background audio 1 (00:00:00):
Good morning. Hi, I'm Ochoa.

background audio 2 (00:00:02):
We know for the tour. Yes. Good morning. I'm Peter Kaunas. Hi manager. Yes,

Andy Malone (00:00:08):
Andy Malone. You're the tech guy? Engineer. Yeah, engineer. Okay. I mean geologist, but

background audio 2 (00:00:13):
They call it the water

Andy Malone (00:00:14):
Master engineer.

background audio 2 (00:00:16):
This is Brian Guy. Nice to meet you. Brian Guy. Brian Guy is the chairman of the overlying non agricultural pool committee.

background audio 1 (00:00:23):
Okay, so he's one of the pool representatives.

background audio 2 (00:00:24):
Yes, one of the pool representatives. This is Alonso Gudo.

background audio 1 (00:00:27):
Hi. Hi. Alonso

background audio 2 (00:00:29):
Is the staff and he is our designated driver for the day, making sure all arrangements work. And Alonso will actually mic you up. If we could ask you to sign in, he'll mic you up. So everything is recorded.

background audio 1 (00:00:43):
The city of Pomona. Nice. So we're cutting on. It's recording. Time to time. Just give this a little, make sure the light's looking for us. Okay. I'll put this so you're liking. You can adjust it from the back as well and just clip that on. And how do I turn off when I start cussing? That's a tough one. Yeah,

background audio 2 (00:01:21):
One. Lemme introduce you to Mr. Finra. Judge, this is Bob Finra. My pleasure. Bob Finra is the chairman of the overlying Agricultural Court today. He's also an observer for the tour today. Alright, and this is Kelly. Kelly works at the office. So this is us for today. We have three observers. You have Andy and myself. We're very comfortable going by first name. If it pleases you, that's fine. So in terms of the arrangements for the day, 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 to supplement questions. The judge asks supplement answers that Andy and I give to the judge. Other than that, your role is to observe 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.

(00:02:28):

We're going to hop in the van, we're going to follow an itinerary. 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 van in case somebody is, 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 have 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,

background audio 3 (00:03:39):

Pete, can we just grab this stuff now?

background audio 2 (00:03:40):

Yes, please. Please. By all means. Great.

background audio 3 (00:03:43):

I've got that on my phone.

background audio 2 (00:03:48):

So,

background audio 3 (00:03:49):

Oh, the other thing I had, 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.

background audio 2 (00:04:03):

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 the largest water.

background audio 3 (00:04:16):

And again, who's the ag rep and the non-ag and the appropriation.

background audio 2 (00:04:22):

So Mr. Fester, please introduce yourself in a little bit of you have gloried and storied history in the basis. So please,

background audio 4 (00:04:31):

Your Honor. I'll keep him really short time. I can go on.

background audio 3 (00:04:36):

Well, you have me all day.

background audio 4 (00:04:38):

Give you a little background. I think this is something anyway, and that is what made California the gold rush and agriculture water. So as Peter said, we are the largest water holder in the basin and that was accomplished by giving a lot of water to the cows. We had 400,000 cows out here. We also had a lot of farm ground. Notice the word also, it's been replaced by industrial buildings and homes. The state of California. We have two very, very large prisons at the main institution for men. We lease 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, LA Palma, the cows sort of moved to the east.

background audio 3 (00:05:55):

So the basin and 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, which is 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 because that really kind of built LA when they appropriated that water from the valley and it had very dire economic consequences for the Owens River Valley, which continue to today with 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, but water lessons.

background audio 2 (00:07:00):

And you were the general manager of

background audio 4 (00:07:06):

I was the milkman. So my advocacy, the claim was this big milking hand and working on a dairy farm for the family. But being in that organization and we formed the League 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 3 (00:07:42):

It's important to the i e both economically and just health wise with all the stakeholders and water quality, definitely.

background audio 4 (00:07:54):

Well that's come up once or twice.

background audio 3 (00:07:56):

We might have,

background audio 4 (00:07:58):

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, grade a 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 3 (00:08:41):

Why don't we have great water in Rancho, which is where I live because I read that water report every year. That comes from the could the water district. I don't know how many citizens read it, but it's important.

background audio 4 (00:08:54):

Not

background audio 2 (00:08:54):

Many.

background audio 3 (00:08:54):

Yeah, probably not.

background audio 2 (00:08:56):

When were you first involved with Water Master?

background audio 4 (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 will 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 mouth. Dutchman, what are we going to do about 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 attending the board meetings that we very much involved for a lot of year.

background audio 3 (00:10:09):

Well, as I said, one time in court whiskeys for drinking, the waters for fighting,

background audio 4 (00:10:15):

Right? Yes. Mark Twain. There's a bench down the road as you travel down Archibald and you'll see a monument by a bus seat. And that was one of our former chairman, a farmer from this area, Grove 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 2 (00:10:42):

And the land,

background audio 3 (00:10:44):

The Obiwan Kenobi,

background audio 2 (00:10:48):

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 to see today.

background audio 5 (00:11:03):

Brian,

background audio 2 (00:11:04):

Introduction for you.

background audio 5 (00:11:05):

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 original party to the Judgment in 1978. So we took over the water rights from them. So we use those white rights at the Speedway. I've been involved in Water Master now, I'm trying to think, 15 years or so. And we had another gentleman at the racetrack who sort of, this was his baby for a while and he unfortunately passed away and I jumped in to takeover and you might, I dunno if you remember Les Richter at all, that was before your time. And I've been to the Speedway since 1998, so I've been in the area a long time. Our neighbor is Cal Steel, who's another remnant of Kaiser Steel who has a water rights in the area and they're on a non agricultural pool. Ours is a smaller pool. And so a lot of us share a lot of different roles. So not only do I 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 of 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 left usually where I work.

background audio 3 (00:12:31):

And Brian, do you deal with any, the potential chemical blooms from being on that old Kaiser property that,

background audio 5 (00:12:41):

Well, thankfully, when they took care of the site, they 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 when it went bankrupt, and the D T Ss C. So we thankfully 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 if you want to.

background audio 6 (00:13:24):

I'm Chris Digs. I work for the City of Pomona. I'm the Director of water resources. I've held a number of positions actually in this area. I was also with Fontana Union. I was the director of operations there. I worked for the font water company for a dozen years. And then I was also in Redland for about 10 years. Been working around Water Master for about 20 years. I've been in the industry over 28. Actually started in the field, put pipe in the ground, fixing leaks, things of that nature. As Brian said, I also was vice-chair of advisory, vice chair of the appropriate pool and I'm currently the chair of the appropriate pool. So been around a while myself as long as Mr. Ra, but to me it seems like a long time.

background audio 3 (00:14:14):

And so LA County I assume has some water master for their basin. And why isn't Poona part of that? Or is it just because of the natural geology? Maybe it just kind of makes it,

background audio 6 (00:14:28):

It's not as, those lines aren't drawn by county lines or city lines, anything of that nature. It's drawn by the boundary of the basin itself.

background audio 3 (00:14:38):

So the geology,

background audio 6 (00:14:39):

Correct. And so 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 trim back, probably 10,000 acre feet, somewhere in that neighborhood. We overly 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 overly a pretty significant portion of the six basins, which is north, includes Pomona and then goes north into Claremont and liver,

background audio 2 (00:15:19):

Pomona straddles, geologic faults. And so they're partly in one basin, partly in another. Partly

background audio 6 (00:15:27):

It's all geology. No lines on a map.

Andy Malone (00:15:31):

Yeah, three groundwater basins actually. Yeah,

background audio 6 (00:15:33):

ITRA six basins. And

background audio 2 (00:15:39):

Andy.

Andy Malone (00:15:39):

Sure. Andy Malone. I'm a principal geologist at West Yost. Formerly it was a company called Wildermuth Environmental. You may have heard 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 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 Basin 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.

background audio 2 (00:16:57):

A little bit about me, I have a degree in civil engineering, very kind of 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 Lay 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 is 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.

background audio 3 (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 the rest of the time, 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, as 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 a DA and had 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 as 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 it over from scratch.

(00:20:42):

He didn't really have the benefit of all that research that he did on, but he started out as a research attorney for the courts. So I'm sure he was a pretty good researcher and it's probably on top of everything for all of the court hearings. But anyway, I ended get updating the assignment and I'm very happy to be here. I don't think I've ever asked for a jury view usually like, oh, these things kicking and screaming. But I'm really excited to be here today to learn a little bit more about what happens and what you do. I know 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 it's do, and I really appreciate all the work that you guys do that to accomplish it. A public member really hears about what happens here and that's a good thing. It means you guys are doing your job. If you guys would screw it up, you'd probably be in the paper a lot more. But I just appreciate all the hard work and effort that you put in. It's got to be pretty rewarding to manage such a valuable resource.

background audio 2 (00:21:56):

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 learn from scratch. So we 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 take. I wanted to just give you a brief orientation of the basin and our tour today. 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.

(00:23:05):

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 have to guess 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 County. 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

(00:24:32):

And generally water flows from the north to the south toward the river and Prada basin. Then 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 a paddle basin and flow out groundwater flows in the same general direction. It flows from the north to the south

(00:25:10):

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. 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.

(00:26:16):

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 a 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. 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

(00:27:59):

I have a ring at home? So I'm always my ring. So we'll talk a little bit about that because supplemental water in the basin is imported water, which is imported here,

(00:28:14):

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. 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 is here's the airport and here's 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 the 80 Oneda Preserve.

(00:29:21):

You ever been there? I have. I picked that trail. Many times it falls. So if we don't get a great view today, next time you hike it, you can look back and 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. The Harpa Hills over here that are sort of a one of the boundaries of the basin. From there you can see the La Sierra Hills in 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.

background audio 3 (00:30:18):

So at the top of the Sylvania recharge basin, there's imparted water coming in there. Correct? Or a big pipe.

background audio 2 (00:30:25):

Where does

background audio 3 (00:30:25):

That water come from? Is that from Silverwood or

background audio 2 (00:30:29):

Rialto? It would come from Rialto. Rialto, yeah. Okay. But that does come from Silverwood. Which comes from Silverwood. Yeah.

background audio 3 (00:30:34):

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 Vein so that it recharges and correlates back down. Yes.

background audio 2 (00:30:48):

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 at 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 DJOs water treatment Plant. That's the water facilities authority, water treatment plant. And so you'll have an orientation to what the treatment plants 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 because when you look at that, you will see what a typical well looks like. 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 import.

background audio 3 (00:32:09):

How long ago was that?

background audio 2 (00:32:10):

Fifties. Fifties. Before population went very insightful about the farmers. So we'll visit that there and then we will, 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 chromium, 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.

background audio 3 (00:33:05):

It was interesting that you said that was kind of forward thinking of them to start that, but commercial agriculture start like a hundred years before that. So it took a hundred years for 'em to start thinking, oh, maybe we should start preserving this. That seems a little white to me.

background audio 2 (00:33:22):

Well, okay. In terms

background audio 3 (00:33:25):

Of, I'm going to argue with you. I'm just kind bringing that point out that generally we're kind of behind the eight ball in looking forward on things like this.

background audio 2 (00:33:38):

The way I see it in my mind is that at that time they started seeing that their groundwater production wasn't sustainable. And so they started shifting their thinking to how are we going to have water resources

background audio 3 (00:33:52):

In? So they knew the water table was going down and was not replenishing, just going down, down, down.

background audio 2 (00:33:58):

And it took another 20 years from there to get to a stipulation. That became the court order for the basin.

