the pumpers here on what water levels should we maintain and keep water levels above so that subside more subsidence doesn't occur. How do you figure that out? Through installing monitoring facilities, improving our monitoring program and then we ran specific pumping tests where we pumped the deep system and shut down pumping from the shallow system and then we pumped the shallow system and shut down pumping in the deep system and we were monitoring water levels and then aquifer system compaction at this monitoring facility in pen show and that's the way we figured it out.

(03:59:58):

This facility you're going to see is there's a few of them sprinkled across California to monitor this aquifer system, compaction process. This one here is probably the most sophisticated best of its kind. The U S G S geologist that was advising us. That's what he would always say and he was one of the inventors of this technology back in the forties and fifties when subsidence was first becoming a problem Central Valley. He was able to utilize all that institutional knowledge, his history and apply it to this facility. It was really kind a detective puzzle. What's that? It was really kind of a detective puzzle for you folks that out smart. This area is interesting because it's kind of shows the paradigm shift and the dichotomy between what was the agriculture services, the developed areas and this is like the demilitarized zone, the transition area between those two orders. Exactly, exactly. It'd be interesting to see what this looks like in 10 or 15 years. The long-term outlook is we don't think that agriculture and theories are ever going to completely clean

background audio 4 (04:01:34):

The area.

background audio 6 (04:01:35):

We do think that we'll be a portion of agricultural area that will remain. So we don't think it'll be all paved over all houses or warehouses in future, but probably shrink. We don't think that ag is ever going go

background audio 4 (04:01:57):

Away.

background audio 6 (04:01:59):

We think it'll shrink a little more what it's now, but we don't think it's ever. Yeah. Yeah.

Alonso Jurado (04:02:11):

Peter, just a heads up. While we're entering through Edison, there's been a change to the location for lunch. We're still, I don't know that

background audio 6 (04:02:17):
It's possible

Alonso Jurado (04:02:19):
The area's taken.

background audio 6 (04:02:22):
Are we still going to a yellow

Alonso Jurado (04:02:23):
Park? Yes, just a different entrance and a different picnic area. Okay, just a heads up. Okay,

background audio 6 (04:02:29):
So somebody has a birthday party there.

Alonso Jurado (04:02:31):
It sounds like Edison took over

background audio 4 (04:02:39):
Out of all days.

background audio 6 (04:02:49):
Farming's not going to go away. To your knowledge, all the new retention bases or 5 66 retention, all the water, do they percolate or not really? Not really In the southernmost portion of the basin, our shallow soils are pretty clay rich and the percolation rates are not so good compared to base the recharge bases in the northern part of the base.

background audio 4 (04:03:24):
Here's

background audio 6 (04:03:25):
A million dollar question we have about retention, have suggested we might county retention base your comment farm The retention. The retention base. No Bob, there is a talk in these recharge meetings that we have about capturing water in the southern end of the basin and then pumping it back up northern part of the basin to be recharged with facilit storage. Would it be a debate or not really? Well I think it would be a debate because that costs a lot of money to do something like that. To pop back? Yes. Just throw the seed down. Yeah. I think the existence of clays and shallow soils all the way down here at the southern end of the basin is it's a lower energy environment. It's where all the flood waters historically would accumulate and it would just be like a lake and the clay's been settle out in the positive. Can I put my farming hat? We have had some

background audio 4 (04:05:23):
Number

background audio 6 (04:05:24):

In farming. The ground S opened up right in this general area from north to south.

(04:06:02):

So you had to explain if the whole ground is subsided, why are there? And that's the differential subside that I was talking about. And the reason one of our main discoveries out of this whole thing was that we discovered an underground barrier to groundwater flow, which was an ancient fault. That's what we believe that exists beneath us here. And so all the pumping that was occurring was occurring over on this side and the subsidence was occurring but over on this side of the fall it was insulated from that pumping so we didn't have the same water level changes hence no subsidence. So the land was relatively stable over here, but it was subsiding over here near Central Avenue, hence the differential subsidence and then the cracks forming on the ground. And did they threaten any structures or anything?

(04:07:07):

Yeah and especially today as all this development occurred, I mean this was all agricultural at one point in time and so yeah, the threat is to the overlying infrastructure is that ground fishery at that time? At that time there were no structures to be threat. Yeah, it wasn't. There were a few to the north and on prison property down here. There were a few structures that were impacted. But you're right, it was a different land uses here in the early nineties compared to what it's like today. So now Andy will also maybe at lunch talk a little bit about where our subsidence monitoring focus has shifted now, which is in the northern part of the basin and there are significant structures that we're concerned about things like the 10 frequent and so if you have a similar issue there with differential societies under the freeway, that's a problem.

(04:08:19):

So this map here in number five, the color shading comes from remote sensing of ground motion. We use radar satellites to tell us about the vertical ground motion. So the darker oranger areas are where subsidence is occurring and the white and blue areas are where the ground surface is relatively stable. So we're down here right now in this area and this is over the last 10 years or so that you're seeing the data for. And so we are successfully managing the subsidence down in this area here compared to history. You see those red lines, those were where the ground fishers opened up and we had about two and a half feet of subsidence occur over in this area. And so right now our management plan seems to be really working but our monitoring data is showing us that there's other parts of the basin where we have subsidence concerns and so the focus of our committee now is more on doing investigations up in these areas and trying to develop similar management criteria to try to make that stop. We're concerned because you see that differential subsidence occurring right along the boundary of our basin.

(04:09:53):

So yeah, that's an area of concern that's up in Chris's neighborhood and so the city of Pomona has been very cooperative with us and allowing us to install monitoring facilities and they're a big participant in our committee. So the way to stop it is to recharge it primarily and bring water levels up and stop pumping. Stop pumping at some places to bring So where X accelerator? Yeah, we're not, we're a little,

Alonso Jurado (04:10:30):

It's further to the right

background audio 6 (04:10:31):

Straight there. Okay, I think it's over there. Yep. And we don't know quite where. We're going to have lunch. Oh

Alonso Jurado (04:10:48):
We're going to have lunch. It's right there. Yeah, so lunch is right there. Thank you

background audio 4 (04:10:55):
Sir.

Alonso Jurado (04:11:12):
So lunch is set right here? Straight ahead?

background audio 2 (04:11:14):
Yeah.

Alonso Jurado (04:11:15):
Perfect.

background audio 2 (04:11:17):
Ground far. We have the feel free your honor.

Alonso Jurado (04:12:03):
Justin

background audio 6 (04:12:05):
Have your sanders here.

Alonso Jurado (04:12:06):
Oh thank you. Perfect.

background audio 6 (04:12:08):
So full on

background audio 13 (04:12:12):
Carnival rights

Alonso Jurado (04:12:13):
And everything really. What are the odds out of all the days and we got

background audio 13 (04:12:17):
There about

background audio 11 (04:12:17):

90% just because we're doing this.

Alonso Jurado (04:12:20):

Yeah, I think so. That's awesome.

background audio 11 (04:12:25):

Remember how was like maybe if we send somebody early in the morning, do we have any concerns? That'd be great. Have two people sit there trying to hold a tide of Edison people back.

Alonso Jurado (04:12:34):

No, that was, I mean area is big. You wouldn't think there's

background audio 11 (04:12:39):

A ton

Alonso Jurado (04:12:39):

Of people. Exactly. That's like what are the odds? Like a full on carnival Even then if you try to save up the table, it would've been like

background audio 11 (04:12:47):

We wouldn't,

background audio 13 (04:12:49):

There was a full on carnival going on there. They're mostly gone now but

background audio 11 (04:12:55):

So we can drive over there after and do the We'll pop it open for you. It'll be already

Alonso Jurado (04:13:02):

Cool. Which was my sandwich.

background audio 13 (04:13:06):

There's 13 or a salad.

Alonso Jurado (04:13:09):

Please help yourself. Turkey, ham or salad? Ham or a salad? Yes. Great weather. Last time we were out here it was super

background audio 13 (04:13:22):

Hot. The one in the bag is ham.

background audio 11 (04:13:29):

That's a salad. I'll take

background audio 8 (04:13:32):
This.

background audio 11 (04:13:33):
Thank you sir.

Alonso Jurado (04:13:44):
It's Turkey. Sorry I'm all up on your sandwich. You need something bubbly Ated? Yeah.

background audio 8 (04:14:00):
What's

background audio 13 (04:14:00):
Your normal day like?

background audio 11 (04:14:03):
Day?

background audio 13 (04:14:16):
It was cutting it.

background audio 11 (04:14:25):
You don't know how long it cleaned up either.

Alonso Jurado (04:14:29):
I'm going to sit right in front of you Justin. Okay. I feel awkward over there. I'm taking Edgar's spot.

background audio 11 (04:14:37):
Edgar hasn't sat down until now so really have

Alonso Jurado (04:14:40):
A spot I think like everybody till we finally made it here and everybody was sitting down and that's the time to relax right at here before that he's like, ah, it's his ham.

background audio 8 (04:14:55):
Even

Alonso Jurado (04:14:56):
Though it's stomach Turkey,

background audio 13 (04:15:03):
The flat iron was open and everything.

Alonso Jurado (04:15:05):

Yes. Help your stuff. Yes it was. Thank you you Everything's been perfect. I had one hiccup when we got to the authority water. I made a right too soon because the new G p s the Zoom, it's not, I couldn't judge the distance so I made a ride too soon and I thought I was going to miss it but I made a ride and luckily it was just a dead end so I just a quick little U-turn and kind of went back in. But besides that we're good. Everything's been great.

background audio 11 (04:15:40):

All the

Alonso Jurado (04:15:41):

Fire, yeah. Yeah, so the Extensometer, those white garage doors, right?

background audio 11 (04:16:07):

I think it's best just to drive down there. It's a pretty long walk

background audio 2 (04:16:11):

Field.

Alonso Jurado (04:16:15):

There's no restrooms on this side?

background audio 13 (04:16:17):

No, they're over there. You had a restroom stop at the conservation district?

Alonso Jurado (04:16:36):

Yeah, I went inside and was it Katie? No. Was Katie, who's there? Tall? Liz. Liz. She was there. Yeah, the weather's been perfect. Couldn't have paid for this. Not

background audio 13 (04:17:05):

Much Vista point, huh?

Alonso Jurado (04:17:08):

It wasn't but you can still see I think once you got high enough I guess because the higher, the overcast was a little higher you can kind of see down and it was still a good view. It was still a good visit. It gave the judge a good view.

background audio 11 (04:17:29):

Hey, we talked to Jordan about division of waiver assessment package, direction on that, right?

Alonso Jurado (04:17:40):

No,

background audio 11 (04:17:41):

No, we never did. It was sworn. We did at some point in my

background audio 2 (04:17:44):

Office.

Alonso Jurado (04:17:47):

How in depth can we talk to better

background audio 11 (04:17:51):

Everyone? Not that we're hiring on another person with the intent to maybe have them do assessment packaging things.

Alonso Jurado (04:17:57):

Oh we did

background audio 11 (04:17:58):

G M C things

Alonso Jurado (04:18:01):

We did with him though

background audio 11 (04:18:04):

Of course when we did.

Alonso Jurado (04:18:06):

I know we talk about it but personally Jordan and I have not talked about it but in a group setting, I'm trying to think back.

background audio 11 (04:18:19):

I don't remember things very well anymore so

background audio 2 (04:18:21):

I

background audio 11 (04:18:23):

Perhaps not. Igar had a good idea I think. Did you talk to him also about having Jordan do assessment

Alonso Jurado (04:18:40):

Package? Great idea. I think he has a lot more experience and he'll be able to check on the workload and he'll like the interaction, the engagements and the challenge and the new information. Seeing bigger picture and

background audio 13 (04:19:02):
That's a project more suited for senior ops.

background audio 11 (04:19:08):
He's just don't want to do it.

background audio 13 (04:19:11):
It's more important for the organization and I justify him being a senior by doing that.

background audio 2 (04:19:25):
Yeah,

background audio 11 (04:19:26):
Makes a lot of sense.

Alonso Jurado (04:19:28):
Additionally different point of view Frank might be feel more comfortable,

background audio 11 (04:19:37):
Right? For the reason why we like Mariza.

Alonso Jurado (04:19:40):
Yeah, so it's a great idea

background audio 13 (04:19:51):
That way we can have Eric more focused on, I mean that doesn't mean Jordan is not going to do field work. He's still going to do a lot of field work.

background audio 11 (04:20:02):
Field work,

background audio 13 (04:20:03):
But Eric is going to be more field oriented and maybe we can even give Eric G L M C because he's a geologist. Probably get a little more from G L M C that Jordan. I feel Jordan has good analytical skills for assessment package.

Alonso Jurado (04:20:27):
Definitely. I mean I think Jordan likes G L M C but you probably know his background a little better and I think he's excited for it.

background audio 11 (04:20:43):
I think Gordon wants to be involved larger than

Alonso Jurado (04:20:47):
Not really shepherd it

background audio 13 (04:20:48):
Staff,

Alonso Jurado (04:20:50):
Which he won't be able to.

background audio 11 (04:20:52):
Not necessarily staff, not necessarily not, but to be able to put himself out beyond just water master's staff and employees.