(00:34:08):

We're going to continue going down and we're going to go down to 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 subsides. And then after lunch from there, we're going to transition and look at the treatment facilities both from the Chino Desal authority as well as the regional plant. Number five, which is a wastewater, the largest wastewater treatment plant that I u A has.

background audio 3 (00:34:47):

So where's the salt coming from that from agricultural use?

background audio 2 (00:34:52):

Salt is in everything. It's in every glass of water that we import from up north. It's ubiquitous in the environment. Salt management is the biggest challenge for a groundwater basin because salt continues to accumulate. 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. In this basin was to build two treatment plants, the C V A treatment plants and a picket fence of about 30 wells. 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 salts. SALT is in everything.

background audio 3 (00:35:49):

And how do they get that out? Is it just giant membranes or something?

background audio 2 (00:35:53):

Yes. We'll drive through the two treatment plants so you get an idea. There's membrane treatment to get that out. We'll talk a lot about salt today. We'll talk a lot about sludge today. That is the stuff that is sort of the byproduct of all that. And we don't really think about it firsthand, but it is a real concern for water management. And then we will 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 wells 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 of the base and just a brief introduction to the O B M P and the program elements?

Andy Malone (00:36:48):

Sure. So you heard me mention the 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 all, 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.

background audio 3 (00:37:51):

And are the desalt also dealing with other pollutants like sewage and, I dunno, chemicals or is that done separately? The

Andy Malone (00:38:00):

Desalt? Yeah, what they remove.

background audio 3 (00:38:04):

Well, other than the salt. Yeah. Are they removing other pollutants?

Andy Malone (00:38:08):

They would 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

background audio 2 (00:38:21):
Sewage is groundwater. They're pumping.

Andy Malone (00:38:23):
Yeah. Yeah. Okay.

background audio 2 (00:38:25):
So

background audio 3 (00:38:27):
This is groundwater, correct?

background audio 2 (00:38:28):
Yeah. Yeah, it is groundwater.

background audio 3 (00:38:30):
Well, what if there sewage polluted from groundwater because of septic

background audio 6 (00:38:34):
Systems, but not removing a sludge or sewage per se. It might be remnants, so to speak, from the contamination, but it's groundwater pumping.

background audio 2 (00:38:43):
Yeah,

background audio 3 (00:38:44):
But wouldn't that have perchlorate and other chemical polluting? Yes, it could.

background audio 2 (00:38:49):
Yes. So there are eight plumes of industrial pollution and Chino Basin, the largest one is emanating south of the airport and it's pretty much flowing with groundwater.

background audio 3 (00:39:02):
And what's that plume?

background audio 2 (00:39:04):
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 chlorate and other things in it.

background audio 3 (00:39:35):

So it wasn't caused by the airport?

background audio 2 (00:39:37):

No, no. It was not caused by the airport. Right. It just

background audio 3 (00:39:40):

Happened to be, I assumed it was caused by the airport.

background audio 2 (00:39:41):

No, it was just south of location-wise south of the airport. But the 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 in that one the same thing. So we have two C D a plants, one 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 CDA one again with enhancement of the treatment processes there.

background audio 3 (00:40:23):

And what's that from? Dumping fuel and

background audio 2 (00:40:26):

Oil. Dumping fuel, dumping oil and firefighting foam, which has a lot of bad things in it.

Andy Malone (00:40:34):

And like Mr. Fetra said, those are World War ii, Korean War types of practices that they have

background audio 3 (00:40:41):

Dump stuff in the ground,

background audio 4 (00:40:42):

The ster engines right. And stuff. For some reason, your honor runs downhill. 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 was a manure, it was a nitrates, it was what came from manmade material.

background audio 3 (00:41:08):

So just to touch on, in the old days, we just kind of dumped everything in the ground. Do you run any education programs out of here for schools?

background audio 2 (00:41:17):

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 the question septic, this area here has this portion of the basin is still on septic. The rest has been pretty much sewered.

background audio 3 (00:41:45):

That's mostly unincorporated areas.

background audio 2 (00:41:47):

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 sewered and the collection of wastewater and treatment of wastewater is handled by Inland Empire Utilities Agency, I E U A. They run the regional plants that 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 recharged to the basin, or it's released to the Santa Ana River and used by Orange County for their purposes.

background audio 3 (00:42:28):

So is that agency trying to get rid of the septics and try to replace it with sewer lines?

background audio 2 (00:42:37):

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. 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 a sewer to their home and they'd 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?

background audio 3 (00:43:10):

It's a lot of moving parts to what you guys do.

background audio 2 (00:43:13):

Yes, that's for sure. We just look at one small piece of it. You look at what Chris does and he looks at another piece of it and look at what IU A does. It's another piece of it. It's a remarkable assembly of interests and management pieces to actually get water to people

background audio 6 (00:43:34):

You that pipe, all that pipe that they would have to construct in their thumbnail number is a million dollars a mile pipe. So

background audio 2 (00:43:43):

It's

background audio 6 (00:43:45):

A lot of cost, a lot of

background audio 2 (00:43:46):

Infrastructure.

background audio 3 (00:43:48):

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 health and economic growth.

background audio 4 (00:44:01):

We have brilliant engineers. We're so blessed, I u A when that was formed and their treatment facilities are state of the art and run by really brilliant, brilliant people. Retired now of course are gone. But the treatment was just is amazing. You'll find that today as we travel,

background audio 6 (00:44:26):

It's

background audio 4 (00:44:26):

Not all agriculture. Some of it comes from us.

background audio 2 (00:44:32):

So anything else, Andy, for orientation?

Andy Malone (00:44:37):

Well, yeah, you asked a fundamental question about salt accumulation and I want to just give you a little primer on it that like Peter said, there's going to be salt in 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, we'll go past the root zone in a more highly concentrated form because the plants have used up that water and that'll return to the aquifer system. And 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, building, it keeps building.

(00:45:33):

And we've lowered groundwater levels in this basin so we don't have as much groundwater outflow to the Santa Ana river anymore. So we set up this kind of closed system and that's the reason why salts have accumulated in the basin. When we apply 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 the deal with salt and nutrient management when the de 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 and nutrient management strategies as we move through the tour today.

background audio 2 (00:46:34):

The des salters are something that of course had to be approved by the regulator, the regional 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 walls 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 groundwater flow and extracting salt is something that it's only happened in this regional board in this

space in California. Really? Yeah. So you'll see that today. And it's something that, I mean, 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.

(00:48:08):

One final note before we get on the van, 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 a brine line. That too doesn't, I don't know of any other place that has a brine line.

background audio 3 (00:48:32):

We make lithium batteries out of it.

background audio 2 (00:48:35):

So the brine line begins up here and collects and goes out to the ocean and super concentrated salty water. So in our case, it allows us to desalt the basin 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 high 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.

background audio 3 (00:49:12):

So where's that concentrated brine going? That's what prevents people from putting desalinization plants all along coast because they don't know what to do with

background audio 2 (00:49:21):

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 ago,

Andy Malone (00:49:37):

But they're starting to make clean drinking water out of it now too. So they're treating it at their desal facilities down there.

background audio 4 (00:49:47):

The technologies, even for agriculture, your Honor, it's just amazing. I've watched three generations and good things are happening. 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.

background audio 2 (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

background audio 3 (00:50:21):

Point. I just need to release some nitrates,

background audio 2 (00:50:27):

A euphemism. Are you going that way as well? Can I ask you use, well, you have down the hole to your right.

background audio 1 (00:50:36):

There's two.

background audio 2 (00:50:38):

What's that? There's two now. There's two. And I just, let's see. Listen, I

background audio 1 (00:50:49):

Want to make sure that everybody knows

background audio 2 (00:50:52):

What should take over the if they don't want them. And I'll remember about the

Andy Malone (00:50:57):

Photos. Don't fiddle with

background audio 1 (00:50:58):

Your

background audio 2 (00:50:59):

No, I'm just taking to make sure everybody's is red and flashing right.

background audio 1 (00:51:03):

These and I'll be back. Okay,

background audio 2 (00:51:04):

Thank.

Andy Malone (00:51:07):

You're the only one that messed up during the practice round. I know

background audio 2 (00:51:13):

My is not here today. It's not going to interfere. You're flashing.

background audio 1 (00:51:21):

It's true. It's Los Angeles. Awful to hear

background audio 2 (00:51:36):

The alarm that went off. Yeah, my wife's birthday's coming up.

background audio 1 (00:51:39):
God, our

background audio 2 (00:51:40):
Nature and I have an alarm every Monday, Wednesday, and Friday to remind me of all the planning, the

background audio 1 (00:51:49):
Gift

background audio 2 (00:51:49):
Purchase and everything else I need

background audio 1 (00:51:51):
To do. Great weather. No snow.

background audio 2 (00:51:54):
Danny's turning 60,

background audio 1 (00:51:55):
So that's why we 70 here. Interesting. In Bakersfield or of course that's where they,

background audio 7 (00:52:42):
Andy, I'm going to give you a 15 second education in agriculture creation. God, our nature, a cow has three stomachs.

Andy Malone (00:52:57):
I did not know

background audio 7 (00:52:58):
That. She is a composter from the mouth to the tail.

Andy Malone (00:53:03):
Okay.

background audio 7 (00:53:04):
So the interesting thing is, is that why? But a cow have three stomachs and the horse only has one. I'm done. You're done. Okay. Or did you refill it? You want more? Well, probably not. Okay. I'd be drunk on coffee. But the interesting thing is that I was just telling Kelly Belaw, Artesia, dairy Valley, Cerritos, LA Palma, all their water is great. And it was concentrated with cows in the badger back to the cow. Of course ship runs down here. That helps. And those that just went to the ocean, right? Yeah. But she's got three stomachs, so she's compost before it comes out the other end. Oh, that's interesting. I want to learn more about that. That's interesting. Yeah.

Andy Malone (00:54:01):

What does each stomach

background audio 7 (00:54:01):

Function as? It's all, okay, let's go. It's producing beef, it's producing milk, but it goes in the stomach and it just goes through a system of making food naturally. It's beyond our thinking. Some time in years next look interesting. We'll

background audio 8 (00:54:47):

Question we. Okay, very good. Thank you. Why is that okay if they're honor county supervisor. Alright, so do we have everyone? We have room. We have drinks there for

background audio 7 (00:55:24):

Anybody that needs some,

background audio 8 (00:55:49):

Did

background audio 7 (00:55:49):

You say that you did some work during the Salton Sea or we're familiar with that?

Andy Malone (00:55:54):

We are right now developing a salt and nutrient management plan for the Coachella Valley, which is a really interesting situation. The regional board there is very concerned about the recharge of Colorado River Water, which has a higher salt concentration than the state water project. The T D SS concentrations in the state water project are

background audio 8 (00:56:18):

Two three per liter, which is

Andy Malone (00:56:36):

MCL for the state

background audio 8 (00:56:37):

Of

background audio 9 (00:56:37):

California.

Andy Malone (00:56:38):

And so regional boards 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're highly dependent on groundwater out there. So it's an interesting problem. But yeah, so that's what we're doing out

background audio 9 (00:56:58):

There. Yeah, that's the only way they can farm is because they have that underwater, a storage facility, natural storage facility that has been holding water for eons and didn't really start to probably dipping until we got there. So she doesn't ever gone to salty. Obviously it's a lot smaller than all the time. Yeah, we stop on time. Time just to

background audio 8 (01:00:22):

Nightmare.

background audio 9 (01:00:28):

That area is changing quite a bit. Also because of the Sustainable Groundwater Management Act, they're going to back off their pumping. And consequently the farming was happening

background audio 8 (01:00:41):

A lot of

background audio 9 (01:04:39):

In the early two thousands, really big storms process

background audio 8 (01:09:04):

Today.

background audio 9 (01:09:05):

Standards water in there during the fire season. Because many times when we've had fires, they have helicopters come down and some water out of there, helicopter fire, fire copers, and they'll fly. Stand out on the balcony, you'll get wet because we're still drip. They're pulling that water out.

background audio 10 (01:11:13):

So let's step outside here.

background audio 8 (01:11:34):

We

background audio 10 (01:11:34):

Were hoping for a little more clear day.

background audio 11 (01:11:40):

Andy can give us a broad brush geology orientation, although you are familiar with the area, it's still good to talk through it.

Andy Malone (01:11:51):

Sure, yeah. We can't see much here, but you can see the chino playing out here. But from a tectonic perspective, the little geology lesson here is that this crust block here is moving to the north and is being thrust underneath the mountains here. And this is the cuon default zone that we're generally sitting on. But so this crestal block being depressed and thrust underneath this mountain range, which is being thrust upward. And so weathering and erosion up here sheds the sediments during floods out here to be deposited on this subsiding basin here. And so the sediments build up, the water percolates in, and this becomes a groundwater reservoir. We

background audio 10 (01:12:42):

Had a great growing region through the soil. Sandy soil.

Andy Malone (01:12:47):

Yeah, very sandy soil. We got very coarse grain sediments, especially up here in the northern part of the basin. We basically have the Rialto Colton fault, which is a splay of the San Andreas fault, which borders the San Bernardino mountains over there. These basins over here, we refer to them as the San Bernardino groundwater basins. And so the Rialto Colton fault is a strike slip fault, just like the San Andreas. And it provides a groundwater barrier between the San Bernardino basins and the Chino Basin.

background audio 10 (01:13:25):

So that's what the fault lines do. They provide that barrier and that's why it's mapped out that way.

Andy Malone (01:13:31):

Right? The fault movement grinds up the sediments over time and creates a fault gouge that then inhibits the flow of groundwater because it's fine grained along that fault boundary. It can also, groundwater flows through sand and gravel beds. And so when you offset sand and gravel beds, that can also interrupt the flow of groundwater. So the fault really can become a very good barrier to groundwater flow. And so water levels over here in the Rialto Colton Basin are much higher than in the Chino Basin. There's a little bit of leakage across the fault, and we try to estimate that in our groundwater flow models as to how much that is. But it's a little bit of an unknown. But we know that that is a process that does happen.

background audio 10 (01:14:25):

So this is a giant basin. Is this like one of the largest in the state?

Andy Malone (01:14:31):

Not in the state. We get in the Central Valley. I mean that is a gigantic groundwater basin. But for this area here, the Chino Basin is very large. Yeah. There's something called the Bunker Hill Basin, which runs along the foothills of the San Bernardino Mountains over here. Another very large groundwater basin. Orange County is a very large groundwater basin as well. Chino's nice. It's very central. And we've got all these imported water pipelines coming through. So it could really function as a hub for regional water projects.

background audio 10 (01:15:08):

So where does the water, so the water for the Cuca Manga Valley Water District comes from imported water, the afar, groundwater. And where else are they getting water?

Andy Malone (01:15:20):

So surface water that comes out of the mountains. There's also a groundwater basin right here called the Cucamonga Basin. So this fault here that runs out in front of us, we're actually up here in the Cucamonga Basin looking out here. But this Cucamonga basin they pump out of. And then again, a good barrier to groundwater flow here, this Red Hill fault. And so water can spill underground, can spill over this fault and recharge the Chino Basin. But again, it's an impediment to groundwater flow. But they pump out of this basin, they pump out of the Chino Basin, they've got some surface water, and then they got their imported

background audio 11 (01:16:03):

Water and they get recycled water

background audio 10 (01:16:06):

As well. And how much of that do they rely on water from their site as opposed to imported?

background audio 11 (01:16:14):

About half and half.

background audio 10 (01:16:16):

Half and half?

background audio 11 (01:16:17):

Yeah. The entire region relies on the Chino Basin itself for about 60% of it.

background audio 10 (01:16:23):

So most of the water that we get is water that's been recharged to dock

background audio 11 (01:16:28):

Fire, whether it's local, native, or whether it's recycled and recharged or imported. That has trickled back in groundwater is about 60% and it's a lot cheaper than imported and it's a lot more reliable

background audio 10 (01:16:46):

Than imported. That's quite a bit.

background audio 11 (01:16:50):

It is. And hence the significance of the basin. The significance of the management of the basin

Andy Malone (01:17:00):

On these maps. See the green, this crystalline bedrock, so granites and metamorphic rocks and the gray areas. And then the pink areas are the sediments that have been shed off these mountain fronts that provide the groundwater reservoir. These are sedimentary bedrock formations that are much younger than these older crystal bedrocks, sandstones, silt stones, clays, shales, all of these rocks that you see that we're calling bedrock, they form the bottom of our aquifer here. And these younger sediments that have been deposited on top, that's our groundwater reservoir. Not to say that bedrock doesn't have

groundwater, but it's usually in fractures and it's not as productive of try to drill a well into bedrock, but you can get 3000 gallons per minute out of the unconsolidated sediments that are saturated here. So Ontario has some of the biggest wells right in the center. So does Cucamonga Valley Water District and

background audio 11 (01:18:11):

Fontana

Andy Malone (01:18:13):

Further to the East Fontana over here. Pomona, Monte Vista Water District, Chino.

background audio 11 (01:18:21):

So we were hoping to look south and show you Harpa Hills. Santa Ana River. Santa Ana River. It was visible when we did a trial run. It's there, but it's there. But it does sound like you do come up here. Next time you're up here, if you take a look, it'll hopefully make a little more sense. So let's pile into the van again. We're going to go to Lloyd Michael. So you have this Rialto feeder

Andy Malone (01:18:49):

That's running right in front

background audio 11 (01:18:50):

Of us and is running. That's the underground pipe. That's the

Andy Malone (01:18:52):

Underground from Silver Pipe. How big?

background audio 11 (01:18:56):

Oh man. How big is Rialto?

Andy Malone (01:18:57):

Several

background audio 11 (01:18:58):

Feet. 72. Yeah. 72 inch at least. Yeah.

Andy Malone (01:19:02):

Yeah. It's giant.

background audio 11 (01:19:05):

A lot of water. A lot of water. Yeah. When

Andy Malone (01:19:06):

That goes down, they have to make plans on what they're going to do. And it goes down for maintenance sometimes. And there could be emergencies, so earthquake or something like that. So the

groundwater basin then becomes a very important resource as an alternative water supply if ever were cut off from the imported water supplies.

background audio 12 (01:19:34):
Ready?

background audio 11 (01:19:34):
Ready? Okay,

background audio 13 (01:19:52):
I got

background audio 11 (01:19:52):
It.

Andy Malone (01:19:52):
Thank you, sir.

background audio 13 (01:19:59):
You're back there. Sorry,

background audio 11 (01:20:03):
I missed it.

background audio 12 (01:20:06):
You're

background audio 9 (01:20:06):
Right. It's a big van. Yeah, it's, isn't it? So we are at the highest point. We're going to be able day today. Right here. Down here. All down here. From here. That's right. So this is a good hike from here. It's a pretty good hike. A lot of hiking. But by the time I get to the top, I'm pretty tired. 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.

background audio 8 (01:22:08):
So those

background audio 9 (01:22:09):
That are in those fractures and the, we are alive

background audio 8 (01:22:47):
Off

background audio 9 (01:22:49):

And crude concrete iron channels. Mason is named after a wine grower. And

background audio 8 (01:24:43):

Over

background audio 9 (01:24:46):

Here have you rectangle vines. Very,

(01:25:27):

Mr. Fester mentioned ano. You're going to see some of the grapes owned by Galliano Winery. That is just a big part of the presence of the region, the agriculture, right? It's the vineyards and so on. It's kind of unfortunate that the area has kind of lost a lot of the history, but I guess that's progress is 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. And what are these, these retention ponds 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.

(01:26:32):

It's clean water coming from a mountain and the feeder pipet and the feeder pipet, 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, the 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 you finds them maybe by gravity, by gravity, and then the 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 at 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 meet, right? Is the finished water tank or the water that has been treated chlorine has been added. It's waiting for service to customers in elevation. That is 16 million gallons. 60 million gallons. Looks 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 please. 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 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 plant. So you have the carbon filtration and then ultimately you have the UV light. Yes, I have the same system in my house down. Okay. A little smaller scale. I little smaller. Okay. 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 this? Not necessarily, except there are certain flows that they would be required to meet

for firefighting demands. Typically the health department will want to see a certain volume of water and storage in these tanks that we see here. And those volumes are based on an hourly or a daily amount. So we wouldn't be talking about the week storage or something of that nature. It could be eight hours or something of that nature.

(01:30:06):

For a size of a utility of Cucamonga, you might be looking at say 75 to a hundred million gallons of storage throughout the entire system. 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, the 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. And you have the customer's meters where the water is being sold. So it's 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.

(01:31:05):

It's called S scada, which we love acronyms in our business, supervisory control and data acquisition SCADA and its entire plant is instrumented. It all shows up on a computer screen at the operator's desk there. And so he knows where every drop of water is through the entire plant. So let's Eli, why has some iron tank and new, okay, yeah, this is the backflow tank. So the filters flow through gravity in one direction, but once in a while they need to be backflow. So there's some finished water here that is used to push up and freshen up those activated carbon filter beds and then unclogged 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 landfills? Landfills. Some of the agriculture goes everywhere, but there's sludge is constantly produced. We'll talk about sludge again at the

(01:32:41):

W F A treatment plant because it is actually an operational concern here. They've got their sludge management,

background audio 8 (01:32:48):

So that doesn't

background audio 9 (01:32:49):

Restrict the operation of,

background audio 8 (01:32:56):

I wouldn't be the happy

background audio 9 (01:32:59):

To you and

background audio 8 (01:33:26):

Property that's available

background audio 9 (01:33:28):

For,

background audio 8 (01:33:30):

Needed

background audio 9 (01:33:30):

For expansion of treatment plants, but also available that can be used for, you'll see solar facilities installed other places

background audio 8 (01:33:38):

As well.

background audio 9 (01:33:43):

So this plant meets about half of cook among of demand in total just

background audio 8 (01:33:49):

This one plant after according to the full party agreement of education

background audio 9 (01:36:38):

Below 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 channel minus,

background audio 8 (01:37:01):

This

background audio 9 (01:37:02):

Is, I believe that sense may creek concrete. So the water's not given an opportunity to not much recharge anything. Not much. Now you'll notice on the left purple pipe, which is the insignia for recycled water. And you may ask yourself, why in the heck is there purple pipe out here? So one of the projects, the 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, and it's going to be filed with your court in the next week.