Alonso Jurado (04:21:03):
Yeah, definitely. I can see that.

background audio 11 (04:21:16):
So I think we need to get some buy off on that from him himself. See if he wants to do it.

Alonso Jurado (04:21:27):
Which one

background audio 11 (04:21:29):
Jordan?

Alonso Jurado (04:21:30):
I know, but which project

background audio 11 (04:21:31):
Which for assessment package.

Alonso Jurado (04:21:33):
Assessment package

background audio 11 (04:21:39):
Or we just tell him.

background audio 13 (04:21:42):
Well I don't know who would be the best to approach it but I think I can talk to him and be like look, I talked to Alonso and Justin and I think that this is very important work that we need to get done and you're the right person to do it.

Alonso Jurado (04:22:11):

Another thing too is sex assessment package is kind of coming towards the conclusion of it, so it's kind of time sensitive that we hits a little bit exposure now even if it's just at the tip end of it just to kind of get him introduced to that. We want get to introduced before it's the assessment package is completed and submitted so it can go through that process.

background audio 11 (04:22:37):

So my plan for that after going through David and live and learn kind of deal is I would want him, there's a data collection part like requesting and all that part both bulk difficulty is once you have the data, how it all fits in the actual assessment package, how things flow. So I think the best thing to do is throw the data from this year and say make an assessment package out of it and then have Frank can help him along the way. He's got an answer sheet of the actual assessment package as he goes along to help him understand and then next year he does the data and

Alonso Jurado (04:23:26):

The full process. Yeah,

background audio 11 (04:23:27):

The full process. But I think we need to make him make one because Frank's approach, because I left it mostly to Frank to teach him was oh well he could just check things here and so he just checked things. The next thing was, well you can make a couple of tables here and there. You just need to never really let 'em dive fully and it wasn't fair. Yeah,

Alonso Jurado (04:23:52):

Well it sounds great. Whichever way it starts ramps up. I think just as long as that process gets started, it'll be great for not only Jordan but for Frank,

background audio 13 (04:24:04):

For him to this first round, he needs to learn what is the assessment package and a little bit of our coaching plus attending the workshops.

background audio 11 (04:24:23):

The workshops will be great.

background audio 13 (04:24:25):

It's going to help

Alonso Jurado (04:24:27):

How we have those educational. During our staff meeting we kind of brought up water master education. I order if one of 'em, even if it's 30 minutes or an hour, it'd be frank doing an assessment package, like 1 0 1 basic, very basic terminology since he'll be presenting it. I don't know if that'll help and it's kind of good timing not only for Jody but for everybody. But it makes Frank hopefully get into the groove of just sharing his information. I don't know if that's a good idea or a bad idea.

background audio 13 (04:25:03):

Lemme think about it.

Alonso Jurado (04:25:05):

We got a business schedule so

background audio 11 (04:25:07):

Might be a little too detailed is my worry. But I mean everybody should at least know why,

Alonso Jurado (04:25:14):

Right? Just the one-on-one, the basics not be in depth and then we can all sit in during his workshops and kind of connect the dots. I think that would be beneficial for everybody.

background audio 13 (04:25:30):

I feel like to the assessment package first you need to know why it exists and then from there you can start parsing out the numbers. Why does it exist? Well have a 78. Okay, we know that Well the 78 judgment stablish the safe field. Okay. What does this have to do with the assessment package? Well, because the safe field gives rights to overlying pool and to the appropriate pool and there's something called the operating safety and the operating safety is divided amongst appropriators and we use the operating safety to know if they are overproducing or under-producing and we also use how much they are producing to assess for water master expenses, all those basic things. The workshops don't go into that historical understanding. It's more like,

Alonso Jurado (04:26:42):

And that's what's needed. Just a simple explanation, just how you explain it to me. I mean that's awesome. That's the way. Should be good right now. Please eat the cookie. I'm not going to eat it. I can't then I don't want to eat too much. I'm driving. I don't know. There's another one here too.

background audio 13 (04:27:11):

There's another cookie.

Alonso Jurado (04:27:14):

So ala RP five, CD one,

background audio 13 (04:27:21):

CD one,

Alonso Jurado (04:27:23):

And from there monitoring for c

background audio 13 (04:27:27):

A one. Do we need to contact someone to open it or

Alonso Jurado (04:27:29):

Jordan should have taken care of that this morning.

background audio 13 (04:27:33):

No, I mean I'm sure he called people there, but right when you're there, do we need to contact someone to open it?

Alonso Jurado (04:27:41):

It should be open when you drive by. We're going to drive by. If you drive by and it's closed, hit the buzzer. Okay, and that's like calling, well we have their number. I have their

background audio 13 (04:27:49):

Numbers. I'm just asking because I didn't know what was the arrangement with them. I didn't call them.

Alonso Jurado (04:27:55):

Oh,

background audio 13 (04:27:56):

If you told 'em we're going to call you when we're closed or you're going to leave the door open or

Alonso Jurado (04:28:01):

The same arrangement however

background audio 13 (04:28:02):

It is. We have the contact information we're going to drive by.

Alonso Jurado (04:28:06):

I'm assuming it's the same arrangement as last time the practice tour run, which is we'll be there. So they're going to leave the gate open for us, but when you drive by, if it's not, give him a call. It should be open

background audio 8 (04:28:25):

Tomorrow.

background audio 11 (04:28:26):

Still recording. Hey.

Alonso Jurado (04:28:28):

Yes sir. I have no worries.

background audio 13 (04:28:33):

Have everyone has on a spot check on the

Alonso Jurado (04:28:38):

Mic.

background audio 11 (04:28:38):

Yes, we should do one after lunch.

Alonso Jurado (04:28:41):

Yes, we've done a few.

background audio 8 (04:28:42):

This

background audio 11 (04:28:42):

Is a pretty big in and out. Are you going to the thing after

Alonso Jurado (04:29:00):

I was asking who did I ask this morning? Oh, I asked Frank and he said he didn't know what was going on. What thing happened? Yeah.

background audio 11 (04:29:08):

Are you going to the thing

Alonso Jurado (04:29:09):

After? Yes. I just need to clarify the address. The after

background audio 11 (04:29:12):

Is Jordan. Gordon. This thing after

Alonso Jurado (04:29:15):

Depends how he's feeling. I don't know how this morning he was saying he kind of felt a little off in the evening time the night before, but he feels a little better but still kind of not. He's kind of

background audio 11 (04:29:26):

Weighing towards the end of the day.

Alonso Jurado (04:29:27):

Yeah, so towards the end of the day sometimes it feels better or worse. So we'll see.

background audio 11 (04:29:33):

I was going to say, being that the next time we all really meet together, it's going to be staff, staff meeting. If we're going to introduce this idea there, Jordan, I don't think it's the worst thing that maybe do it at the event after. I know it's not really supposed to be like businessy thing, but

background audio 13 (04:29:57):

If he's going, I think

background audio 11 (04:29:58):
If he's going, we could all approach him casually and talk to him about it.

Alonso Jurado (04:30:04):
Hopefully

background audio 11 (04:30:05):
Franko,

Alonso Jurado (04:30:11):
I think it's on my caliber.

background audio 13 (04:30:13):
No, it's not.

background audio 11 (04:30:14):
It's not a work event. Why? Is there anything here? No track. Yes. Thank you.

Alonso Jurado (04:30:26):
Do you have any moves?

background audio 11 (04:30:29):
I play chess.

Alonso Jurado (04:30:30):
Do you play a omega?

background audio 11 (04:30:31):
Know how bad I am at chess? No. Against people who play chess. Semi casually.

Alonso Jurado (04:30:37):
Yeah. Do you play chess?

background audio 13 (04:30:38):
I know how to move

background audio 11 (04:30:39):
The pizza.

Alonso Jurado (04:30:40):
Same here.

background audio 11 (04:30:41):

It just causes me a

background audio 13 (04:30:43):

Lot of stress.

background audio 11 (04:30:44):

I know I could beat Edgar, but I cannot beat that guy over there Who's,

Alonso Jurado (04:30:49):

He's waiting for the VY piece to arrive.

background audio 11 (04:31:02):

How do we want to do this? Do we want to divide and conquer? Like somebody go open up and somebody stay back and we'll just round.

background audio 13 (04:31:09):

I was actually going to ask either of you to go open and stay there while two people here clean and I'm thinking probably you can't because you have to drive everyone

Alonso Jurado (04:31:22):

Out there. Yeah, I was going to go turn on the van and have it running. It gets hot in there and then I'll come back. What do you need me to do?

background audio 11 (04:31:30):

Stay here and help along

Alonso Jurado (04:31:32):

Edgar? Help Edgar, actually,

background audio 13 (04:31:34):

Well if you're going to drive over there, it's only opening the extend summit and the vault. So maybe Justin and I can stay back cleaning. We'll give you the key and then we'll just go pick it up from you

Alonso Jurado (04:31:48):

From the last tour.

background audio 11 (04:31:50):

He should lock it up too though.

Alonso Jurado (04:31:52):

Yeah, from the last tour run. Well

background audio 13 (04:31:55):

That's the last key that we need, right? So you can just keep

background audio 11 (04:31:57):

Key. Yeah, he can lock it up though. You would have to lock it up.

Alonso Jurado (04:32:00):

Yeah. My question is when they do the, because I wasn't physically there during the test run for the tour at the Exometer area. I was over here having lunch with the van. Do they go into the room first or do they go They went into the room for a while first and then the outside and then the outside.

background audio 11 (04:32:19):

Because we did lunch after the van. We decided we're going to switch it up.

Alonso Jurado (04:32:23):

Right. My thing is I'm kind of attached to the vehicle, the first and everybody gets out and then I guess I could hurry and get in front of him. Does that make sense? I can stay

background audio 13 (04:32:33):

Behind you.

background audio 11 (04:32:35):

Well,

Alonso Jurado (04:32:37):

I don't know how crowded it is in there and my plan was to pull up, drop 'em off and leave the car there. But if there's people there,

background audio 11 (04:32:42):

No. So what, okay. It is not that crowded. Again, our head is, our ideal is you get out, you go and you open the door and open up the, you guys, you don't really have cones though,

background audio 13 (04:33:00):

So

Alonso Jurado (04:33:00):

No, and I need the wrench.

background audio 13 (04:33:02):

The cones

background audio 11 (04:33:02):

Aren't really necessary. No. So, okay, one of us needs to go the vault.

background audio 13 (04:33:09):
Can you?

background audio 11 (04:33:09):
Yeah, we'll do that. Sounds like,

Alonso Jurado (04:33:13):
So what do you need me to do here? The I

background audio 13 (04:33:15):
Can do it too if you want. If we're not doing cones, then

background audio 2 (04:33:22):
It's much easier.

background audio 11 (04:33:25):
Well, who's ever cleaning up? Got to walk that way. I think. Who's ever opening up or myself? I'll take the car, the cones and the equipment. Well I'll go do that then.

Alonso Jurado (04:33:38):
Alrighty, we'll go turn on the car and then get it ready.

background audio 13 (04:33:42):
Just left

background audio 11 (04:33:42):
For the day.

Alonso Jurado (04:33:50):
Throw my drink away. That shuttle van looks good with the decals.

background audio 13 (04:34:05):
It does actually. It looks very official. Yeah, we got to W F A and they opened the gate for us, but because we parked on the side, because we're like, we're not going in, they closed it. So when we saw you approaching, that's when I called Jose like, Hey Jose, the guy is approaching, can you open it? But literally when he started opening, you pull into the thing. It was

Alonso Jurado (04:34:29):
Perfect. Yes, it was perfect. I

background audio 13 (04:34:31):
Like that synchronization.

Alonso Jurado (04:34:34):

Smooth. Smooth. Everything's going so good. So since things kind of change, I don't think Peter's aware we're going to drive. I'm assuming he's assuming that, but he doesn't a hundred percent know that yet. He what? He doesn't know that we're going to drive over there, so we'll have to not jump. Well, we know when he gets up,

background audio 13 (04:35:03):

See in their gun now. Completely gone. Nothing happened.

Alonso Jurado (04:35:12):

Is it because we came later?

background audio 13 (04:35:16):

No, I think they've been there for, even if we were been here earlier, like 11 or 12, that was, I'm telling you there are games and projections. It was a big,

Alonso Jurado (04:35:45):

We will go turn the AC on.

background audio 4 (04:38:43):

They're walking. So

background audio 13 (04:38:47):

We need to get the van to that.

background audio 8 (04:38:50):

So drive to that lot. Yeah. Okay. Sounds good. I'm going

background audio 13 (04:38:53):

To clean it

Alonso Jurado (04:38:53):

Here. Want to go with me? Huh? Want to go with me?

background audio 13 (04:38:57):

Well, if you want, if not, I can just walk. But we have the cooler too, so I'll fit in the back maybe if

Alonso Jurado (04:39:02):

You can. Yeah, I'll help you. It's not that much to clean up. Yeah,

background audio 13 (04:39:15):

There's a big truck that you have in there. So

Alonso Jurado (04:39:25):

We throw the tablecloth away, right? Yeah.

background audio 8 (04:39:37):

I dunno whose

Alonso Jurado (04:39:38):

Water that is ing Chuck. The water. We don't know whose it is. So the throw away, sorry, we have waters in the truck

background audio 13 (04:39:54):

Take.