(01:38:12):

In that recharge master plan update, the parties in 2013 identified certain projects that would enhance recharge to Chino Basin, and you are in the area of one of them. And so recycled water is brought here to the sense vein basins, which are right behind the berm right here. And from here it's pumped. The basins run from uphill to downhill in a dog-like 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, department, there's a lot of ability to fund projects with grants. Once the party said we want to do it, then they apply for a grant, they get a grant that 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 San one. And so this water ends up in one of those retention pumps. In five. In five. In five, yeah. And percolate. Well, because just the soils right,

background audio 8 (01:39:41):

Dropbox.

background audio 9 (01:39:52):

So here's five

(01:39:58):

And water's 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 firming and internal spillways to control the flow of water. But the way it's 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. But if it does a hundred liter flood like water, some frequency, yes, some very high frequency. And you can see of course, setting up management water, even storm water brings 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 percolating. This basin does percolate also just not as well as the other ones coming up here on

background audio 8 (01:41:16):

Water in there.

background audio 9 (01:42:55):

Off to the right is

background audio 8 (01:42:57):

Four

background audio 9 (01:42:58):

That gate, what you have is to the right, you have 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 that we filed 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 from the annual report behind it is the actual filing of the court, where it came from and the document that was filed. So you have a quick and easy reference on that. You can see the history of types of water recharged in the basin going back to the cement seventies since the beginning of the judgment.

background audio 8 (01:45:04):

And

background audio 9 (01:45:04):

You can see that you had storm water and dry weather flow is the low blue, the light blue on the

background audio 8 (01:45:11):

Bottom, and then

background audio 9 (01:45:12):

Imported water is the green. And you can see that starting from the mid eighties on recharge in the basin was getting lower and

background audio 8 (01:45:23):

Lower.

background audio 9 (01:45:26):

That coincides with the agricultural pumping diminishing. It coincides with lining concrete, channel lining

background audio 8 (01:45:42):

And

background audio 9 (01:45:43):

Relatively little management of recharge in the basin. What happens in 1998 is the court reassigned water master to the nine number board directed water master to create that all 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, recycle water because of the C e A being conceived. So recycle water didn't even start out until 2005? Yes, yes. And it looks like it became gradually larger and larger. And that coincides with the construction of C P A. It coincides with maximum benefit, which was

Andy Malone (01:46:49):

Approval of the regional board to use recycled water. And it's a very consistent source of water compared to imported water or storm water. 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, what we're showing there on that chart. So it's artificial recharge of storm water.

background audio 9 (01:50:10):

Do you have any mid-flight issues at home? We do. We do. Mostly it's mosquitoes when you're getting mid summer, late summer

background audio 8 (01:50:22):

Until the water goes down

background audio 9 (01:51:08):

For coyotes, deer, mount lion, just to have a source of water, a lot of wildlife

background audio 8 (01:51:19):

All the time

background audio 9 (01:52:12):

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, those nesting spots,

background audio 8 (01:53:23):

Waste station.

background audio 9 (01:53:26):

So there's

background audio 8 (01:53:27):

Obviously human needs,

background audio 9 (01:53:28):

But there's also wildlife needs.

(01:53:32):

And do 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 could. 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, it's 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. It's open space and not having a neighbor behind you. So I much prefer it than to be in the middle of the housing track,

(01:54:30):

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 backyard comes out and we always call it Lake Ochoa. You stand off our balcony and look at it. Pretend that you have a water feature. Yeah. So this right here is one of the last remnants. The vineyards, vineyards, vineyards. And across the way there's another large portion. Yes, you're looking at a hundred year olds in infantile grapes that are dry farmed. I have a couple bottles of those at Home Vines. Yeah, Philippe 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 in Chino?

(01:55:43):

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 a right. And they built a turnout just about where their truck is. 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. We put water in and watched what would happen. Would it work? Would it travel all the way down and evaporate? Would it damaged 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 because they out was water that they had in excess.

(01:56:47):

So that'll keep the rates down for their customers. And more importantly, we have a project that could work in the future where we could actually plan, 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 grapes are not irrigated. So how does this grape plant get its water? So if you look at say this line 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 various 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. Like today, for today, what will happen is the condensation will condensate on the leaves and then drop off onto the ground. And that if the vine is self irrigating, interesting way, led it to grow. Very interesting. And that's why you had grapes here because you didn't, back when it was the biggest wine and growing region in the world, they didn't have irrigation for anybody. They all grew like this unless you were next to a source where you could ride 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 the irrigation for the grapes, I've been told that these have 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 is just another way of recharge. We're actually very happy that Fontana Water was willing to go along with the pilot and very happy that it worked for them. Yeah, I'm just happy they haven't built a gas station here. Yeah,

(01:59:12):

The land eventually could get developed. Yeah, I'm sure it will. So you might get some neighbors, but as the few remaining parcels, they become more and more valuable just from a historical perspective. Yeah, 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 after World War ii. My the largest grape in the world. No grapevine. So hopefully they won't develop it. Our agricultural pool meetings

background audio 8 (02:00:29):

Can be

background audio 9 (02:01:39):

Moved here. Forton Beach

background audio 8 (02:13:20):

For

background audio 9 (02:13:20):

You. M

background audio 8 (02:13:21):
W D

background audio 9 (02:13:22):
Will take 150 acre feet and we're going to back off of how 50 acre feet that feet is now in

background audio 8 (02:14:09):
Was

background audio 9 (02:14:09):
The Realto Theater put in forties? The 1940s? Yeah. Does anybody have an exact date of the real theater? I didn't. Yeah, I don't.

background audio 8 (02:16:46):
Frustrating. So valve pressure, they were ting these towers throughout thet,

background audio 9 (02:17:34):
Which surprised I would actually

background audio 8 (02:17:37):
Controlled the water pressure.

background audio 9 (02:17:39):
Pressure

background audio 8 (02:17:41):
Pre basing

background audio 9 (02:17:42):
To do the one thing the Romans

background audio 8 (02:17:45):
Didn't figure out

background audio 9 (02:17:47):
Was how to actually measure

background audio 8 (02:17:49):
Flow.

background audio 9 (02:17:50):
You could figure out that the area of a circle is pi r

background audio 8 (02:17:56):
Square. They

background audio 9 (02:17:58):
Couldn't figure out

background audio 8 (02:17:58):
This.

background audio 9 (02:18:01):
I'll tell you about that in a second. So let's look at a water treatment plan. So we're going to do a

background audio 8 (02:18:07):
Here, here

background audio 9 (02:18:12):
On the left,

(02:18:13):
There's water underneath this floating cup. 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. And the reason for the cover is because water exposed to the sun starts bioactivity and so you have algae grow. 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 that is more difficult to access and maintain. The only problem you ever have with these is occasional rip and tear. What about balls? About balls? Yes. Very innovative. LA water and power did it. In some places that works really well as long as they don't, they themselves don't biodegrade 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 could be, remember that's all the soil is 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 off.

(02:19:46):
And so the rate at which sludge dries matters 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. Sludge. Sludge meaning process, sludge, fall water. This is the weakness in the plant. And so what does that mean? Well, it still meets all the demands, but if we ever wanted to do in lieu

(02:20:15):
Water puts and the mecal, we can't process more water. We better, I speak generally that the J P A can't process more water through this plant because of the bottleneck in the sludge processing. They can't just make another sludge pond. They can't, apparently their luck landlocked. What they can do is have some mechanical measures where they can, in many places we'll have some mechanical tilling of the sludge that airs it out. Here. They hire a local farmer that comes in with his truck and drives through and scoops in and dumps it and scoops in and dumps it. He's going to spread it and then eventually dries and then his hold off, but not fast enough. So that's a weakness in the plan, which affects basin

management. Actually, it's interesting how it ties into basin management. So we're going to head up to the top

background audio 8 (02:21:10):
Where we have the,

background audio 9 (02:21:40):
It's a trailer.

background audio 8 (02:21:42):
Sure.

background audio 9 (02:21:43):
Yeah. So head horse is here to the left. Water comes in from the feeder, which is right behind the borough. They take water in. They don't take canyon water like Lloyd Michael, they just have water coming in from. So just the feeder pipe. Just the feeder pipe. So that's the plant water comes in.

background audio 8 (02:22:07):
You

background audio 9 (02:22:07):
Have your chemical storage on the

background audio 8 (02:22:08):
Left.

background audio 9 (02:22:12):
The other plant that pipe here,

background audio 8 (02:22:14):
You havelock

background audio 9 (02:22:16):
Being added. So gets so population that happens and that can sedimentation basis

background audio 8 (02:22:24):
Where it can

background audio 9 (02:22:24):
Settle out. So water flows very slowly through downfalls to slow down and the heavy material drops,

background audio 8 (02:22:31):
Water

background audio 9 (02:22:31):

Flows south into the next structure.

background audio 8 (02:22:38):

And that's the filters. If you want,

background audio 9 (02:22:44):

We can run up to the filter. Sneak a paint. Okay. Give us a chance to

background audio 8 (02:23:19):

Morning

background audio 14 (02:23:20):

How

background audio 9 (02:23:42):

I've never been here.

background audio 14 (02:24:00):

These chemicals over here, those chemicals, you can have the fluctuation happen, it flows slowly and what's left comes into filters. Like these water's going to come in through the base, come through here, it'll go through the holes in the wall, water to this wall elevation, water, water over there. Then from here would go into where it was going to get ated and the rest

background audio 7 (02:26:01):

Of career understanding all this shit.

Andy Malone (02:26:04):

I know, I know. It's amazing. It's a lot, isn't it? It's a whole lot.

background audio 14 (02:26:12):

I believe

background audio 7 (02:26:12):

What needs to happen is, at least for my girl, a tour just like that. For them to understand the gravity of what we're doing.

Andy Malone (02:26:28):

I know, I know. It's huge. Yep. Yeah, this would be a good tour for everyone. Oh right. No,

background audio 7 (02:26:38):

But take my attorney. Attorney Tracy. Yeah.

Andy Malone (02:26:42):

Oh, she would love it.

background audio 7 (02:26:43):

Yeah, because I've been reading I prepared for today and she's doing more shit than I comprehend. Yeah,

background audio 16 (02:27:02):

That's

background audio 15 (02:27:03):

The reversing of the flow. They'll have air scour, air will come up, push in there, fluff up that gravel flowing over to these launders pumping. We'll go out each one of the theses out there. One thing. Yes, because you'll get a foam kind of build up in there. So that will help.

background audio 16 (02:27:36):

What goes in the cross is the Okay. Oh, look at it come up. But normally it's, it's going downward and this is all going out to the sludge bed.

background audio 15 (02:28:04):

We might get another

background audio 16 (02:28:05):

Pass actually.

background audio 15 (02:28:57):

Oh yeah. The drain that brings that water into that is generators, turbines. After this agreement, it's getting

background audio 16 (02:32:10):

Cleaner, isn't it?

background audio 15 (02:32:12):

It's getting cleaner. The, there's requirements of how far the water has to basin the river. So that's why you see these, I elevating the media across

background audio 14 (02:32:55):

Completed and start.

background audio 16 (02:32:58):

Now we'll do a filter to waste. For the first part, that media still has some junk in there that isn't really attached, so to speak. So that will run through the filter, that water will be wasted, return back later into the head of a plant over there. But it'll go through that process, that filtered waste. Like I said, we'll have

that wiping period, get the media, get some flock in there, make it a little sticky. And then at that point, filter waste will stop. We'll start going in the

background audio 14 (02:33:20):

System, coming back again. Back. Sometimes you have operators with a little small high hose. No, no, just water

background audio 7 (02:34:04):

On the new dairy. We're using this type of technology in water. Oh good. In the Lago. So we're producing

background audio 8 (02:34:16):

Gas. It's just amazing

Andy Malone (02:34:21):

Technology improvements. Red lights are on, gentlemen. Still blinking. Good red light on Bob.

background audio 8 (02:34:47):

Yes.

background audio 9 (02:35:11):

Thank you.

background audio 8 (02:35:17):

So now water

background audio 9 (02:35:22):

From the realto feeder

background audio 8 (02:35:26):

Can through this plant. And it

background audio 9 (02:35:28):

Can also go, like we said, it can go untreated for recharge,

background audio 8 (02:35:33):

But

background audio 9 (02:35:34):

The treated water gets recharged and our next stop is going to be an A S R. Well,

background audio 8 (02:35:42):

Aquifer

background audio 9 (02:35:43):

Storage and recovery

background audio 8 (02:35:45):

Because it's a well that can afford and take water out. So management up here, this pipeline. So

Andy Malone (02:36:41):

The agencies here in the Chino Basin in Management zone one. Now these management zones were delineated as part of

background audio 8 (02:36:50):

The O B M P.

Andy Malone (02:36:52):

And what there were meant

background audio 8 (02:36:54):

To be

Andy Malone (02:36:54):

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

background audio 8 (02:38:49):

Over this last year period.

Andy Malone (02:38:51):

And that was 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. We can subsidence monitoring facilities, some of the recharge

background audio 8 (02:39:11):

Facilities,

Andy Malone (02:39:47):

Clay layers over there. And so like I said,

background audio 9 (02:40:25):

We have a scope of work of monitoring work analysis work, and that's all compiled in an annual report and file one court if you have time to read everything you produced. What was the next location?

background audio 8 (02:43:33):

It can take water off that feeder

background audio 9 (02:43:36):

And inject it, but it has to be treated water. It can't be raw imported water that is injected. Anything is that nobody thinks about where their water comes from. This is it pretty stressed concrete.

background audio 8 (02:45:01):

So highly

background audio 9 (02:45:03):

Litigated. Either Monte Vista's choice of color.

background audio 8 (02:45:50):

So now we're past the imported water

background audio 9 (02:45:52):

Talk and we're getting more

background audio 8 (02:45:53):

Into groundwater,

background audio 9 (02:45:54):

Basically

background audio 8 (02:45:56):

Beginning

background audio 9 (02:45:58):

Supplemental water, be it imported or recycled that we can't really separate that completely from groundwater management. So

background audio 14 (02:46:08):

Now this is, so when you hear

background audio 11 (02:46:50):

This is

background audio 14 (02:46:51):

A typical walk motor on top. And so the angle space gets filled inside the pipe.

background audio 11 (02:47:42):

You have a string, it's called a well string. It's made of usually stainless steel that goes down and has a pump. That pump pressurizes the water and drives it up the string or drives it out. That pump, that's how well basically works. That pump is operated by the motor that sits on top of it. Once in a while

there's submersible motors. If you had more neighbors, you didn't want the noise, you might have a submersible pump and motor. Typical, you'll find a motor on top and the pump.

background audio 10 (02:48:19):

And how far does this Well go down?

background audio 11 (02:48:21):

This one goes down over a thousand feet. A thousand feet.

background audio 10 (02:48:24):

Really? Yeah.

background audio 11 (02:48:26):

And

background audio 10 (02:48:27):

So that's the water table. A thousand feet. Yeah.

background audio 11 (02:48:29):

Water table is less than that, but you have to have your well goes all the way through the layers of the, and the pump sink below the water tank. So

background audio 10 (02:48:40):

At the bottom of that, well where you have that pipe, is there a lake here or is it just a slush

background audio 11 (02:48:48):

Soil? It's soil. The water bearing soil. Okay. Water bearing soil. So you're

background audio 10 (02:48:52):

Sucking it out of that water bearing cloud? Yes. It's why you need, I guess that power station

background audio 11 (02:48:57):

Need? Yes, a glass of ice water that's half full. Those straw all the way into the bottom. That's what it's, so it has to flow through the pore spaces of the soil to get to inside our pipe and come up. So every water district has, well, like bees, our farmers have walls like bees. Our non-ag parties have wells just like this one, some bigger, some smaller. And every dairy and every farm has a will like that. Has a will like that. Right. So the aquifer

background audio 10 (02:49:32):

Isn't like a giant lake?

background audio 11 (02:49:34):

No, it is not.

background audio 10 (02:49:36):

But there are aquifers like that

background audio 11 (02:49:39):

In some very special geologic formations. Mostly limestone, limestone

Andy Malone (02:49:43):

Caverns that would have dissolved caverns that it might be like a lake. But here it's all sand and gravel and clay layers that have been laid down over the centuries and eons. And it's mostly the flow through the sands and gravels, the interconnected pore spaces that when a well turns on, that's where it's drawing its water from. The clays are too impermeable. They have a lot of water in them. And what they'll do is it'll start draining into the sands and gravels and then their water will then go flow towards the wells. As they're draining that water is supporting those clays and it'll compress as the clays begin to slowly drain. And that's why we have land subsidence. But these all

background audio 10 (02:50:36):

Is always moving slowly,

Andy Malone (02:50:38):

Slowly moving kind of

background audio 10 (02:50:40):

Like river, but just

Andy Malone (02:50:41):

Slower. It's just slow. And it has to go through the porous spaces. So this flow through porous media, it occurs by mathematical equations. Fortunately for us, and that's the basis of groundwater flow modeling, is those mathematical equations on how wells can pump and water can flow through this porous media. And that's how we can predict how groundwater levels will change under different pumping regimes or different recharge strategies.

background audio 11 (02:51:12):

So how do

background audio 10 (02:51:13):

You solve the chemical bloom then? I was just kind of moving on its own. And you're trying to prevent it from contaminating other areas. Just pump it out.

Andy Malone (02:51:21):

That pump and treat. Yeah.

background audio 11 (02:51:23):

That's

Andy Malone (02:51:23):

Your way of doing it. Yeah.

background audio 11 (02:51:25):

Jason point this. Well, there is contamination nitrates under this. Well, so I'd like to describe for you both functions of the well as well as a production. Well here pumps water out, it goes through the pipe, through the manifold and it goes out through the pipe with a red valve down the pipe in the ground and up the street into a treatment plant where all of Monte vista's wells pumped their water to be treated to remove contaminants that are in

background audio 10 (02:51:58):

The ground. One plant.

background audio 11 (02:51:59):

One plant. Instead of having one plant on each site, they centralized it and pumped it. So all wells pumped into one pipe. So that's the function of pumping water out of this. Well now Monte Vista build four wells like this one that are actually reversible flow and they have an ingenious little pump valve inside the plant that we were just at. I will, the Legos has the Benson feeder that comes down. Benson water from that feeder comes through that blue pipe. As it comes out of the ground, it goes past red valve is shut right now. It's shut. That water comes up the manifold and comes in and goes down into the aquifer and goes back out into those sands and graves. So that's not the deposit? Yes.

(02:52:55):

That is an A s R. Well and operation, you put your hand on the pipe, you'll feel water flowing in. There is water right now, dry year yield programmed water that is being recharged into the ground because this year it was wet and has water to put into the basin. What's that? This pump's not pushing anything down. It's running like a garden hose down in basically a garden hose down in and it just fill, it's not like pressurizing, it just fills it up to the top and lets gravity kind of push it in. Yeah. Well, doesn't work the same. Taking water out as putting water in, it can put water in about half the rate or we can take it out. The physics of it don't work quite the same way. One of those things. But this is a great example of what a typical wall looks like and what a typical a s r world looks like. Yeah. So this is the SAV regions. It's reading here. It should have, it's measuring here. It's actually measuring pressure. So it's measuring the pressure that the water is in the pipe. If there's a flow meter

(02:54:28):

Be Yeah, that's the flow meter right there. And that's just the pressure of the pressure coming in. Pressure on the pipe. The valve is keeping back pressure up. So the foam meter, is it there to say it's 975 gallons per minute going back? Correct. Technically that's a backwards flow, so that's why it reads negative. That's why it's negative. Very good. Thank. Is it under pressure or is it just pressure down to the valve that's controlled, regulating the flow. Okay. So that's why you've got, is that just under 60 pounds over there? 55 ish. So that's just normal system pressure that we're getting up. Okay. And then it goes down to a valve. It goes down to a valve and that's opens and closes, which is creating the back pressure up here. Otherwise this would just be atmosphere I guess you could say, because it would just cascade down. Okay.

(02:55:24):

You don't want it cascading down. And from what I've understood, cascading water down below creates problems with the aquifer. Air intrusion. Yeah. Entrainment. So that's very added issues with the cascading. So that's why they go with the flow control, just to let it dissipate. So yes, air leak, high points and pipe. Where do you collect your water quality samples from? Just off the backside of the pressure gauge is the, okay. And then your water level measurements, are you water level? We've got two ways. One, there's a pressure transmitter down below and then we can also is that down this pipe? We also have an air line. So two ways of collecting. So collect the pressure here and then down inside that tube there is a pressure transmitter to give us water level. Okay. How did you learn your trade? 30 years? Absolutely

(02:57:09):

Serve, the nature fund will serve a family, two families of four families of four for year, for a year. So then this will serve, there's 200 people, 3,200 families, families. So you can bank through this one. Well, you could bank enough water in the basin for 32. The storage of the basin is one of the most remarkable resources to the region. Imported water can be at 80 or a hundred percent one year. It can be 5%. The next, this under our feet is where you can put the extra water when we have it. What we're putting in now is above and beyond will be available for on Vista customers in future years of driving shortage.

(02:58:01):

Tremendous resource. And the storage and storage management in Chino Basin, which is part of the recharge the O B M P are to me the most value added for all the stakeholders is how do we make it so that we put water in the right places away from contamination in places where water can be put in easily and we can take it out so everybody can use it and not cause any other effects. Helpless subsidence not cause any damage with water quality Storage management is again the greatest benefit we can offer to the parties. So this is

background audio 10 (02:58:44):

Why it should be encouraged.

background audio 11 (02:58:45):

Yes.

background audio 10 (02:58:46):

If you're going to sustain the resource that is encouraged, that savings, just like if you would for your retirement plan.

background audio 11 (02:58:56):

And that's what Andy was talking about earlier. When you have these legislation going through for water use efficiency, everybody could serve everybody use less. That's great. That lowers demand. And at the same time it lowers natural recharge into the basin. So we need to find ways like these, like this well here and others basis so we can have it

Andy Malone (02:59:21):

Call that artificial recharge.

background audio 11 (02:59:23):

Artificial re

Andy Malone (02:59:27):

I wanted to make one other point about monitoring because these wells are really only eyes into the subsurface. And so this is where a lot of our monitoring data comes from. Obviously we're measuring what's going in and out in terms of the water, but we're also have the capability of collecting samples of that water that's coming back out and how you collect

background audio 11 (02:59:52):

The

background audio 10 (02:59:52):

Sample,

Andy Malone (02:59:54):

The little valves right

background audio 10 (02:59:55):

There.

Andy Malone (02:59:57):

And so you come with bottles and you fill up the bottles, they get sent to a clinical laboratory and they analyze the water quality,

background audio 10 (03:00:06):

Just collect the samples that are going out. And I go in what's going in?