Alonso Jurado (04:39:56):

Oh, that's fine. Yeah, you already got it. Just cut this way. They took some waters and drinks so they empty it. I left the door open. What's that? I left the door open. I have the keys out. Don't worry. Okay. I was, bye. Luckily this could stay in the van. Yeah, we don't need to take it out. Do me a favor, grab that side a bit.

background audio 13 (04:41:05):

We're going to put the ice chest in the van In the other van? No, we can just leave it here. It doesn't matter. I can bring the water for you if you want me. We can leave the chest in

background audio 8 (04:41:24):

Here.

background audio 13 (04:41:26):

So I'll meet you over there. It's good. Yep. I'm driving with a L story. I put

Alonso Jurado (04:41:39):

That's okay. That's fine. Like that. I don't think we'll need them. That's perfect.

background audio 13 (04:41:51):

Yeah, it was just

Alonso Jurado (04:41:54):

What's going on? They walked, man. Yes. Let's change of plants. He's got to stare on your toes,

background audio 13 (04:42:07):

Fingers. The court probably doesn't know that this was a change of land. Well, not a change of land.

Alonso Jurado (04:42:16):

Still the same spot. It's

background audio 13 (04:42:17):

The same spot. Just have to change tables.

Alonso Jurado (04:42:19):

Right? That's what I tried to tell Peter. Peter just said, heads up, we're going to enter the yellow park via Edison instead of the other area. We're going to be having lunch at that area. Try to be discreet about him, but just to give him the heads up. So when he pulled in I was like, whoa.

background audio 13 (04:42:36):

We got to the parking lot and me and Justine were like, oh. And then he saw this gazebo in here. He's like, okay, well we'll go there. We got here and they were setting up the chess boards and we're like,

Alonso Jurado (04:42:57):

I know.

background audio 13 (04:42:59):

And fortunately it's not sunny and it's not hot. So it's actually kind of nice to be You've been in the van all day. So

Alonso Jurado (04:43:06):

Yeah, it's good to sit out and I think everybody was like, yeah, let's take the walk. Because I mean it's been good day. It's a lot

background audio 13 (04:43:15):

Sitting down. It's a lot.

Alonso Jurado (04:43:18):

And this thing works great. I'm just prepping for the next stop.

background audio 13 (04:43:28):

There's a permanent mount in the box that we can put in the trucks if you want. If not, we can always use the suction cup. I think that's also working.

background audio 4 (04:43:39):

Yeah,

Alonso Jurado (04:43:40):

That works good. I think for just a trip or two, because we had s such cut phone mounts and they just stopped working because of the sun.

background audio 13 (04:43:48):

That's same with the sun, right? That's why I thought that permanent mount, you can just leave it there and you take out the screen so that it doesn't get burned in the sun or anything.

background audio 4 (04:43:56):

Right, right.

background audio 13 (04:43:58):

That sounds great.

Alonso Jurado (04:44:27):

So four more stops. 1, 2, 3, 4.

background audio 13 (04:44:30):

Yep. RP five C, D one, PB three and C d H here.

background audio 4 (04:44:36):

Yes.

background audio 13 (04:44:39):

This later part of the tour is more relaxed because there's much less things to do. The first part is packed with things.

background audio 4 (04:44:48):

Yeah,

Alonso Jurado (04:44:51):

Gates make sure things are open. Coordination. Yes. This is not as intense.

background audio 13 (04:45:05):

What we can do is literally after we drop everyone, I'll meet you. I'll drive to the rental thing so we can drop off the van. Sounds good. And then you come back with me in the, if you're going with everyone to the place after, we can go. If not, you can just take your car.

Alonso Jurado (04:45:37):

Where is the place?

background audio 13 (04:45:39):

It's called the Hamilton Family Brewery in if it's Rancho or Ontario.

Alonso Jurado (04:45:50):

Yeah, I'm definitely going. It's nice that Peter hosts stuff like that. And it's good to be outside the office with everybody. So it's a win-win. Exactly. I enjoy it.

background audio 13 (04:46:04):

That's exactly my thoughts. I wish we could do it more, but I recognize that everyone has their own obligations, kids

Alonso Jurado (04:46:14):
Things going on, schedules.

background audio 13 (04:46:17):
But to the extent that we can do it, I think it's great thing to do.

Alonso Jurado (04:46:24):
I think yourself, Jordan and Kelly are on a different boat. You guys are. Hopefully Jordan is no kids. Yeah, no, I hope so too.

background audio 13 (04:46:36):
Yeah, that's what I recognize that in the,

Alonso Jurado (04:46:43):
You need to go take pictures. That's not the one they opened. They open up the other

background audio 13 (04:46:46):
Actually, do you want to do it the other way so that the door is on the

Alonso Jurado (04:46:51):
Other side? I don't know what I was thinking. I wasn't thinking I'm supposed, so last time we opened up the other Extensometer, the vault. Yeah, the other vaults.

background audio 13 (04:47:03):
Yeah, we're going to open it. I don't know if Justin has,

Alonso Jurado (04:47:07):
Because he opened the one right here.

background audio 13 (04:47:09):
Oh,

Alonso Jurado (04:47:11):
That's not it, right? No, that's

background audio 13 (04:47:12):
Not a deal though.

Alonso Jurado (04:47:19):
I back up a little bit. Parking the sun in the shape. Oh, go for it,

background audio 13 (04:47:25):
Sir. You're messing with the wrong equipment. Are you by Uber?

background audio 14 (04:48:29):

Now the way we measure this is we drill this in this borehole. We put a casing in, a metal casing in a borehole. And then this black line represents a steel pipe that goes all the way down at the very bottom of the hole. We have a cement plug down there and this steel pipe, so that's 500 feet long, that's 500 feet long it goes down and it's resting on a concrete path down at 500

background audio 2 (04:49:12):

Feet

background audio 14 (04:49:12):

Hold. Okay, so then it's coming up here and we've got some connections here to this lever arm and some counterweights. And what we're basically doing there is this steel pipe is very heavy and we don't want it to be bending on its own weight and resting up against the side of the casing. So we just take off through this arrangement. We take off about 80% of the weight of the pipe, but we do not lift it up off the bottom of the concrete path.

(04:49:46):

So this thing here is our X extensometer. Now the other part of the facility is this beam, which comes over here and rests on this triangle. And this triangle has these three piers that go down about 50 feet and are just anchored to the ground surface here. And so these piers, this bridge, I mean this triangle and then this bridge represent the ground surface. So if we have any compaction that occurs in our aquifer system, underlined us that if it occurs between 550 feet and the ground surface, then the ground surface will come down. So this bridge will come down, but this pipe will stay stationary.

(04:50:42):

And so what we do is we measure the difference between the displacement that occurs between this pipe and this bridge right here. This is attached to that side of the device and this is attached to the steel pipe. And so this measures that displacement. It's very sensitive. A thousandth of a foot is its resolution. So we can measure this compaction of the aquifer system. We measure the upper 550 feet here of the aquifer system. We measure 1500 feet over there. So we more displacement over there. We subtract these two records from each other to understand what's happening between 550 feet and 1500 feet. So that way we have some resolution of what sort of compactions going on in the shallow aquifer system and what's going on in the deep aquifer system. And that's how we figured out that the deep aquifer system was the culprit.

(04:51:49):

And so who built this? Designed it? So the U S G S geologist that I was speaking about earlier, he came in and advised us. My boss, mark Willman, said Go out and find somebody. And I started calling around the U SS G S and they said, well, this guy's retired, maybe he would help you out. And sure enough, he just came in, kind of took me and the rest of the committee under his wing and let us along. This is how you're going to figure it out. And so he helped design the whole thing. We had subcontractors come in and drill the bore holes. We had a local iron worker do all the fabrication to our specifications and we set the whole thing up and got it working and it's just been working really well ever since. It's been about 20 years now. Sandy, tell us a little bit about elastic versus inelastic.

(04:52:50):

Subside. Yeah, just a few minutes. Sure. This is where it gets a little bit more complicated because the clays have the ability to accept some water when water pressures go up and they will drain some water

when water pressures go down. But they can do it in an elastic fashion. So seasonal pumping might cause water levels to go up and down in the sands and the clays will just, it's almost like we're not too concerned about that. If you see maybe like an inch or so of elastic flexing of the ground surface down the wall, drive a seasonal pattern that's associated with the seasonal pumping and the seasonal ups and downs of the groundwater levels. However, if you lower groundwater levels too much, the clays will drain and it'll be a permanent drainage and compaction of the clay particles. So there's a water level, the safe water level that I was talking about earlier that we consider to be, if we go past that depth to water, draw water levels down, be up below there, we will initiate this inelastic permanent compaction to occur.

(04:54:24):

And so we've figured that out with the data that we've collected at this facility and it's something that we continue to monitor. And if we determine from our monitoring data, well we want to take that level up or down based on the monitoring data, we may do that. But we have not made that adjustment in 20 years since we created the criteria. And when you say initiate, that is not like the clays give up the water and shrink one time and that's it. It's a slow gradual compression that continues over time. Yes, because the clays are very thick and if you can imagine the drainage just takes a long time. It'll drain quickly on its edges. But in order to get into the center of a clay layer and have that water drain out completely, it could take decades. So it's a very complicated process. There's this time delay associated with it. So it's a difficult phenomenon to manage, but we're trying our best to understand it with data coming from facilities like this and develop conservative management plans to try to make it stop.

(04:55:46):

The question I get asked a lot is, can that be reversed? If you've had inelastic deformation land, can't you actually reverse that? You cannot. That's why it's inelastic permanent. You cannot reverse. So if you pump the full of water, you can't really squeak, inflate the clays back. You can't inflate the clays back once they've permanently compacted. That's a permanent drainage. The water out of the clays, it's almost like you're mining the groundwater out of the clays. But if the clay is then stationary or collapse, the ground is stable and length, upside and stops. Isn't that a good thing? That's a good thing. We want to see. We want to stop that clay from compacting. We can continue to lower groundwater levels and continue to drain more water out of the clays. That's not what we want to do. So we want to find those safe operating ranges for water levels so that we're stopping that process from occurring.

background audio 3 (04:56:47):

Is the question appropriate or not?

background audio 1 (04:56:52):

Well, I think it was, if it's collapsed, then you no longer have

background audio 14 (04:56:57):

Subsides. But

background audio 1 (04:56:58):

That's not workable either because then you can't recharge

background audio 14 (04:57:02):

That layer anymore charging. You can't use it. Right.

background audio 1 (04:57:06):

For what we want to use it for.

background audio 14 (04:57:08):

Yeah. And if you get the complete collapse, you have a lot of subsidence, so you have to deal with the consequences of that. Yeah. Judge, is it okay if Mr. Fester asks a question? Yeah,

background audio 3 (04:57:20):

Just a quickly because in my younger days, Andy, we talked in Cerritos, we talked in paramount about the clay layer and that was not a bridge to contamination. Generally the contamination didn't get to go into the lower ground. Now I hear this word collapse. So if clay collapses can contaminate its gold,

background audio 14 (04:57:48):

It's still clay. It still clay and it still has water in it. It doesn't completely drain out of all of its water.

background audio 3 (04:57:59):

Is it still a protection? Yes. I hope that's what

background audio 14 (04:58:03):

I wanted. It just has less water in it.

background audio 3 (04:58:04):

Yeah, that's what I wanted to hear.

background audio 14 (04:58:07):

Needed

background audio 3 (04:58:07):

To hear.

background audio 14 (04:58:08):

The water that exists in the clays really isn't a part of our aquifer system that we can use water that exists, don't want place, be there, be elastically. You don't want to have water levels lower so far in your sands and gravels that you begin to drain that water out of the clays. Do you want that water to just stay in the clays and not

background audio 3 (04:58:40):

Permanently

background audio 14 (04:58:41):

Exit the clays and cause the compaction where the associated subside? So it's really, again, it's coming down to this management of groundwater levels in the basin to try to mitigate and the occurrence of subsidence and not let it happen in the future. So the studies in this area involve, as Danny said, pumping from the shallow roads and letting it recover, hopping into these walls and letting it recover and watching what's fall. The Reese's Diagram, does the ground come back? Yes. Okay, fine. The deep Does

background audio 3 (04:59:21):

The ground come back

background audio 14 (04:59:23):

And eventually arrive at this guidance level? And again, water master's role in this specific case is not to regulate this production. It's simply to preclude the studies and give them the guidance that they have to address. We do not tell the parties, we don't think we have the authority to tell the parties, don't pump beyond that because you'll cause subsidence.

background audio 3 (04:59:50):

Thank you for letting me ask that question. I needed to hear that answer.

background audio 14 (04:59:56):

So there's another extensometer we haven't really talked about as much, but we did mention sub.

Alonso Jurado (05:00:06):

It's interesting stuff. Lot of

background audio 14 (05:00:11):

Not expensive. And we're tracking that as well. Eventually we'll need guidance.

(05:00:27):

Are those just weights? Somebody's weight set? Yeah, they are probably Andy we have back there, but we don't have a bench. Yeah, this is climate controlled in here too. I mean we really went all nine yards to, we were afraid at that point in time that this building would get really hot and really cold and that the metal itself would expand and contract and we didn't want that to contaminate our exometer readings. So this facility has really state of the art if we built it up high so we can walk in and a lot of these other facilities that you see in the Central Valley get up underneath. It's small little footprints. We made it big so we could work around in here. We're collecting information here too. These record, once every 15 minutes, we take a measurement and they come over here and we've got data loggers in here that we come in monthly and download all the data. We have wells monitoring wells. And I'll show you what a monitoring well looks like outside where we are measuring water levels at different depths. So the water level measurements from out there paired with the exometer measurements up here, which are measuring y persistent compaction, really how we understood water

background audio 2 (05:02:01):

Level.

background audio 14 (05:02:07):

It's the pairing of the water levels data that really provided the foundation for our understanding. We were also monitoring water levels and groundwater production and all the really comprehensive. And so we've got consultants that are also measuring the ground surface,

background audio 10 (05:02:37):

Not just in here but out amongst the city of Chino here where they come to benchmarks like this and they set up their leveling

background audio 2 (05:02:48):

Surveys and

background audio 10 (05:02:49):

They start here

background audio 2 (05:02:51):

And they go around like the miles square miles around here measuring the ground surface changes periodically. They do that about once per year. We've got the radar satellites that are also multiple data tied together. These are what monitoring wells was like a little dirty. It is about 20 years old now, but these are five different monitoring wells that go down into one bore hole and they all go down to different depths within the aquifer and they're measuring the groundwater level changes at different depths within.

background audio 10 (05:03:35):

This is a pretty big monitoring facility where you've got five wells. Sometimes you'll just have two wells. Sometimes you'll just have one. Well, a monitoring facilities come in all different shapes and sizes. But this one here, we put five pipes in the

background audio 2 (05:03:48):

One board. Yeah, the different depths. Isn't there a name for it?

background audio 10 (05:03:53):

This is called a nested pome. Nested

background audio 2 (05:03:56):

Pome.

background audio 10 (05:03:57):

Nested. A nested pedometer where we got a nest in here

background audio 2 (05:04:03):

Of

background audio 10 (05:04:03):

Pipes. One is this long, the other one's a little longer, the other one's a little longer. So that each measure different parts, different depths within the

background audio 2 (05:04:10):
Operative system. Yeah.

background audio 10 (05:04:14):
So good. We painted the picture of what the land subsidence monitoring is like.

background audio 2 (05:04:25):
Yeah.

background audio 10 (05:04:25):
Pretty darn complicated. It is, yes. Sure. Yes.

background audio 2 (05:04:29):
I'm amazed that that's hanging in that somebody designed that same ground up, figure

background audio 10 (05:04:34):
Out. I'm amazed at the sensitivity of

background audio 2 (05:04:36):
It. Yeah. Yeah.

background audio 10 (05:04:38):
Very high resolution. So let's keep moving. Yep. We're going to, at this point, the plan is to be in the van until we get back to the office. We have a couple of points of interest if anybody needs a restroom. One more time. Restroom? Yeah, I do Peter right there. So please go ahead and then we'll meet back here.

background audio 2 (05:05:01):
Okay. There's another one right there. Is there another, well they're going to bring the car here

background audio 10 (05:05:12):
Or it's right here. Oh, thank you. Yep. There is another well right there. And this is an example of our cable extensometer. So what we wanted to do is try to simulate this facility

background audio 2 (05:05:29):
With smaller equipment,

background audio 15 (05:05:35):
What our,

background audio 3 (05:05:40):

This may or may not be for your,

background audio 2 (05:05:49):
We drive along

background audio 15 (05:05:52):
Two of the monitor, few of the, I'm thinking we might skip C D A too. This is a lot of information. Can

background audio 16 (05:05:59):
We skip c D

background audio 3 (05:06:00):
A too?

Alonso Jurado (05:06:01):
Can we? It's

background audio 13 (05:06:02):
Because it's in the

background audio 15 (05:06:03):
Stipulation, right? We could do less, not more. I think it's okay. Okay. Why don't you ping Scott and ask him. I will. Would you? But

Alonso Jurado (05:06:14):
Let me know and then or

background audio 15 (05:06:17):
Yeah, I think as long as we see the C D A wells in their alignment, we see proto basin. Well three Bob, I'm thinking we might be skipping a tour of the CDA two treatment plan because we're going to go through CDA one, we're going to go through RP five. And so those will be our third and fourth treatment plans for the day. And the fifth one might be too much.

background audio 3 (05:06:40):
Can you line me up on a time? Otherwise I may have to do that Uber

background audio 15 (05:06:46):
Or we can help you too with the ride.

background audio 3 (05:06:48):
I mean, well, we'd be three o'clock

background audio 15 (05:06:49):

Or I think we're three is now the earliest. We'll be back, huh? Yeah, maybe three 30 is when we're

background audio 3 (05:06:56):
Going. Yeah, I may need to run.

background audio 15 (05:06:57):
Okay.

background audio 13 (05:06:59):
What time do you need to go back?

background audio 3 (05:07:01):
I've got to be back in at U C I by about three 30. Oh, so no, I'm saying I'll stick around for another hour.

background audio 13 (05:07:13):
No, it's 2:00 PM It's two now. We probably should take you to the office.

background audio 15 (05:07:19):
Do we have the ability, we don't need you guys from this point on, right? No,

background audio 3 (05:07:25):
I want to be fair to all your effort. You could ask him if he has any questions about ag. The clay lever layer was really big because 30 years ago, clay Leer was determined. It was our savior

background audio 15 (05:07:40):
Keeping things,

background audio 3 (05:07:41):
Keeping the poisons from going below. So you pumped past the clay layer. Right?

background audio 15 (05:07:50):
So our guys can take you back to the office. Do that

background audio 3 (05:07:55):
In the end. I tip,

background audio 13 (05:07:59):
I mean, how well do you tip?

background audio 16 (05:08:02):
Wait

background audio 3 (05:08:02):

A minute. I got a couple ones in my pocket.

background audio 15 (05:08:06):
Oh man. All the way back the office. So let's do that.

background audio 3 (05:08:14):
What am I going to miss? I thought I'd wait for them to come back. Yeah, you should. So you

background audio 15 (05:08:18):
Worked up here a lot. I think. Let's do that. Ask him.

background audio 3 (05:08:21):
He knows the bedard, so he's really involved in there.

background audio 15 (05:08:24):
Yeah, he knows. Where'd the judge

Alonso Jurado (05:08:26):
To the restroom?

background audio 2 (05:08:28):
Are we done with

background audio 15 (05:08:29):
Those things? Yeah. So thank

background audio 2 (05:08:32):
You sir. So after the judge comes back, I think we're going to do a slight change in the plan. Peter

Alonso Jurado (05:08:40):
Knows we're going RP five first?

background audio 2 (05:08:44):
Yes. Okay. It is more just the drive through, but we're about to see C, D

Alonso Jurado (05:08:53):
One and then four,

background audio 2 (05:08:54):
Five. Okay. I

Alonso Jurado (05:08:57):
Think we should close the,

background audio 2 (05:08:58):
We're going to see the, well I can,

Alonso Jurado (05:09:01):
I'll adjust this one. That's a tricky one. I don't know why.

background audio 2 (05:09:45):
Have to close

Alonso Jurado (05:09:46):
It. Oh, okay.

background audio 2 (05:09:53):
Blinking

Alonso Jurado (05:09:54):
It stopped blinking.

background audio 2 (05:09:59):
What do I need to pass?

Alonso Jurado (05:10:00):
I have to take it out. So if you want to remove the headphone jack, you have to take it out of the pouch. I don't know why I stop blinking. That's welcome. Oh, luckily the microphones should have been have it from everybody else. Yeah, they should pick you up. Okay. Okay. Yeah. So I'm not sure when it stop, but please wait and it should record. Perfect. You're back on. Yeah. And then just shove that guy through there. The bottom hole. Bottom hole. Yep.

background audio 2 (05:10:52):
Thank

Alonso Jurado (05:10:52):
You sir. Of course.

background audio 2 (05:10:55):
Yeah, that can just be thumb tight.

Alonso Jurado (05:10:56):
Okay, sounds good.

background audio 2 (05:11:18):
So P, we're headed back to the office. Any goods just in

Alonso Jurado (05:11:22):
Case. Okay, I'll hang on

background audio 2 (05:11:38):
Right now. Okay. Do you need a

Alonso Jurado (05:11:50):
Sure. I'll take a someplace. Somewhere. What's up? Sorry. They were intrigued by, what was that? Those pipes? Edison engineer. Ah.

background audio 13 (05:12:08):
Tell him like, oh, it's an instrument that measures the ground level movement.

Alonso Jurado (05:12:14):
They're like, oh, awesome. All right.

background audio 2 (05:12:43):
That survey mark.

Alonso Jurado (05:12:50):
Thank you. And I seen you. What they

background audio 14 (05:12:52):
Do is they

background audio 2 (05:12:53):
Want to say goodbye

background audio 14 (05:12:53):
To him. So we measure, let's say we measure an inch of def from

background audio 2 (05:13:00):
If

background audio 14 (05:13:00):
They, so then they'll come out to this benchmark and they'll go, it's an inch. So then they'll start from there and what they do is then they shoot out to the next benchmark, to the next benchmark to the next benchmark. And they just measure the elevation changes that

background audio 2 (05:13:20):
Have occurred. But

background audio 14 (05:13:21):

They start here and they take the data that we're collecting here and say, this is what happened at this benchmark between the last time we were here and now we're out here starting the new. That's what they do. But you're right, they also set up a G P S device out here, a high resolution G P S device. They let it run for about two hours and they take a G P S mask too as a check. And

background audio 2 (05:13:47):
What's the sensitivity of that?

background audio 14 (05:13:50):
That's a lookup I think. But that's why they've set up two hours

background audio 2 (05:13:55):
Is to

background audio 14 (05:13:56):
Reduce the air.

background audio 2 (05:13:57):
So the main thing

background audio 14 (05:13:58):
In that setup is

background audio 2 (05:14:00):
Why don't just do G P S? It seems like that would be easier.

background audio 14 (05:14:03):
Yeah, so G P s is good. It tells you everything that's going on below here. We can get depth specific two x extensometers shallow versus, and that's the type of understanding we really

background audio 2 (05:14:19):
Need is

background audio 14 (05:14:20):
Where is the compaction occurring? Debt specifically

background audio 2 (05:14:25):
Multiple data.

Alonso Jurado (05:14:27):
Can I see your recorder take? Very good Mr. It's on the wrong side. Catch

background audio 2 (05:14:35):

A ride. Go back to the office. So he's parting ways with us and I would like to suggest that perhaps given our time running a little bit later, because there's been more conversation than every stop, which I think is good. But the last treatment plan would be our fifth treatment plan of the day. And I'm afraid that it would look just like the others and not really add value to you. So I'm going to suggest that maybe we live that if that's okay with you. That's fine. I'm just happy I'm not the first one to drop out. I'm grateful to be part of your career. Well I'm so happy you're here. Glad we got to talk about some look forward to people. They need to check my kidney. So my wife might shoot me Drink water. Water. Well that's obviously more important. See you. Bye. Take care.

Alonso Jurado (05:15:26):

See you. Bye.

background audio 2 (05:15:29):

So I'm just double checking for Scott. He's very sensitive. We want keep you squeaky clean. We have a stipulation that says we're going to go to that plant. So I don't think it's a problem eliminating something from the trip. A problem adding something. I agree. I agree. So let's go

background audio 4 (05:16:29):

Young man. Good move for you being part of our team.

Alonso Jurado (05:16:36):

Thank you both.

background audio 4 (05:16:40):

Thank you for your effort.

Alonso Jurado (05:16:41):

My pleasure. We'll see you soon.

background audio 6 (05:17:11):

Took me a minute to figure out the faucets in that bathroom. First I thought well maybe they took them apart having some F problems. I don't know. Yeah,

background audio 2 (05:17:21):

They don't have the best bouncers here. That was the nice

background audio 6 (05:17:26):

One that you heard going to state parks. Now the bathrooms are so much nicer than they once were all open air. So if you're ready for a little more. Yep. What I'd like to do is have you look at tab number six. Tab number six is a map. This is from the project description and the piece two agreement.

(05:18:09):

And it shows the wells that were to be drilled in the chino basins desal. And the two green circles are the two desal their plants. So you can see how that line of wells parallels the river. It's intended to act as a curtain as a barrier between high t d s water from the north and the river from the south. So high t d s

water no longer flows into the river. The wells capture it, they pump it, the water goes to CDA one and CDA two treatment plants. The salt is extracted. So now you actually have extraction of the salt, which is not good in the base. You also have this high T D H water no longer going into the river, which was a problem for downstream uses like Orange County. So that is the heartbeat of the genome basin salt nutrient management plan because that is where most of the salt is captured and removed.