Andy Malone (03:00:11):

Yeah. But I'm sure there's sampling going on at Alejo on what the quality of out water is too. But yeah, on what's coming out, we collect those samples. That's a tremendous big effort that's done by not only the water agencies but by water master. It has its own sampling and analysis program. So we measure water quality and then there's locations over here at the wellhead where we have sensors or we come here periodically and measure the depth to groundwater in the well. And we track that over time to see how the water levels the supply in the aquifer is changing over time. So it's really at these wells where all of our basic data comes from to manage, to help us manage the groundwater basin.

background audio 11 (03:01:03):

Andy, you may want to draw a distinction also between production wells and

Andy Malone (03:01:08):

Monitoring wells monitoring. So this obviously is a production, well that has a pump that can extract water. But we also construct in strategic locations, just a simple well without anything in it. And we can collect samples and measure water levels in more of a static environment that is just sampling that portion of the aquifer where we want to

background audio 10 (03:01:35):

That if you're doing that here,

Andy Malone (03:01:37):

Well here we have the pumping interference. So this is where you have the Kona depression and the water table because the well is constantly pumping water out and water is migrating towards there. But if we want to get away from the pumping well and understand what's going on in between pumping wells, then we put in monitoring wells and smaller,

background audio 11 (03:02:02):

Simpler, cheaper installations. But still give us good data

background audio 10 (03:02:07):

Like a quarter of the size of this

Andy Malone (03:02:09):

Small, we'll visit a couple coming up here. This

background audio 11 (03:02:14):

Is a, well, this is about a million dollars to install, not install a monitoring. Well might be

Andy Malone (03:02:24):

Depending on how deep it is,

background audio 11 (03:02:25):

Depending how there's 50. Yeah. So you can have a bunch of data points in between where you have production

background audio 10 (03:02:33):

Watering. Well, doesn't need to go down a thousand feet. Yeah, because you're just going to hit the table. Right.

background audio 11 (03:02:38):

You're just measuring that.

background audio 10 (03:02:40):

So Jen, what is the water table here in this area?

Andy Malone (03:02:43):

So here we're probably three, maybe even four to 500 feet deep. When 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 to become surface water and exit the basin.

background audio 10 (03:03:01):

And what was the table 30 years ago, 40 years ago,

Andy Malone (03:03:04):

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. 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, where we want it to rise and where we want it to lower. The groundwater management is largely a control of water levels across the basin. We want higher water levels where subsidence is occurring, where we can have lower water levels in the southern end of the basin. We don't want water levels to get really high because then that water's flowing out of the basin into the Santa Ana river. And so we're purposefully controlling lower water levels there in the southern end of the basin. So yeah, a big part of the O B M P is controlling the groundwater levels.

background audio 11 (03:04:11):

Water

background audio 7 (03:04:11):

Still runs downhill. So this seven and eight feet on Pine Avenue is still about seven, eight feet. And they're the water table closer to the dam. Then you have a storm and then you have a lot of water.

background audio 11 (03:04:30):

Yeah.

Andy Malone (03:04:32):

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

background audio 11 (03:04:41):

Levels. Did

background audio 7 (03:04:42):

You mention what you're telling me about subsidence? We have area where we have subsident.

Andy Malone (03:04:49):

Yeah, we're going to talk about that

background audio 11 (03:04:51):

At lunch. We'll park and we'll talk a lot about that. So any questions about this installation? No. Okay. So our next stop is the consummation district basins. There's a restroom there for break. We'll be there about five minutes.

background audio 17 (03:05:14):

Thanks you guys. Hey, my name's Andy Malone with West Yost. You guys may be

Andy Malone (03:05:21):
Communicating with some of my staff.

background audio 11 (03:05:23):
Yes. I've seen West Yost done on emails for probably quite a while. We in the district 30 years.

Andy Malone (03:05:30):
Okay. Yeah. We used to be Wildermuth Environmental. Yeah, we got acquired by West Yo three years ago, but

background audio 11 (03:05:38):
I'm trying to remember the guy who does all the water level is Andy.

Andy Malone (03:05:44):
Well, I'm Andy, but wait, where was your Andy Malone? No,

background audio 11 (03:05:49):
There's

background audio 17 (03:05:50):
Somebody else that I've been sending

background audio 11 (03:05:51):
To water level data to for

Andy Malone (03:05:54):
Yeah, now it's probably like

background audio 17 (03:05:55):
NDA and Andrea Clay.

background audio 11 (03:06:00):
We got

Andy Malone (03:06:00):
New staff.

background audio 17 (03:06:05):
Well, one more. Nice to meet you

background audio 9 (03:06:07):

Guys. Have a great day. Thank you. Appreciate it.

Andy Malone (03:06:23):

That was nice of them

background audio 9 (03:06:24):

To stop by and yeah, they're super, super high. 30 years of experience. These guys are,

(03:06:36):

You want to make sure nobody was turning knobs? Yeah, they're a little skittish about that. No, 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 were just super cordial, hospitable, most wonderful people. I do have one request of the group. If we use the restaurant facility at the conservation district, if the judge needs to use the restaurant facility, let the judge go in by himself and then anybody else can go in after. Well that could be dangerous. Do not go in there. I promise. San Antonio Creek

background audio 8 (03:08:06):

And

background audio 9 (03:08:06):

They can take storm out there and using my birthday. Where's that going? That's storm drain water and storm drain waters up. Well, some of it does. That's a big issue is it is all construction at once and so a lot of it does exit.

background audio 8 (03:09:31):

And so we

background audio 9 (03:09:35):

Try to capture as much as possible.

background audio 8 (03:09:37):

And project changed,

background audio 9 (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

background audio 8 (03:11:30):

To

background audio 9 (03:11:31):

Water. It's also across other things like California, the Department of Fish and Gain now. So where headquarters are to the right, there's three public

background audio 8 (03:12:02):

Garden building garden.

background audio 9 (03:12:07):

There's a park in front of us. So we'll step out of a van here and the restroom is straight through the double doors if anybody needs to use it. And we'll wait a few moments there. We'll make sure everybody has had a chance to, and then we'll walk over to the recharge base.

Andy Malone (03:12:56):

You seen this little map here?

background audio 14 (03:12:58):

Very good.

Andy Malone (03:12:58):

Thank you. It's pretty cool. You got nice. I made the map. Way to go the map, but now we

background audio 14 (03:13:12):

Don't have to change the map. We want a little

Andy Malone (03:13:16):

Smaller. Smaller.

background audio 18 (03:13:19):

Just stick.

Andy Malone (03:13:23):

Who operates your wells? Do you have staff that? Yeah. Okay. Our grounds per

background audio 14 (03:13:28):

Basically.

Andy Malone (03:13:29):

Okay.

background audio 14 (03:13:37):

Do they have, do do? No, they don't have it here.

Andy Malone (03:14:07):

That is, I think this is supposed to be the Corona airport. Well, oh, maybe that's just the dam. It's just the, yeah. Airport. Chino. Yeah, Chino and Ontario. What's that one? We drove past cable. Yeah, cable. An up one. Yep.

background audio 14 (03:14:37):
Okay.

Andy Malone (03:14:40):
Where no name brewery is over there. Yeah. And a nice little cafe at the airport

background audio 14 (03:14:44):
Too.

Andy Malone (03:14:58):
Got some nice big boulders here too. Pretty cool looking. They've done a good job.

background audio 14 (03:15:29):
Hey.

Andy Malone (03:15:30):
Yeah.

background audio 18 (03:15:31):
Can I ask you, I'm going to use the restroom real quick. Can I ask you to maybe

Andy Malone (03:15:35):
Show judge the display here? Oh, I got a Mountain Valley Prado Dam and Prodo Basin here in the Santa Ana River. Oh, this is cool. Yeah, the La Sierra and the Harpa Hills. This is the Speedway. And here we were up here at San Vein basins. So they have a focus on the recharge basins. The airport

background audio 10 (03:16:04):
Here.

Andy Malone (03:16:05):
Yeah, the cable in Ontario Airport over here. This is where we are. Yeah. And these right here are the Montclair basins that we're going to see. And then it looks like they brought the freeways on here too.

background audio 10 (03:16:27):
Well, I appreciate the frequent nitrate stops my 65 year old prostate. Definitely. Thanks you.

Andy Malone (03:16:34):
Are you getting up in the middle of the night too? Oh

background audio 10 (03:16:36):
God, five times a night every night.

Andy Malone (03:16:39):

It's hard to get good sleep. It's terrible.

background audio 10 (03:16:43):

Yeah, I was up probably like 12 and 2 33

background audio 14 (03:16:49):

O'clock.

background audio 10 (03:16:52):

You have something to look forward to young guys. It's not kids waking you up for animals, waking you up, waking yourself up. Oh, I got those too. There's always middle of the night, there's coyotes that'll come up to the fence there. And the dogs will you start quiet. We've got three big dogs. It just drive 'em crazy. Yeah, I'm sure. Or any wild. But usually it's coyotes.

Andy Malone (03:17:21):

Do you ever hear the coyotes get a rabbit and start howling and everything? Crazy.

background audio 10 (03:17:26):

Yeah, they go crazy just screaming and yelling. Yeah. And there's tons of rabbits. We have 'em in our backyard every night and letting the dogs out to do their last potty break. And yeah, at night there's always chasing rabbit out of the yard in the morning you let 'em out, they're chasing a rabbit out of the yard and there have lots of things to eat in our yard, the rabbits. And I'm surprised at how many there are, but when you have a big rain, there's just lots of food for everybody. Yeah.

Andy Malone (03:17:59):

You guys noticed the spiders?

background audio 10 (03:18:02):

Oh yeah, we have. There's this huge spider. In fact, I have a picture of one on my phone. It's called the, I think one of the western brown. But they're gigantic and they build webs. Webs, yeah. That I'm always walking into. And they're really easy to see at night because they come in at night and they'll be there early morning and they actually are venomous. So I'm always looking around at Clear Mountain. Right?

Andy Malone (03:18:39):

Yeah. Well apparently this year with all the rains and all the insects, the spiders are just doing really well. And so yeah, I've noticed a lot more of them. Ton

background audio 11 (03:18:50):

Of them this year. Mosquitoes are doing very well last

Andy Malone (03:18:53):

Year. Mosquitoes are doing well. Yeah, there's a spider. That's been my slider to go in my backyard, has been building a big web there every morning and I open it up to go out. I'm like day again. Knock them out of the way and it goes back. And the very next day they're busy eating. They're

background audio 11 (03:19:19):
Ground western spider.

Andy Malone (03:19:24):
When it starts getting cold here though, they'll go away. Oh yeah.

background audio 11 (03:19:32):
We've had a lot of mosquitoes this year. Yeah. Here's one I took that was

Andy Malone (03:19:39):
In front of my house on a porch. Yeah, that's them. Oh yeah. They're giant. And that thing's like

background audio 14 (03:19:45):
This big is literally

background audio 11 (03:19:48):
Gigantic.

Andy Malone (03:19:49):
I was just amazed.

background audio 14 (03:19:50):
I mean, I

Andy Malone (03:19:51):
Come from the farm

background audio 11 (03:19:52):
And I've seen

Andy Malone (03:19:52):
Spiders, but not this big.

background audio 11 (03:20:03):
So while we're waiting for Brian for orientation purposes again, we're here at the conservation district, we're going to look at this basin. It's right on the San Antonio Creek channel. It could take water directly from stormwater. Obviously it can take water from the Rialto feeder as well as from treated water, I suppose if it had to. But you can see these lined up along the creek. You can see the college heights up, other recharge basins. One thing that is interesting to me is that this is from here on up is the puffier fatter part of the aquifer. And that's where most of the recharge makes sense. When you get down here, you get shallower water levels, you get closer to Prado, you get the opportunities for recharge are in as quick. So we'll see. We'll just walk up there and take a quick peek and when we transition, we'll be going to just about where you're standing,

Andy Malone (03:21:09):

Which is, we're going to go over here first

background audio 11 (03:21:10):

Though, right? Oh yeah, we're going to drive. Thank you. Andy. GE Flatiron treatment facilities right about here. Ely Basins are right here. And then we're going to go on south

Andy Malone (03:21:20):

From here, back over

background audio 11 (03:21:21):

Here. Look at a site of subsidence for Chino, our monitoring equipment there. And that's where lunch is about, I'm guessing about half an hour now. Are we doing okay? Yes. Thank you for the stops. Sure. Alright, we'll walk up the fence here. Along with plants, how to manage, how they manage.

background audio 14 (03:22:10):

Hello.

background audio 11 (03:22:40):

Another group of very people oriented, people that work here, very hospitable. We just had a little, I Uua water master and safe over the barbecue here in the summer Exhibit garden. It's great. And I think next weekend they have a pumpkin. Oh, there we go. Saturday, October 7th, Waterwise garden and pumpkin typically have,

background audio 14 (03:23:28):

So

background audio 11 (03:23:30):

This is, I believe the southern coast of the basin. Am I correct? The basins have an overflow from one to the other.