(05:19:23):

It's also the heart of what is called the maximum benefit agreement with the regional Water Quality Control Board. In exchange for the commitment to build these multimillion dollar facilities, the regional board then allowed parties to use recycled water upstream. Recycled water is high in T D s, but the regional board said you can have a little more capacity up there because you now capture it all and it won't hurt anybody else demonstrated. So construction of these facilities removes the TD gas, keeps it from going down the stream and allows recycled water to be used direct use for park irrigation. For example, median irrigation and also recharge lines. Otherwise we wouldn't, we would be exceeding the limits for salt in the basin. We couldn't use the recycled. It's the part that is salter is located both in this area, relatively small American compared to the rest of the base because we're now downstream near the mix. So they're intended to just cut it off and exercise what is called hydraulic control to where none of the water from upstream can actually go downstream. It's control.

(05:20:44):

If you can imagine each well pumps and lowers groundwater immediately next to it. If you string a bunch of wells together, you can create this trough of lower water level there, which captures the water. Actually instead of letting water go into the Santa Ana river reverses the flow and flow from the Santa Ana river now recharges Chino Basin. So it enhances the safe yield of Chino Basin for the parties, a couple hundred million dollars investment by the parties and very for the alors and the wells to be expanded. You can see the history of those peace agreement. There was a commitment to that and to expand the capacity, the peace two agreement, there was a commitment to expand the capacity to what it's today, the salters pump 40,000 acre feet. Andy, any thoughts on the salt nutrient management plan to add to the salter operation? Yeah,

(05:21:55):

Now we're in the very southern end, the basin and the water levels are much shallower here. Maybe 50 feet to groundwater right where we're at right now. And it gets to the ground surface not too further down south. The quality of the groundwater is non-potable high in P D Ss concentrations high in nitrate concentrations. You can't pump it and drink it without treating it through reverse osmosis. So a central part of the O B M P was that we knew that the ag was moving out and we knew that new residential and commercial developments were moving in, but we knew that if ag moved out, so would their pumping, but the water is not a potable quality. So the municipal agencies wouldn't pump the water. And so groundwater levels would rise down in this area because of the lack of pumping. And we'd have more discharge of this shallow groundwater, very poor quality into the Santa Ana river, which blows down Orange County and is recharged in Orange County as part of their recharge strategy.

(05:23:13):

So Peter's right de salters were envisioned to come in here and replace the pumping that was moving out of the basin so that we could maintain lower groundwater levels in this portion of the basin, not lose our groundwater to the Santa Ana river, not contaminate the Santa Ana river with high t e s and high country and use the groundwater, treat it and put it to potable beneficial use. And where are the treatment plants that this water's going to? Where are the treatment? Yeah, where are they? It's that green dot and that green dot. Okay. And then they have, it's all going to the two desal. Yeah, these wells

pump to those facilities and then the water's drained there and then distributed to the communities down here. We're just about at C one, the one down on the left. We are first going to stop and wastewater treatment, recycle the regional plant number five or right.

(05:24:20):

And we're going to do a drive-through through that plant. And then you are going to CC once we're practically on that on now this is wastewater treatment. Oh, this is huge. It's huge. And it's being expanded, right? All the wastewater from all the houses. Well it's not comes here. Not all of it comes here. Some other smaller ones. But this is the main piece. So what's different, as we talked earlier, what's different about wastewater treatment plants is they have much more of a solid issue within water. They have gas issues to handle and they have odor issues. So the water flows through the plant as we came in from here all the way down that way. So who would be in charge of this plant? I u a. But what person, what degree would you have? Oh, you'd have to have a wastewater treatment plant operator.

(05:25:28):

Five. And that's an engineer? No, not necessarily. In our business judge there are operators, they're distribution system operators and treatment plant operators. And there is licensing and certification for those. It goes from D one for distribution one to D five, T one to T five. It'd have to be a licensed T five to operate this. And that requires knowledge and understanding of every mechanical and chemical component in this plant. It's incredibly detailed knowledge to run a plant like this. Licensed operators are worth their weight enrolled. You actually cannot operate a water or a wastewater utility without operators. You're not allowed to by regulation. And so there's tremendous incentive to train your staff, help them take and pass their tests, give them relevant experience. So this is I u a Inland Empire Utilities Agency. It morphed and got into the wastewater treatment business. So to the right you have the first solids screening. There is some core screening to take out all the trash before it goes through a water treatment plan. Part of their expansion is to add a fine screening material that is construction that needed passed to our right. So you want the water that will go through the same primary treatment process of flocculation mixing sedimentation. You want all the solids to be out as much as you can. And what happens with these solids? The solids go to the tail end of the plant. They can be disposed of.

(05:27:25):

If they're landfill material, they go to a landfill. To the extent it's compostable material, it gets put into with the sludge, it's at the end of the line.

(05:27:39):

So after the solitary move, the flow proceeds to our left. We're going to follow primary treatment on the left, which is the same as the primary treatment that we've discussed. And in this particular case, sewage doesn't come at a prescribed. That's new. That is new. Great. So we'll just have to go here and then yeah, we may have to. So hold for one second. Over to the right is an emergency overflow. You may have heard that at the time of halftime, a Super Bowl, everybody goes to the bathroom. That increases the flow more than the plant can handle. So there you have the emergency overflow to the right and then you can handle, slow it down and then eventually treat it through the plant, through the regular process, the lawsuit you'll have. Okay, so back Yes. So you can go back this way. Yeah, but we're going to turn right. So primary process to the right, you have very similar considerations and it's as in potable water except you begin with much dirtier water. And what's this new facility? They're putting the add-on. I'm sorry, just what's the new add-on? Going to do the new add-ons that are their main add-on or to handle more solids handling and more post liquid processing.

(05:29:21):

And these are filters. This is odor control to the right because it's smelling wastewater treatment plant. Very different than a clean water treatment plant. This is all odor control. So it's scrub and through scrubber filters and not released to the atmosphere. Electrical buildings coming up to the right you have behind them. What's the reason for the wood chip pile here? Is that I guess an odor control too? I don't know. That is, it may be a site of future expansion. No particular function, but that won't. So you have the process of treating wastewater is a sequential clarification process. So your primary clarifiers, secondary clarifiers behind these buildings to the right are the secondary clarifiers. Go ahead and go right. Which are the bases now to our right. Let's see if we can pick up our route. It's usually not as much construction. Usually it's a treatment point that's operating. So

background audio 4 (05:31:09):

Okay.

background audio 6 (05:31:11):

Straight ahead. There should be a, oh, maybe it's behind the building. Oh, right here is a massive solar panel farm. Wow. One megawatt generation capacity. It's huge with massive panel and to the left, these are secondary clarifiers. So you imagine the water is in these big circular tanks is slowly the paddles going through it in circles slowly and allowing a chance for solids to settle out. The new building here on the left is going to be a membrane bioreactor, which will help destroy biological agents in the wastewater part of the expansion. What I love about facilities like these is that you could drive past them a million times. You have no idea what's here and when you're in it, it's this massive operation. And what did they do to complete this? I would be guessing it's a lot. It's a 330 million project. So what you have to the right, you see those? Well the handrails are, there's contact basins in there where the treated plant effluent is allow time to contact chlorine and kill off anything else that may still be living. And from there water can go either into the distribution system, the recycled water distribution system to be recharged in the basin or to be applied for direct uses. Or it can go out to the right into a channel that eventually makes its way to the Gino Creek and then down to the Santa Ana river.

(05:33:29):

We would like to, of course, as an overall management of the area, we'd like to minimize how much water is put down the Santa Ana river and reuse as much of it as possible. Massive scale

background audio 4 (05:33:53):

Construction,

background audio 6 (05:33:57):

Overflow pond to the right. If there's more sewers than the plant can ever handle, there's a place for it. Oh, it's there. Another reason for having spare land and a big plant like this, is that just a dirt pond or just a dirt pond? Warehouse to the right is being built and beyond the warehouse you have the handling of the gas. So the building that's coming up is for the handling of the gas and they reuse that gas, they burn it, burn it, I mean burn it for any purpose. They just burn it. They do have a plant that can actually burn it to generate electricity. So these big circular tanks to the right are all part of the new construction and part of the additional liquids handling. And it's all about handling, taking the sludge from the bottom of the plant where we were. They bring it up in front us here. And the sludge goes through sequential drying stages to where eventually it becomes dewatered to about a 20% solids consistency. And then it can be hauled off. If it's non-hazardous, it can be hauled off and go to a lamp. So it's doing that in these

tanks. In these tanks, the building ahead of them, the tanks, and then there's a dewatering plant that was just behind where the gas boilers were. It's all one sequence that goes from front of us all the way past behind us.

background audio 4 (05:35:59):

And

background audio 6 (05:36:00):

From what I know where this pit is right here to the right, there's going to be a food waste, a separate food waste separator because that can be compost directly. Really?

background audio 4 (05:36:16):

Yeah.

background audio 6 (05:36:17):

That's pretty innovative. Nice. Yeah. Now they're going to start requiring that sort of the food sort of. Yeah. So yeah, I think we've already got a notice about that. Yeah, yeah. We already have to

background audio 4 (05:36:34):

Do,

background audio 6 (05:36:36):

Do you compost? We don't compost, but we do separate. Okay. And we put the food waste with the, so we are kind of at a low point right now, judge, where we've come from the mountains way up in front of us all the way down here. And so has the water, the water's been used and reused. It's come down here, it gets treated and as much of it as we can do any part of it that we can't goes to the Santa Ana river. There is an adjudication on the Santa Ana river. There is an obligation that I u a has on behalf of the region to release a certain amount of water to the Santa Ana river. That's the subject for a

background audio 4 (05:37:30):

Whole other town.

background audio 6 (05:37:31):

But recycled water is used to meet the Yeah, I was going to ask if you had to release if there's bigger footage. No, you had to Yes. Back in the river. So by way of history, do you draw anything out of it out of Santa Ana River? Yeah, we do. Part of the safe fuel of the basin is water that infiltrates from the river because we lower the water levels in the basin. The Santa Ana river adjudication came as a result of three separate litigations that concluded

background audio 4 (05:38:10):

In the sixties.

background audio 6 (05:38:12):

As a result of the third one, there was a collective obligation in this region to the Santa Ana River, which then drove basin in the seventies. The Santa Ana river came first

background audio 4 (05:38:38):

And

background audio 6 (05:38:38):

Orange County in the beginning, orange County, everyone. And eventually their lawsuit just sort of fall down to we want measure the flow of product

background audio 4 (05:38:53):

And there has

background audio 6 (05:38:53):

To be this much flow in

background audio 4 (05:38:54):

The product

background audio 6 (05:38:56):

And all y'all upstream have to make sure that it happens like that. So that's simplified life to historically the downstream people in Orange County were poor with the upstream

background audio 4 (05:39:12):

People here,

background audio 6 (05:39:14):

The Chino Basin and the rest of the upper watershed. Now it's a collaborative exercise, but they had to go through that painful adjudication process and pursuing each other and

background audio 4 (05:39:28):

Doing

background audio 6 (05:39:28):

A lot of the scientific studies to figure out what was the right allocation. But now we cooperate very nicely with the Orange County Water District, including monitoring

background audio 4 (05:39:43):

And product,

background audio 6 (05:39:44):

Which we'll talk about in just a little bit. So last treatment plan for the day, if we are going to skip CDA two, we are going to go into CDA one.

(05:39:56):

This plant existed before the peace agreement operated by I U A as a desalted, which you see straight ahead is one of the C D A wells and it pumps water. This is on the plant, so it pumps water directly at the plant site and is treated at the plant. We will see many more of those, but this one happens to be here. C D A one was an initial concept. Everybody liked it and so they latched onto it and the peace agreement, they expanded the C D A capacity. We're going to do a quick drive by and judge, I'm not a hundred percent familiar with everything on this planet. RO membranes here. So these are the membranes right here. These are the membranes. It sounds like you know about them. You drive water, it's super high pressure down the middle, it comes out radially out and are they leaking? Yeah, right there. That

(05:40:53):

Over right. Huge power consumer. And so that filters out everything that isn't a water molecule ro, but it's a huge power consumer. What this is here is your standard primary treatment process here. You can kind of tell by the age of the materials and the pumps that are sitting on top. And when we go around you'll see additional treatment processes back on. The theme of every water treatment plant eventually needs to have increased treatment capability to remove more things. You'll see here these tall towers, IATION towers, that's a different treatment technique. They're what? Iation towers. So water is fed to the top and allowed to bubble down through a filter medium. And as it's going through, it's aerating because there's air blowing from the bottom and any volatile organic compounds, VOCs like T C E and pc, they volatilize in that process and they become an off gas that is captured and scrubbed and then the water is now freed of those materials to the right. We have, I believe these are backwash tanks, these are chemical storage tanks and so on. But you have some aeration primary treatment RO treatment in this plant. Say again?

(05:42:26):

Is there another G? Yeah, so the G A C was a recent edition, right? Andy was for Well, 18 I believe so, yeah. Again, an expansion of the treatment capability for voltages, right, because after the wells were filled they found out, oh

background audio 4 (05:42:43):

No,

background audio 6 (05:42:46):

RRO

background audio 4 (05:42:47):

Does not politics.

background audio 6 (05:42:49):

So without going to much more detail, I'm at my limit. And this plant in particular, once again you see the main primary and then additional treatment trains as new challenges have come up. The Chino airport, which has its own plume, is a major contributor to the pollution that is now hitting C B A. You got security for these plants at night when everybody's gone

background audio 4 (05:43:20):

Home.

background audio 6 (05:43:22):

Seems like it'll be ripe for the picking. Be able to come in and just cherry pick all that ice equipment. Nice. Yeah,

background audio 4 (05:43:33):

I don't know.

background audio 6 (05:43:38):

So where might you say is the Chino airport Immediately to our left. So the trucks are obscured, but you can see the control tower. This Chino airport backyard. So all the contamination from a chin airport is flowing with the groundwater down in this direction captured by the wells. As we're driving along, you will be able to see other c d a wells that are on that alignment that I showed you. One right there. Right. So it might be a monitoring well associated with the plume monitoring for the two airport. Yeah, that's one of the, this is a old agricultural well there in the shed, but I'll point out to you. You see straight ahead, there's this concrete wall and that's one of the C D A wells here in this. So that's one in that series of wells. The parallel, the river that feed CDA one C 1 1 2. Yeah, that's for cda. So we're going to skip CDA two. If we were to go to CD two, you can see a much larger version. What are these over here, I believe? I'm sure these, that's what San looked like back in the nineties before they cleared it out. Yeah. Cool. Yeah, I think those are essentially to capture storm water and so it doesn't run off without being treated first.

(05:46:21):

So Judge, do you know much about the Prodo basin? Have you heard? Not really. In high school, I had a lot of tournaments there. Okay. Athletic a park, but really that's about it. Well, it is the largest riparian habitat in Southern California and an important bird migratory stop. A lot of endangered threatened species call it home. The lease bill buried one of those birds.

(05:47:05):

As I mentioned earlier, groundwater is very shallow at southernmost end of our basin, an underlying prodo basin. And so that's shallow groundwater is supporting the repairing habitat there. Call it groundwater dependent ecosystem. And these dessolve, our wells here, like I said earlier, were designed to keep water levels low so we're not causing really shallow groundwater and more groundwater to exit our base. But we play a little balancing game where we don't want to pump so much and draw water levels down so much that we impact the riparian habitat. So when the piece two agreement was completed, it included the expansion of these desalt and additional wells and part of the qua commitment was to enact a monitoring mitigation plant. So Des Salter pumping doesn't adversely impact the habitat. C equa in the California fire and Waac. Yes. There's only two secret judges in Hall County. We need special training for that. Another one of them, one them is in the van, one of them another complicated caseload to our case.

(05:48:37):

So Ton County Water District has a lot of interest in Prodo Basin because it's where they store storm water and try to slowly release it from the DAM so that they can recharge it all. So they just have a lot of interest in prodo and a lot of commitments to California Fish and Wildlife to preserve habitat there and not let it degrade because of their practices. So when they read our seeking document about expanding our desal, they raised their hand and they said, Hey, we don't want you messing up our habitat that

we're responsible for. We want to come up with some sort of monitoring and mitigation solution. And so this was a good collaborative working relationship between the Water Master I U A and Orange County Water District to form a stakeholder committee, including the wildlife agencies in the U S B R. It all came together and developed a monitoring plan where we monitor the health of the habitat. We monitor groundwater levels, we monitor surface water discharges, temperature fires, pests, anything that can potentially impact the habitat. We're most concerned about groundwater levels. That's our main potential impact. And so that's the focus of our monitoring efforts, but we monitor it all and we prepare an annual report called the Proto Basin Habitat Sustainability Annual report and

(05:50:19):

We get together as a stakeholder group at least once a year to review those reports and then modify our monitoring program if we think it needs to be modified based on the data that we're collecting. We're using a lot of remote sensing data to monitor the habitat, really applying just the best technologies that we can. We also drilled a number of monitoring wells along the edge of the habitat. We're going to one of those monitoring facilities right now to monitor water levels right next to the habitat. There were 11 wells. I believe there was more than that. There were nine sites and I believe about 17 wells at nine sites. Well that's the best way to deal with SE issues is to try to collaborate with all the different stakeholders that have their fingers in pie because otherwise the statutory scheme is really unremarkable, which is why they keep trying to reform it every year, but they can't get any consensus on what to do When que give about, again, the S law, it's like three pages and now it's about 60 just because it's been SQ a reaches things that they never thought it would reach. Essentially they're supposed to

(05:51:47):

Slow down a building and take a step back and go, wait, what mitigation can we do for Qua because of this track of homes or that track of homes. But now it touches things like if you want to close down a school, you've enacted the CQ statute. We've closing down buildings, might be some type of single environmental review because now traffic patterns are going to be different. Well, but it's a huge overreach to the extent that when politicians want their pet project to go through, like say a football stadium because they can't get a bill. No secret, but everybody else has to deal. Yeah. Well the success of these stakeholder groups have been well demonstrated now it's just much better than fighting and litigating. It's coming together, fighting some common ground, compromising. I've just seen it really work in the time that I've been here putting together these stakeholder groups. Water Master is like a number one demonstration of that. It's almost like democracy on steroids. Everybody coming together ask for their advice and that's great that you're able to do that, but at the same time you needed a motion and a stipulation and you kind of had to lay out what happened today. I was really interested in, it's you Peter, who was telling me the difference between Judge Guns visit. Well let's get in the car, drive around versus where we are today. It's a different time. Yeah, definitely a different time.

(05:54:03):

Mark Wiler, by the way, we were fortunate to have him work with us. Mark was a consultant for a large consulting firm. Then he created his own goal. Wiler Room Environmental. That's where this came from. Yes. Wilder North Environmental was water master's engineer for decades until it was acquired by West 2020. Yeah, so now West Yo I, so Andy went from a W E I employee to a west coast. SEOs deployed, but because they kept their groundwater unit intact, they basically absorbed what was w i. We kept them as our engineer. They have the knowledge, they have the history of the base. Mark was the one that had the vision about the role the salters play, the two treatment plants, the wells, the lowering the water levels near the river, extracting the salt. He was incredibly a curious but an accomplished scientist, great groundwater modeler. And he had so much credibility with the regulators to help them see that that

was the way to manage the space. And of course having the brine line, the Santa Ana river interceptor was a blessing that had already been built and there was a place put the brine from the salters to export the salt.

(05:55:44):

Most of the things we showed you today didn't exist. And what judge got hopped in the car? Yeah, just some guy out there with a broom scrubbing. Scrubbing the rock and pouring water over it. Maybe this is eastvale. One of the things that in seeing all these sites, one of the things that really strikes me is the far reaching impact of groundwater management. How far have we driven And all the people, all the homes that would pass by all the businesses, 60% of their water comes from the space. Something. Yeah, you're essentially managing a multi-billion dollar resource and about all the stakeholders, do you feel that way? I do. I do. I take it very seriously and sometimes it's a little frustrating. Not everybody feels that way when they come in, when they come into the office, they have a parochial point of view. But eventually we challenges Soto basin

background audio 4 (05:57:25):

Monitoring

background audio 6 (05:57:43):

Here

background audio 2 (05:57:44):

Open.

Alonso Jurado (05:57:45):

I'll close it. Go ahead. I'm going to step out, take pictures.

background audio 6 (05:58:01):

These wells are really shallow. One goes down, one goes down about, like I said, nine of these facilities were constructed all along the edge of

background audio 2 (05:58:51):

Right on a river.

background audio 10 (05:58:54):

And so the river's flowing out there. All this is feeding off of the shallow groundwater.

(05:59:05):

However, these monitoring wells behind us are measuring depth to groundwater that is below the bottom of the river. So that means depth to groundwater in this location is deeper than the bottom of the river, meaning the river is percolating in and then becoming groundwater. And that groundwater is flowing towards our desal wells to be pumped. So this is a very important part of our water budget of the basin in this area of the Santa Ana river because it's providing groundwater to our basin. So it's part of our water budget, part of our safe yield. If we did not have the desal wells here, water level, the groundwater levels would rise up, become shallower than the bottom of the river and we'd have groundwater discharging to the Santa Ana river and flowing out. So we'd be losing groundwater yield.

background audio 2 (06:00:09):
Plus it'd be contaminated

background audio 10 (06:00:10):
And plus it would be contaminated. Bingo.

background audio 2 (06:00:14):
Bingo.

background audio 10 (06:00:14):
So you've got it. You've got that point there. But that's kind of the balancing act that we're playing here is we want recharge to the basin from the Santa Ana river, but we don't want to adversely impact the habitat. So that's what our whole monitoring program is about.

background audio 2 (06:00:33):
Construction It smell so good can actually see the from

background audio 10 (06:00:40):
Here. I don't think so. It's pretty thick. And this is a pretty wide

background audio 2 (06:00:48):
Floods.

background audio 17 (06:01:01):
I think maybe more like 14 or 2014.

background audio 2 (06:01:16):
Yep.

background audio 10 (06:01:16):
The regional board, initially it was part of our monitoring program

background audio 17 (06:01:20):
For the whole hydraulic control program, our maximum benefit monitoring program. They've allowed us to back off on testing the quality of the river. The U S D S does a lot of monitoring at prodo and then upstream here where it flows into our data. So we rely on a lot of data from the US ds. We do still do some

background audio 2 (06:01:41):
Sampling. And how often do you do that? It's usually a quarter.

background audio 17 (06:01:53):
Yeah. We have another

background audio 2 (06:01:55):

Annual report

background audio 10 (06:01:56):

Called the Maximum Benefit annual report and that's where you report on all of our groundwater and surface water down in this part of the basin. Anything related to the C D A hydraulic control is all part of the regional monitoring. The big deal. The

background audio 18 (06:02:36):

Isn't this amazing? This is beautiful. You would not imagine the San Basin looking like Expect it out

background audio 10 (06:02:44):

Every quarter. Now you're going to look out at Lake Ocho and go,

background audio 18 (06:02:50):

Would this be good spot for a group shot? We would love it. Absolutely. Would

Alonso Jurado (06:02:55):

You mind? Of course. Yes.

background audio 18 (06:02:57):

We'll,

Alonso Jurado (06:02:58):

Oh yeah. Yes, yes, of course. Alrighty. 1, 2, 3. I'll take a few and then we'll do one with my phone here.

background audio 18 (06:03:14):

We'll send you all the photos.

Alonso Jurado (06:03:17):

Alrighty. 1, 2, 3. Perfect.

background audio 18 (06:03:21):

Thanks a

Alonso Jurado (06:03:22):

Lot. Of course. My pleasure. Pleasure.

background audio 10 (06:03:32):

Yeah, it's an important place. Biologic.

background audio 18 (06:03:36):

And what kind of water flows in the river?

background audio 10 (06:03:40):

All recycled water.

background audio 18 (06:03:44):

Very little native,

background audio 10 (06:03:45):

Right? Mostly. Yeah, very little storm water. We will get storm flows, but during times like this where there's no storms, it's mostly water When you think about it, the Santa Ana River recharging the groundwater basin, it is a giant recycling project. And so the regional board obviously is just very concerned. That's why they regulate recycled water as they do because they know it comes back into the drinking water supplies. And if you want to see a little bigger scale, that recycled water came from some recycled water treatment plants, just like the one we saw. Those parts also have salt issues. Those basins also have salt issues.

background audio 18 (06:04:40):

Well it's not recycled. All dinosaur. That's right.

background audio 10 (06:04:43):

And it's all part of the Santa Ana River watershed. Santa Ana River begins at Seven Oaks Dam. Actually Andy and I have camped overnight at the headwaters of the river and goes all the way down to Newport Beach and the regional board cares about the entire thing and there is a coordination under sapa, the Santa Ana Watershed Project Authority with different task forces that bring all the stakeholders together to talk about their little piece so you can effectively see the big picture,

background audio 12 (06:05:18):

But it really feels like

background audio 10 (06:05:20):

At

background audio 12 (06:05:20):

Least your portion, it's really working.

background audio 10 (06:05:23):

Working because yeah, the judgment, the parties collaborating, the O B and T and the peace agreement, the piece to it. It's working because people, I'll put time in money

background audio 12 (06:05:38):

Byproduct the users material using that water. Amazing. Definitely. Well, I know

background audio 10 (06:05:52):

There's more to see if ever you're interested. There's lots of places to see in Pado Basin. Orange County Water District has a nice facility where they do a lot of their biology and they're interested in how this

wetland filters water natural biologically filters water. So the recycled water that's coming, how much cleaner does it get before it gets to can they protect, can they enhance that biological natural biologically. So we're going to hop back in the van and head back to the office. Chris, any thoughts, any,

background audio 18 (06:06:40):

You've covered a lot of information. You've done a really good job how it works. It's obviously important to all of us for the economy, obviously for our customers to have the supply available and subsides subsidence is an issue, and so ensuring that that water is there to keep those clays full as we spoke is important. Thanks for spending the time

background audio 12 (06:07:08):

Coming up. Oh, is time well spent? I'd rather be out here than in court. Definitely. Yeah. I would say non egg parties. Our business and industry. Chris can tell you about a water treatment plant and I have no idea what's going on, but our folks obviously rely on it. I'd say non ag traditionally wants to support the greater good of the family as we're sort of just generally speaking, big customers of the basic

background audio 18 (06:07:40):

Controversy.

background audio 12 (06:07:45):

I've never been here before, so this was interesting for me to see today as well. I had seen a couple of those spots that we doing not today. When you guys do the Proto Basin report that you do for the, is it all over the place? Are we in the spot that you look at?

background audio 10 (06:07:59):

Yeah, yeah, definitely. The monitoring. Well data we report

background audio 6 (06:08:03):

On and then as far as

background audio 10 (06:08:04):

Our monitoring of the habitat health and yeah, we go, we stretch all the way up and down the river up into there are photos. Orange County pays for the area photos. There's also vegetation transects. If you've never done vegetation transects, you haven't lived where you actually, you stand over here. I stand over here and we hold the string and we count how many leaves touch and then we just repeat and repeat to count. I'm not making this up. And then there's the freelance at data. Yeah. Process that. Lance at data that show greenness. You didn't bring a string

background audio 12 (06:08:37):

With you today?

background audio 10 (06:08:38):

No. Yeah, it's pretty intense. Actually that report is not filed with the court. We do provide some updates to the court with our annual report. Actually one of the tabs in a booklet has a page of that, but it is a great collaborative exercise. Okay. Let's

background audio 6 (06:09:06):

See. They recycled water

background audio 2 (06:09:07):

Here. Careful.

background audio 4 (06:09:27):

Great weather for you.

background audio 6 (06:09:53):

I'll have one. Yeah. Thank you. Yes, thank you. Judge. Are you okay on water? I'm good. Got any beer in that chest? It's Friday, right? That's right.