Andy Malone (03:23:46):

Yeah, there's a spillway going from, this is number four. So this is the most down gradient, but there's three, two, and one above and they all spill in series. Got

background audio 11 (03:23:57):

Water in it too. I know, right? Yeah.

Andy Malone (03:24:01):

And there's a well right there. Monte Vista. Well, and that's some new treatment that they've installed there.

background audio 10 (03:24:11):

Andy, you did get

background audio 11 (03:24:12):

Wildlife in here to drink,

Andy Malone (03:24:15):

I would suspect. Yeah.

background audio 10 (03:24:17):

Notice that this retention pond has just kind of left a lot more natural features to it as opposed to the sense vein, which is strictly dirt. Why is that?

background audio 14 (03:24:32):

No,

Andy Malone (03:24:34):

They do get in here and clean 'em out, but maybe up on the sides they're still allowing some vegetation to grow.

background audio 14 (03:24:41):

But

Andy Malone (03:24:46):

These basins percolate really well, very fast percolation rates, they do decline over the course of the season because the water coming in has some fine grain material that'll settle out. And so you'll see over the course of the season, the percolation rates will go down. And so that's the importance of getting in and cleaning it out at least once a year. They try to do

background audio 10 (03:25:09):

That

Andy Malone (03:25:12):

This year, interestingly, with the hurricane, but it interrupted some of the ability to get in there and clean it out in the middle of the summer. That's when they like to do it because the stormwater is not there

background audio 10 (03:25:25):

Once a year.

Andy Malone (03:25:26):

Once a year is about there.

background audio 10 (03:25:30):

Nothing notice there's, there's no foul. There's no waterfall here because the San Basin is a natural migratory

Andy Malone (03:25:39):

Route.

background audio 10 (03:25:40):

That's why it's so important for herds to have someplace to stop and to eat too. Eating something out of there. So I see them and I just thought it was fish. Maybe they fed it to do the mosquito beef. They do have mosquito fish that they use throughout the cabin, but maybe it's just fogs or whatever. I think these do run dry. Yeah, San to me definitely does. Right?

Andy Malone (03:26:10):

Yeah. They have to dry out in order to maintain them.

background audio 10 (03:26:17):

Okay. They all do have a little pass. I think this one. An old grab fit. Yeah. I got mine. I got,

Andy Malone (03:26:33):

Most of them are

background audio 10 (03:26:34):

Now you have a hole in the ground. So it's convenient next year. So second light for it

background audio 7 (03:26:43):

On the front river. We get some really deep

background audio 10 (03:26:46):

Gravel. Yeah. Yeah. Holy.

Andy Malone (03:26:52):

Another thing I learned about water conservation from here is that they don't cut the lawns down low. They let it grow because it keeps more shade on the soil and

background audio 10 (03:27:08):

Yeah,

Andy Malone (03:27:09):

It's kind of interesting. You can see they need a lot of the cuttings here too,

background audio 10 (03:27:15):

For the grass to eat and

Andy Malone (03:27:18):

Mulch. And this is a really educational facility here if you ever get a chance to go in and tour and

background audio 10 (03:27:27):

Yeah, they had a whole wall wallboard of water and where the area gets its water, it's very interesting, wants to read it. But you guys are waiting for me come out.

Andy Malone (03:27:49):

They have pretty gardens out here too, and nice places to have meetings. We had a water quality symposium here back in 2019 right before Covid. And

background audio 10 (03:28:00):

That's very cool. Very well maintained. I know it's a lot of natural vegetation for conserving water.

Andy Malone (03:28:07):

Yeah, permeable pavement here that allows, yeah,

background audio 10 (03:28:14):

Instead of letting it go somewhere. Can't keep it. Yeah.

Andy Malone (03:28:21):

Thank you, sir. I didn't know they had something

background audio 10 (03:28:32):

That's, that's

Andy Malone (03:28:37):

Permeable pavement

background audio 10 (03:28:40):

Color.

Andy Malone (03:28:43):

It has pore spaces that allow the water to percolate in another water conservation district. And Riverside County, which has a lot of that

background audio 8 (03:28:56):

Too.

background audio 10 (03:29:10):

Probably little grave outside

Andy Malone (03:29:12):

Right here. And it was weird because they just paved and I don't know, I thought maybe it was, and then they repaved over it. So what happened there?

background audio 9 (03:31:31):

We were detected in 1987 and it took a few years. The regulator was the reasonable, that continued for about 10 years or so. And then later about 2010, they built three injection wells. So they pump the water they treated and they pulled it back in around. And because they do that, the water is no longer part of the stream in the channel. Now the new cases can be used for recharge. When did they detect that? 87. 87. So once again, it's a drive. It's a drive-by. It's not a, you won't see anything Wow. You. But

background audio 8 (03:34:16):

You

background audio 9 (03:34:16):

Will from time to time come across either mention of a industrial pollution balloon or industrial cleanup site. We wanted you to have a visual. That's what one works. I think the whole process was really so additional. So they typically find, eventually you work able to, when you will see the state of the based report next year, as I mentioned, we'll file it.

background audio 8 (03:37:51):

It's a natural relationship between the water master and Regional board. Peter

Andy Malone (03:37:58):

Had come up with a really good idea and then we call it 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 and nutrient management plan and how that's coming along. And so it's,

background audio 9 (03:38:23):

Yeah, it's I

Andy Malone (03:38:25):

Think a real positive outcome of our Optima Basin management

background audio 9 (03:38:31):

Program. We include that day. We include the team of the 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 plants that are regulated by the regional board. We invite sapa, 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 in their staff has a job to do over here. Somebody else would have a job to do over there. Pull all together in one place in one day, and their jobs make more sense to them.

background audio 8 (03:42:41):

This

background audio 9 (03:42:41):

Worked in the site of, as I said, not the script came here today just to open the gates for us with the drive

background audio 8 (03:43:11):

Wheel, not much to see in there

background audio 9 (03:43:43):

To replenish the water.

Andy Malone (03:44:00):

There are a lot of,

background audio 8 (03:44:28):

It's typically based on

Andy Malone (03:44:30):

The monitoring data itself. And what is the monitoring data saying about the effectiveness of the cleanup. And so then will they, 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.

background audio 9 (03:44:52):

And when did that plant close? Boy, I don't know. It must have been the eighties. The eighties, yeah. So it's kind gift that keeps on giving you Yeah. Right. And how long was it in operation? Probably. Probably decades. Yeah. But my experience with cleanup sites, some the chloride sites up in lar, you're looking at a minimum 30 years. Yeah, I was just saying that it can be really difficult to track if there's not a specific,

background audio 8 (03:47:19):

I

background audio 9 (03:47:20):

Think last week that was just as you mentioned there, a marker in

background audio 8 (03:48:15):

To

background audio 9 (03:48:15):

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 O S, have you heard of P F O S? No. That's the latest chemical that has been studied, found to be harmful to human health and needs to be removed from portable water. Where does it come from? Primarily it comes from fireproofing. Yeah, firefighting, foam, non-stick, any non-

stick type of surface stain-resistant chemicals was 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.

background audio 8 (03:50:17):

Okay. Insurance. Insurance. Any state or federal

background audio 9 (03:50:31):

That you would look to? Yes.

background audio 8 (03:50:34):

From

background audio 9 (03:50:34):

Time to time grants, any example?

background audio 8 (03:51:07):

Oh,

background audio 9 (03:51:08):

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 A SS also doesn't completely cover all of the expenses, so I'm hoping to get maybe 50% of the cost for P to the left is Healy Basin number three. One and two are owned by the San Bernardino County Flood control district. And number three on our left is on the conservation

background audio 8 (03:52:33):

District.

background audio 9 (03:52:34):

Percolate really well and our

background audio 8 (03:52:37):

Good producer and

background audio 9 (03:52:54):

No vegetation.

background audio 8 (03:52:56):

So

background audio 9 (03:52:57):

Each facility, it's got its own little unique signature. You see the trash with the storm water ones. The recycled water obviously doesn't have that. So as Peter mentioned, flood control basin farmer comes trashy. That's just stuff coming off the street. 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.

background audio 8 (03:55:27):

Oh, okay.

Andy Malone (03:55:35):

Yeah. As far as, we spoke a little bit up there at the last, well, about the monitoring and how

background audio 8 (03:58:15):

Program to better understand the subsidence that caused it and to develop

Andy Malone (03:58:24):

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 and trying to figure out the cause of the land subsidence. And it was just supremely successful. We found an old retired U S G S geologist that was an expert in these types of facilities and he advised us,

background audio 8 (03:59:07):

Put together a committee of the pumpers.

Andy Malone (03:59:25):

Yes.

background audio 8 (03:59:49):

Trying to exercise their, so they came into the city of Chino

Andy Malone (04:00:00):

And drilled these big wells and then they conveyed the ladder 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 caused the land subsidence in the ground. Fishering in 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 the early two thousands and based on that improved understanding, let's develop a management plan. And our management plan really boiled down into a, we call it the guidance level where water master is providing some guidance to the pumpers here on what water levels should we maintain and keep water levels above so that sub

background audio 8 (04:01:00):

More subside monitoring specific pump be system and shut down, pumping from the system, pump the shallow system and shut down, be system monitoring water levels. There's a few of it across California to monitor

Andy Malone (04:01:48):
This aquifer system, compaction process.

background audio 8 (04:01:53):
This one here is probably the most sophisticated sgs GE advising us. What he

Andy Malone (04:02:03):
Would always say,

background audio 8 (04:02:05):
And

Andy Malone (04:02:05):
He was

background audio 8 (04:02:07):
Technology,

Andy Malone (04:04:03):
Are we still going to a yellow park? Yes. Just a different entrance. Little different area. Okay. Got,

background audio 8 (04:04:08):
Okay. 4 5 66. Okay. Are they catching all the water? Do they percolate or not really?

Andy Malone (04:04:48):
Not really. In the southern most portion of the basin are shallow soils are pretty clay rich and the percolation rates are not so good compared to the recharge basins in there other basin,

background audio 8 (04:06:25):
Because of the nature of

Andy Malone (04:07:56):
That I was talking

background audio 8 (04:07:57):
About. And the reason,

Andy Malone (04:07:59):

One of the 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 fault, it was insulated from that pumping. And so we didn't have the same water level changes and hence no subsidence. So the land was relatively stable over here, but it was subsiding over here near Central Avenue,

background audio 8 (04:08:37):

Hence the

Andy Malone (04:08:39):

Differential subsidence and then the cracks forming in the ground,

background audio 8 (04:08:44):

The structure or anything.

Andy Malone (04:08:49):

And especially today as how 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 there were no structures to be through. Yeah, 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

background audio 9 (04:09:28):

Now Andy will also

background audio 8 (04:09:30):

Get lunch. Talk a little bit about similar issue there

background audio 9 (04:09:52):

With differential subside under the freeway. That's a problem.