(06:10:17):

Judge Alonso has been very quiet today. Yes. Didn't have a chance to introduce him to you. Alonso is one of our staff. He's been with us five years. When's your anniversary? Alonso? On Monday. Next Monday. On Monday. Five years on Monday. And he does a lot of our field data collection. He's been doing that for the last five years and he's just been promoted. And we'll now be teaching a couple of new guys on how to do that work. Congratulations on your promotion. Thanks for driving us around and keeping us to our destination safe. Of course. I didn't jinx it before we get back to the office.

Alonso Jurado (06:10:54):

Oh no. Thank you Judge. It's been a pleasure. It's been nice to be around you today and be part of this tour. So thank you for joining us.

background audio 6 (06:11:05):

Like I said, I'm just glad to be here. It's good. It's a great tour. Very informative. Felt like I got the etic tour. Yes. You remember those? Yeah. They have those anymore. Yeah. It's probably something digital. I hear they're even versus restricting those season passes. You can only go certain days. You can buy a book of Etickets on eBay, but it will cost you like 20 times what the actual etic book back in 1969 cost. They are like collectors items. Yes. Yeah. The reason why I know because I bought one because when I was going to his land, it's like $5 and 65 cents for book tickets. As a kid, my guess is it was not crowded. I just remember it always being crowded. To be honest with you, when you're 10 years old, the 32nd wait is too long in line. I had probably the most fun I had at Disneyland was for work. Before I came to work for Water Master, I was working for the city of Glendale. I was very involved with the Association of California Water Agencies and we did a tour of the Waterworks of Disneyland. Disneyland is a circle and all the maintenance facilities that support the park are in a circle around the circle. So we walked all around the park and our tour guide, who was the maintenance manager there, had a great sense of humor. And so every often pop open a door would be at the head of a ride. We jump on the first train ahead of everybody else, take the Indiana Jones ride, pop back out and walk on

(06:13:07):

Now that's the tour I want to be. Yeah, right. That was a great tour. He also told me that the Disneyland employees have the park that themselves before it opens to public. So they do canoe races and all the water lagoons and Well, I've lived in this area for over 30 years and I can honestly say I've driven through two neighborhoods than I ever

background audio 4 (06:13:59):

Driven through before.

background audio 6 (06:14:04):

The Eastvale is fairly new. Yeah. I didn't even realize that Eastville actually bordered the river. I was kind of surprised. And Eastdale is a city incorporated. What was the most interesting sequel case you ever had, judge? Boy, I would have to say the most interesting QL case that I had was the gold miner case. Gold mine. What? The gold miner case. Oh yeah. So you might not think there's any gold mining going on in San Bernardino, but there is really? Did you know there was gold mining going on? I did not know that. Yeah. In fact, there's so much gold mining going on that there was litigation about it because I mean, there's one way to pan for gold and you stick your little pan in the river and you shake it around and the gold floats to the bottom. And that's not exactly environmentally insensitive, but that's also not going to make you rich. Right. The way to get rich, if you can get rich, actually it's the people that sell gold miners equipment that get rich, right? Yeah. Right. Has who got rich

background audio 4 (06:16:26):

To the

background audio 6 (06:16:26):

Gold rush, sell the dream more the mercantile guys than the guys actually doing, looking for the gold. But another way that they do it is they'll go in with a gasoline powered engine and they'll suck the river bottom of a sediment and put it through a slusher and then get it. It's a little mining operation. Well it is, but it's portable. And so a couple of environmental groups got wind of what was going on. And this is actually going on up and down the state. And so they, in conjunction with a couple of Indian tribes sued under qua.

(06:17:10):

And there's a very kind of vibrant community of Yosemite Sam types that want to line for gold however they fit. And the issues with the money for gold, especially if you're using a vacuum operations that you're churning up that river bottom. So you're churning up hatchery space for fish. Obviously they're laying their eggs. Sandy bottom, rocky bottom and then you're also churning up all of the chemical pollutants that have settled to the bottom of that river over the decades and decades of mining and just natural pollutants. Kind of similar to the Owens River situations. Somebody work on the Owen River Valley. You did? Yeah. Okay. So you know about how when they drain the Owens Lake and when the winds, so it's dry, the winds come through and they blow up all of that stuff from the bottom, which then goes close and the Owensburg Valley sued LA over that, which forced them to put water back in there just a couple inches just so it wouldn't do that.

(06:18:27):

It's the air pollution issue, the same thing. But this is all taking place underwater. So when you're sucking up all that river bottom, it doesn't come up and then sink right back down. It's now taken with the flow. It's moved right now taken with the flow river and it could be like miles downstream before it actually

settles. So it had a lot of downstream consequences and for whatever reason, all the 58 counties were involved in this litigation under c a and they decided to put it in the court that could deal with it the least, the most overcrowded, which was San Bernardino. And I mean there's some mining operations going on, but not nearly what might be going on. Like Shasta County or one of those counties in the far north. They might have a better shot at striking or rich. Anyway, it all ended up here in my court and every time we had a hearing, the courtroom would be packed, be all these gold minors.

(06:19:33):

They were in the audience that were very vocal and whenever I get ruled against 'em, I'd get lamb blasted. Social was kind of new at the time. And then whenever I ruled against the tribes or Sierra Club, they'd loved me for a month. But it was interesting because first I didn't think there was going, but there is, and people find gold up there, but there were so many different stakeholders that had been a part of that litigation and that was litigation that had been going on for over a decade. And so it had been going on for 15 years.

(06:20:28):

It's very contentious Department of Fish and Wildlife was in on it. And they start out at the beginning of the litigations Department of Fish and Game. And by the time the litigation ended as the Department of Fish and Wildlife, which is why they changed because I talked to him about that and I just thought that that was really interesting because of how you don't really think that some guy mining gold up mountains would trigger qua and what the delirious effects of a gold mining operation might be, even if it's just like a one duty operation in the environment. But ultimately they ended up settling that lawsuit and it ended up needing a change in the law so that everybody was helping with the outcome, but it was pretty complicated. So did it become a thing that could be permitted or was it the thing that was outlaw to do this vacuum? Well, the vacuuming was outlawed when making pan the panning ultimately. Yeah. I found it fascinating that the initial stages of coal mining or hydraulic mining, I dunno if that came up at all of the court proceedings, but the pressurized water and shoot it out of the water can and the hillside. Yeah, well that type of uber destructive wine was outlawed, so that was never an issue. That's like something they're doing in Brazil or just taking a whole SWAT of forest out. Wow, water pipe this big. Yeah, they could never do that. I mean back maybe in the 1870s or something, they did that, but not nowadays,

(06:22:49):

But facility case I had was that one that I mentioned about you close down a school and that triggered a sequel lawsuit losing population. That district's losing population. So they closed down a school and then all of a sudden there's a lawsuit says they can't close down a school, they don't have the money to run it. There's no students to go there. What do you mean you can't close down? What do you mean I can't close down school in their school district? The subject to personally anything can be subject of se. If you have an inventive attorney, which is a problem with sequel. Yes. Which is why it needs to be reformed and who knows, you're right. It'll be very difficult to reform if at all. So the governor wants to reform, but even he can't do it. So if you're the governor and you can't get it done, I dunno who could get it done, but even he realized that it needs to be reformed. If you could make one change to ceq L, what would your change be?

(06:24:05):

I think you have to be an actual stakeholder in the issue. Ceq is too easy for anybody to come in and challenge it also, fees provision. And that only drives litigation. You should never be able to get attorney's fees for litigation like that. It's free. It's free to litigate, right? Yeah. It's essentially free to litigate because all you have to do is get a settlement and then you're right back into court asking, which

could be $10,000, but because you litigate a for five years, you have a $3 million cost bill. So that unfortunately fees any statute that's connected to attorney's fees is always a bad idea. But only actual stakeholders should be able to be litigation first up. I mean, there's a lot of things that, and it should only be building projects over a certain amount of money or square footage and the person filing a lawsuit should have to show actual harm before they can forward Taylor. Because reason you can't be abstract. I think you're violating without really saying, and it's causing me harm way and without having a stakeholder, you're not a stakeholder just because you're the Sierra color, because we want the world to be beautiful. You have to live there, there somehow connected

(06:26:01):

To the

background audio 4 (06:26:02):

Project.

background audio 6 (06:26:04):

It's encroaching on your land. Not that, well, I'm a city over and it's going to impact my airspace more. You can't close down school because now traffic patterns are going to be significant and freezing. That's crazy. What's the alternative to shutting down? You're supposed to have alternatives, right? Right. And because of the cost involved, especially if you have to do an environmental report, it ends up being very prohibitively expensive litigation. I just don't run here. All these piles. It looks like a disposal site soon to be a new development. Just industrial.

background audio 4 (06:27:18):

Yeah,

background audio 6 (06:27:29):

The cutting here and filling here, you can see where the last housing development has stopped. It's about to go further. So you kind of contrast with where we are with qua today, but the flip side of that, for instance, when my mom and dad bought their house in 1949 in Norwalk where there were no rules and you just bulldozed over dairy land, every house had an incinerator. So there was no trash pickup. Everybody just burned their own trash every day. And just that obviously was a disaster. Right. That doesn't work. Yeah, that doesn't work either. So no rules don't work very well at all either. It seems like the secret has to be reasonable rules, common sense meetings and collaborative efforts. Yeah. Your clerk chose not to come with us today. Yeah, there are liability issues with that. Her to get into an accident, she got hurt, her director said no. Okay. Surprisingly, she doesn't work for the same N entity I work for. I worked for the state and she's a county employee. So 15 years, 20 years ago, everybody was a county employee, but they decided to split the judicial branch off into a state agency. And it's 20 years later, we're still kind of in that phase. Eventually they'll work for the state, but right now they're still counting loads.

(06:30:35):

Well, our office, Ruby in particular, reaches out to Eric Clark on a regular basis for coordination

background audio 4 (06:30:44):

And

background audio 6 (06:30:45):

Is very happy with relationship. Responsible, helpful, very great. Yeah, Jennifer is very helpful. She's like a lot of good people skills and we try to pride ourselves on customer service. The courts are here to service the community, not vice versa. And as an attorney, I've been in courts that have the opposite view, but everything I do is based upon my P T S D. From being a lawyer front of judges, you have role to issue what not to do being raised by bad parents. In fact, the reason why I decided to get on the bench was because in my 22nd year practice, I had a mandatory settlement conference in la and that's where you sit down. Well, it's where you sit down with the judge, you had a party, you try to settle the case before you have to go, just have to go to trial.

(06:31:53):

And the judge brought us back into chambers and it's like a handoff case from somebody in our office. So I'd never had dealt with this judge before and sat us down. He asked the plaintiff's attorney, he goes, what's your case about plaintiffs attorney told him what the case was about, nothing crazy, just kind of the usual stuff. And he turned to me and he goes, so what's his case about? Asked me the exact same question and I think he got three roads out of my mouth. And he goes, you're full of shit. And I said, I thought he was joking. And I said, excuse me. He goes, you're full of shit. And before that, when we walked into the chambers and reintroduced ourselves, he didn't want to shake my hand. He kind of just introduced herself. So I left my hand out there for, it must've been, it felt like five minutes, but I'm sure it was only 30 seconds. He finally took it begrudgingly.

(06:32:54):

So anyway, the M S C went downhill from there and it turned out that the opposing counsel was a friend of his, so he was trying to strong arm me so he'd get a better friend. And this was in front of my client. And so my client walked away with the impression that judge was kind of a jerk, but the overall impression was the system is against me. How can I possibly get a fair trial in our system of justice? Which is why a judge can never have a bad day on the bench because people don't interpret as judge is having a bad day. It's the system's against me, which we have a system that you have for it to work, people have to buy into it. If you're not going to buy into it, the system can't work. And so in any event, I went back to the office and I said to myself, I go on my worst day, I could be a better settlement judge than that guy.

(06:34:04):

I thought it'd be a judge. You've got to have me in lots of patience, lots of wisdom. You got to know everything. I don't think I could do that job. But I said, well, if that guy could do it, I could do it. I've come to find out, you don't have to know everything. You don't have to be all that wise. But in any event, so that evening I filled out an application to submit to the governor. And you were worked out with? Oh yeah, he definitely worked out. I thought that was really unfair what he did and it's not appropriate. And the only time I ever complained to a judge, we have a commission on judicial performance that governs our conduct.

Alonso Jurado (06:34:44):

It's the recorder underneath the seat. The battery's running low.

background audio 6 (06:34:47):

Okay,

Alonso Jurado (06:34:49):

I have to turn it off. It's on the,

background audio 6 (06:34:52):

It's not mine.

Alonso Jurado (06:34:53):

It's the big one. The big one. It's on top. Top if you're facing the top right. I'm sorry, top left little black lever.

background audio 6 (06:35:04):

There was a truck backing red

Alonso Jurado (06:35:06):

Lever. No, no. Top on the top. Yep. Okay, you're good.

background audio 6 (06:35:10):

That's our backup system.

Alonso Jurado (06:35:15):

It should be on top of the recorder, not in the face of the recorder. On top, on the left side. A little lever.

background audio 6 (06:35:20):

Okay,

Alonso Jurado (06:35:26):

Thank

background audio 6 (06:35:26):

You. Peter filed a complaint against the judge with the commissioner of judicial performance and laid out all of the judicial candidates that he had violated and they sent me a letter saying, thank you for your complaint, whatever. Never heard from him again. But 11 months later, within a two week time span, I got a call from the governor's office appointing me and I got a letter from the commission saying that a judge had been disciplined 11 months later. And so that experience, which I think was a really good experience to have prior to becoming a judge. You know what the effect of somebody who comes to the table that's biased and is not going to give you how that really has a cancerous effect on the system of justice. He can't really have that dog much more than the case itself. Oh absolutely. Yeah. As a judge, I always tell people, I go, I'm not here to carry your flick.

(06:36:36):

I'm not here to carry the other guy's. Like I'm really just here to give you that level playing field and let you play out your case. I had an instance where I'm not an attorney like you, so I didn't have the option to become a judgment. If I did, I probably would've done the same. I went to a small claims court one time. I felt an attorney in prior life, prior experience, not permanent here. So I went to small claims and the judge called me out and he had received a full briefing by the attorney's attorney. I read it in chambers. He came out and gave me his opinion, see if they can't do that next party communication,

the care, I don't even have an attorney. I need you to protect me and my rights and help me find my, you can't just on me

background audio 4 (06:37:32):

And not give me a chance to respect me.

background audio 6 (06:37:35):

And plus, you can't read anything that you didn't get an opportunity to see. Which is why every time I get something from the parties, everybody else has to be caught. Right? There's got to be a proof of service, otherwise that's a due process issue. And you can't go forward because the other side hasn't had an opportunity to be heard. But I got to tell you, in my 22 years, I've just seen judges do stuff that I'd never get away with it in a million years, but Well, you wouldn't put yourself. Yeah, I wouldn't do it. But I mean, just some crazy stuff.

(06:38:18):

What's the part you like most about being a judge? Yeah. Part I like most is I get to come to work every day and just try to do the right thing consistent with what the law is. So you obviously have a lot of discretion. A favorite part of my day is sitting down with the attorneys before we walk into the courtroom and start a trial every day because we're sitting down, we're talking about the case, we're drinking coffee, having a donut, just kind of talking about stuff and what we're going to do today, what they're going to do on the weekend, and get to relate to them in a different way than when you're on the bench. They can't approach you with 20 feet. So I like the fact that you have a lot of discretion to do the right thing. The key is you got to try to do the right thing. And sometimes that's really challenging on cases, but I think the civil justice system still works pretty well. The criminal justice system is in free fall state, free fall, California unfortunately. But the civil justice system I think is still working, will continue to work

(06:39:55):

And plus getting out the tickets helps too.

background audio 4 (06:39:57):

Kidding bonused.

background audio 6 (06:40:02):

Now I'm going to save that for when I do a murder. Just kidding. Can we turn these microphones off? Actually that's not really funny because I dunno if you've heard about that judge in Orange County, judge Bergson? Yes. That shot his wife. I actually worked with him in the DA's office.

background audio 4 (06:40:21):

Oh wow.

background audio 6 (06:40:22):

Yeah, and that was a terrible, terrible thing. Terrible back then. He was very friendly guy and not somebody that you would think would be capable of doing that. I don't know how you go from not having a speeding ticket your whole life to shooting your wife. Wow. Range. This has got to be more to that story. Well, wasn't he drinking or something? Yeah, he was a drinker. I mean back then we were all

kind of drinkers, but I don't care how drunk I would get. I don't know how you pointed a gun at your wife and pulled the trigger.

background audio 4 (06:41:28):

Yeah.

background audio 6 (06:41:29):

Alcohol affects different

background audio 4 (06:41:30):

People different ways

background audio 6 (06:41:32):

For sure. That's for sure. The Americans are getting run over in the right cut. Six and a half. Yeah. It's Europe against the United States Long Tournament. They do every

background audio 4 (06:43:09):

Two years.

background audio 6 (06:43:11):

One side winning record. The Europeans have had the Americans number recently. I think in the old days the Americans would always be, but nowadays the Europeans And where does it help? It's between America and somewhere in Europe. It's here, it's in Spain I believe. Maybe it's wrong. Are you a big golfer? I am a big Where do you play? I live in San Clemente and there's a little golf club there called It's 27 hole back, right against, you say 27 holes. It's 27 holes. Is it a couple courses? Well, there's three high hole courses, so we'll play. We have three different rotations then and just nice, nice, nice mix up.

background audio 4 (06:44:23):

Sure.

background audio 6 (06:44:26):

Tomorrow there's one of my friends has a big birthday party. We're having a big giant, we're do a Ryder Cup style. Be on your developers there that are better

background audio 4 (06:44:44):

Kind

background audio 6 (06:44:44):

Clubs. You have, what's that? Clubs you have Maos for My irons and Taylor Base. Clean veggies. Little you play golf. I don't know if I would call it play golf. I try my hand at golf every once in a while. I love going to, what's that golf they put in over here? Golf flight top flight. Yeah. I love that place. Yeah, I haven't been to one of those here really? But I just played it a course. Took a boys trip last month and went to Mammoth, near Mammoth in Mammoth. Oh yeah. And there's a really beautiful course there called, it's called Sierra something. Yeah, Sierra Star. Yeah, exactly. That's a nice course. So beautiful. Is

that the one with all the trees? Yeah, there's another course up there too that's more out in the wide open. I've never played either there, but seen them. But you feel like you're a power player when you go there because of the thin air. The balls go farther. They go straighter, man, I'm great. Then you come back down here and you're lousy again. That's good to know. Yeah. The mountains are beautiful now. Yes. Can see 'em. I can see you. Exactly. Crystal clear.

(06:46:32):

It's a little ease. Well, shall we go up to on the falls? So how far do you, what's your average drive when you get up on the tee? Well, I mean a good drive. I can ball 275 yards or something. I played my whole life, so I learned at a very young age, people that knew how to play golf, so they talked the right way. Never really lost it. I stopped playing for many years, but then got back into it about 1990. And how old are you now? I'm 59 now. Do you feel like you're I'm better now than I ever was. Really? Yeah. So you don't think that, obviously you're less flexible now than you were in your twenties. You don't think that was a I think I'm better up here. Okay. I mean, I used to overthink better within the green zone. Yeah. Yeah. I don't get as nervous anymore and it's really a mental game more than a physical game. You have to be sober to get nervous. Yeah,

background audio 4 (06:47:56):

That is true.

background audio 6 (06:48:03):

Also, playing at a club. We play for money a lot. Once you learn how to play that type of stress, you just get better. Mostly comes down to short.

background audio 4 (06:48:26):

Yeah.

background audio 6 (06:48:28):

It's nice to last at 275 yards, which I don't, but it's really how good you play with 60 yards of hole. What's that? How good you play with is 60 yards of the hole. Yeah. You have to play a lot to get good of that, but everybody loves to blast it. Right. Love to hit it long. You got to look good off the tee. Missing little teeny pods. It's just the same thing as a big giant drive. It's one of the few sports that you can get better at as you get older. Every other sport you get worse at. Well, that's good to know. We just had a judge's top golf outing about two months ago that was, go check out one of those places. It is fun because you don't feel that pressure when you're on the tee. Everybody's just out there having a time and you're not really watching the people next to you. It's just your little group and being monitored is always fun. Sparks how far the drive goes and whether how good or slicing it. Yeah. We have some pretty fun technology now where indoor type of golf. Oh yeah. You can do the indoor setup and they're actually pretty accurate. I have a Garmin setup at home

(06:50:30):

To do the backyard, but I'd like to have an indoor setup actually and love what they're supposed to be. The waters that you have on top golf or like 40,000 monitors, but for $500 you get a Garvin Orso. That'll be within one to three percentage points of accuracy. $40,000 machine. Wow. You not really, if you're swinging and you're just trying to work on your technique and you just want to get out there and you don't want to drive to the golf course, it's not going to matter whether if you hit 200 yards or 230 or 30 yards. They're pretty accurate. And it goes off of an algorithm that they've tested side by side with

somebody hitting a ball in real time on the golf course. Sounds pretty. Yeah. When I go out on my game now, just I work on my short. That's what, oh yeah.

background audio 4 (06:52:28):

Can't really do that indoors.

background audio 6 (06:52:35):

Route 66. That's kind of cool. If they didn't tear down that service station. Yeah, it was decrepit. I know. For a long time. For a long time. And they rebuilt it to replicate what it

background audio 4 (06:52:57):

Was.

background audio 6 (06:52:58):

That's very cool. Now it's all,

Alonso Jurado (06:53:50):

That's a gift shop in a museum.

background audio 6 (06:53:54):

Is it a gift shop inside?

Alonso Jurado (06:53:56):

That's what the sign said on this. I've never stopped by though. It'd be nice to go check it out.

background audio 6 (06:54:18):

Thanks for driving, Alonzo. My pleasure. Thank you very much. Appreciate it.

Alonso Jurado (06:54:23):

Thank you. Thank you. It's been a fun day. Historic day may I see. It's nice to be a part of it, so I need to offload something so I'll just

background audio 4 (06:54:48):

Come over here,

Alonso Jurado (06:54:51):

Get you guys closed.

background audio 6 (06:54:51):

Hopefully the next judge tour won't be 20 years from now. Yeah, please do take us up on the offer. Okay. I definitely will. One thing you want to see, happy to arrange.

background audio 11 (06:55:25):

I do need to collect the recorder.

Alonso Jurado (06:55:29):

I'll take that. Lemme help you out with that. This guy and this guy right here and All right. Thank you Alfonso. Appreciate it. It was a pleasure. Thank you,

background audio 11 (06:55:40):

Judge. Thank you guys. Thank you again. Pleasure meeting. Hope to see you again someday. Great. Sure.

background audio 19 (06:55:48):

You guys shared a bag of job and I just appreciate all the information. So much smarter now than when I got here this morning, so I just really appreciate it.

background audio 11 (06:56:02):

Anytime, anytime. Good. See you in court.

Alonso Jurado (06:56:04):

Yes, definitely. Have a great weekend.

background audio 11 (06:56:06):

Brian, thank you so much. Thanks for driving.

Alonso Jurado (06:56:11):

Yes, yes. Thank you. He was nice seeing you outside of the boardroom in Yes, the normal operations.

background audio 11 (06:56:20):

Okay. See you

Alonso Jurado (06:56:21):

Chris. Oh, let help put that in. Good to go. Hanging out. I'm going to go

background audio 11 (06:56:25):

In. I got my computer in there.

Alonso Jurado (06:56:27):

All the good stuff. Sounds good. Good job today, probably here, right? Yeah. Alright. I hope so. I can't

background audio 11 (06:56:34):

Promise from 35,000

Alonso Jurado (06:56:36):

Feet. Pleasure. Thank Good job today. Thank you. Thank you. We'll see you soon. I'll see you snow before that. Sounds good.

background audio 11 (06:56:43):

Yeah. You'll be here at pools, right? I'll be at pool. Okay.

Alonso Jurado (06:56:47):

I'll take care of it. Okay, worry. Good job Peter. Great job. Lemme go check in with the guys so they can help me out and rally up the troops. We didn't crash. Yay. Good stuff, huh? Hey Ger.

background audio 2 (06:57:32):

Ready?

Alonso Jurado (06:57:33):

We are back.

background audio 2 (06:57:34):

Okay, let's unload the van so we can return it.

Alonso Jurado (06:57:38):

Yes, I need to

background audio 2 (06:57:44):

Put the number.