Andy Malone (04:10:00):

So this map in here, and number five, the color shading comes from remote sensing of ground motion. We use radar satellites to tell us about the vertical ground motion.

background audio 8 (04:10:18):

So the darker orange areas where sub is occurring

Andy Malone (04:10:24):

And the white and blue areas are, this 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 where you see those

red lines, those where the ground fis opened up. And we have about two and a half feet of subsidence occur over in this area. So right now our management

background audio 8 (04:11:02):
Plan seems to be, but monitoring data

Andy Malone (04:11:06):
Is showing us that there's other

background audio 8 (04:11:07):
Parts of the

Andy Malone (04:11:08):
Basin where we have subsident

background audio 8 (04:11:10):
Concerns.

Andy Malone (04:11:12):
And so the focus of our

background audio 8 (04:11:13):
Now investigations

Andy Malone (04:11:16):
Areas and trying to develop similar

background audio 8 (04:11:20):
Management

Andy Malone (04:11:21):
Criteria to try to make that stop, we're concerned because you see that differential subsidence of occurring right along the boundary of our basin. So yeah, that's an area of concern that's up in

background audio 8 (04:11:38):
Chris's neighborhood. And so the

Andy Malone (04:11:41):
City of Pomona has been very cooperative with us and allowing us to install monitoring facilities and we're a big participant in our committee. So the way to

background audio 9 (04:11:51):
Stop it is to recharge it

Andy Malone (04:11:54):

Primarily and bring water levels up. Yep.

background audio 9 (04:11:58):

And stop. Yeah, stop pumping. Stop pumping at some places to bring water up. So let's see. I'm a little disoriented. Where is the exometer?

Andy Malone (04:12:07):

Yeah, we're not, we're a little

background audio 11 (04:12:11):

Walk away I guess. Okay. I think it's over there. And we don't know quite where. We're going to have lunch. Oh, we're going to have lunch, right? Okay. You didn't kick them out of there. There's what's going on? They're finishing but they're still there. Oh yeah. Did you say us a sandwich please? Heck of a deal. Asking you shower safe. Yeah. Okay.

background audio 14 (04:13:40):

Feel free.

background audio 11 (04:13:47):

The question is, do we have our name on 'em or do we get the pick? Let's see. We have a Sierra two of those. Is it anywhere you'd like? Turkey's fine with me. We've got take the water that, where's the, what do you want? I don't know. You might just get stuck out. That one just might like it. We also have a salad in case somebody storm is coming.

background audio 10 (04:15:08):

When we scheduled this, I thought it was going to be hot,

background audio 7 (04:15:16):

Supposed to warm up again

background audio 10 (04:15:25):

Initially. That's why I said casual and getting cold. I thought I didn't know. What is this for you? So what's your normal day? That's a normal day.

(04:15:47):

Get in, we generally start to our calendar at nine o'clock and I'm generally in the office probably down 8 30, 8 45, already prep my calendar, a calendar every day, about 2,500 cases, which is probably like three times the caseload that any other court in the state would have. It's very busy calendar. And then it only takes about half an hour to 45 minutes to do that morning calendar. And then at 10 o'clock we are trials. Okay. So generally we're in trial. We'll have jury trial that runs from Monday through Thursday. And so for pretty much the rest of the day in that trial, I usually quit about three 30. And at three 30 I get off a bench and then I got to look at my calendar for tomorrow to start prepping on the motions and stuff and doing that. So when you have a case like this where, so a normal motion might be 15 pages long and really not very many attachments. So when you get a case like this where there might be 5,000 pages in

motion, well, it's kind of like when you get a rain and you're trying to capture all that runup on your, because there's just too much volume. So it really is,

(04:17:19):

It's about management. How are you going to manage a case like this in a caseload where you've got 2,500 cases, so why you don't have people jumping up wanting to do it. It becomes really more of a management problem to try to deal with this, which is a very important case. But those other 2,500 cases are just as important to those parties. So what I started doing was when I know that a water master case is coming up, I clear out that whole week so that I'm not working on other cases. I'm still doing trial, but I'm not working on ruling on motions, researching motions, coming up with, I'm just dedicating myself to that one case.

Andy Malone (04:18:12):

Wow.

background audio 10 (04:18:15):

And then you do that until you've got your calendar prep and then you're ready to go home. But it's a pretty long work day and not good with physical labor, but it's all mental power and your brain consumes most of the nutrients that you take in. It just sucks up all that energy. It's like water. It's like most of the energy goes towards, you said the water infrastructure. Same with the mental energy. And I'm pretty exhausted and I've noticed that now that I'm 65, it's definitely, I'm definitely more tired at was doing this at age 50. I just, you really feel it

Andy Malone (04:19:09):

That help?

background audio 10 (04:19:12):

Well, I've got my staff that helps my clerk organized things for me. We have a really good research team that is going to be doing the research for all of your motions, but beyond that, that's really the only help you have. And then you have a partner judge who covers you when you go on vacation. So you really don't, I or my party judge can go on vacation anytime we want because we know somebody's there to cover. But other than that, that's really the only help that we have. But what we really need for a county like us is we need more judges so that you're not dealing with 2,400 cases and like 800 cases, which is more of a management work, but it's very taxing At the end of the day, I'm tired and you just kind of want to go home and crack open a beer, just not think, sit in front of Netflix or something.

Andy Malone (04:20:31):

Well that's what Kaiser Permanente is saying, their employees all want to strike. And I guess it's because they don't have enough healthcare workers that they feel they're overtaxed. I heard that in the news today that they're considering going on strike maybe as early as next week.

background audio 10 (04:20:55):

My Kaiser doctor, we've had long discussions about how Kaiser never really anticipated when Obamacare were they taken over all those Obamacare patients where they were legally mandated to take them in. They never really hired more doctors, one nurse

background audio 14 (04:21:19):

To take that many people.

background audio 10 (04:21:21):

So in consequently, if you're a Kaiser patient, your wait times or appointments are longer. Your wait times for specialist longer. And if you're an employee, you're just dealing with so many more people and that has the tendency to reduce whatever joint you had job in the first place, but they never really, they didn't plan well because you shouldn't be waiting three hours to go to urgent care. More pills doctor. But that's a limited number two nurses and doctors that you're going to be able to hire. And I don't know what you pay at Kaiser, but I'm sure they're not at the top pay scale. No.

Andy Malone (04:22:16):

Well I'm with Kaiser, it takes forever to get an appoint.

background audio 10 (04:22:20):

In fact, right now the normal period has changed and my wife really wants us to change because Kaiser's great if you're healthy when you're sick and you really need it not so great. So I think for younger, definitely cheap, but start, I think getting into your sixties, we're thinking of just moving over to a ppo, but it's more expensive. I always thought it would be fun to be a geologist and just go hiking and explore and to

background audio 14 (04:23:26):

Eat

background audio 10 (04:23:27):

The mountains. Did you ever do that?

Andy Malone (04:23:30):

My friends, they go with me. They get a little irritated. Have to sit and listen to me talk about geology. Peter and I do a couple hikes together

background audio 10 (04:23:43):

For me. That'd be so interesting to know what those rocks were, how they formed, how old they might be.

Andy Malone (04:23:51):

I find it very interesting. It makes taking a hike more interesting to me. Think about that stuff man.

background audio 14 (04:24:20):

When

Andy Malone (04:24:20):

We were doing this borehole over here for the exometer, it was really fun that way. And looking at the sediments coming up out of the hole and thinking back in geologic time when those sediments were laid down and what the environment was possibly like. It was a

background audio 19 (04:24:40):

Fun thoughts to have.

background audio 14 (04:24:47):

I have a hard time thinking in terms of that much time.

Andy Malone (04:24:53):

It's impossible.

background audio 10 (04:25:00):

I've been on your racetrack before going 150 miles an hour. You had a, whoa, I think it was meeting and we met at that. Yeah. Part of that

background audio 14 (04:25:21):

Range

background audio 10 (04:25:22):

For everybody to take a ride around the track.

background audio 19 (04:25:28):

I may have driven you unknowingly,

background audio 10 (04:25:30):

Maybe I can believe how scary it was to go 150 miles an hour car.

background audio 19 (04:25:36):

Put you right in the seat. Right next to the wall. Yeah, you did that to me. That to you. Yeah. Yeah.

Andy Malone (04:25:41):

Can you drive? I didn't know you raised.

background audio 19 (04:25:47):

I play with all the toys over there. It's where is somebody else's toy though, right? Because gas and brakes are very expensive car. Right. So use somebody else's tires.

Andy Malone (04:25:59):

Okay.

background audio 10 (04:26:00):

Yeah. You know it's better than having a hot rod, having a friend that

background audio 19 (04:26:08):

This guy just got my new piece purse for next year. T r d Camrys, three of them Loreta right off the truck the other day. They sound mean.

background audio 10 (04:26:18):

So what's the future of that track? Is it going to be around?

background audio 19 (04:26:21):

Yeah, so right attendance. That track's pretty good. So we're actually in the process right now reducing the size of the track from a two mile racetrack to a half mile racetrack. That seems to be the consensus of

(04:26:35):

Race fans and those folks in the industry is that those big super speedway tracks don't quite make the greatest racing entertainment anymore. They tend to sometimes become a fuel mileage race and nobody wants to see somebody when they race by five seconds. It's not super exciting. So we're in the process of shrinking it to a half mile. So you'll get a lot of rubbing is racing kind of stuff going on. Hot tempers usually sell tickets, so do that. TV likes that. It can be a shorter TV window. The same reason baseball is put a pitch block in.

(04:27:16):

You can get a three hour race window in and the guy get out of his car and threatened to beat the other guy out. Works really well for entertainment. We're in the process of doing that. So we had our last two mile over a race in February of this year. Happened to be that weekend that it snowed. He probably had snowed your house. We had snow at the racetracks. That was interesting. Race cars and snow don't mixer. Well actually, if the atmosphere conditioners arrived, you can hear a race from my house. I mean it's not loud.

(04:28:10):

Obvious being in the industry, a lot of other, doing a lot of other racetracks too. So I spent time in Phoenix back going there, the not to distant future. That's where the NASCAR ER championship race. I go put that race on and I just got back from Chicago on a track, just out just south of downtown Chicago and Joliet. We actually hosted the super motocross event there. Tire front, stretch field, third motorcycle around, tear it all back out, clean up the air. You've been quiet since February. Yeah, raised the weekend. We didn't do anything afterwards. They started working on, I would call it the salvage process. I don't need as much stuff on a half mile that I do was a two mile. So a lot of our crash wall, we have that special energy driven crash wall. It got it migrated to other places that didn't have it. So it didn't go to waste. Made other places safer. But that's a process to unmount that stuff for the, they're very obviously engineered, very specific for some pieces can be anywhere. Some have a very finite radius that only work at certain points. So we were able to re-home a lot of that stuff. It's also very expensive too, so it worked out well to give it a good time. And the construction process is just slow. Slow. Yeah. Everybody here knows just you think something's going to happen and study or Well,

background audio 10 (04:30:04):

The loan didn't fund today, tomorrow

background audio 19 (04:30:07):

Or whatever may be the permit didn't come through. Yeah, I kicked back whatever. But it's getting a lot busy right now. Activity on site.

background audio 10 (04:30:23):

Mark, did you say you raised cows in this area?

background audio 7 (04:30:28):

I do.

background audio 10 (04:30:30):

Do you know the Baart family or the

background audio 7 (04:30:33):

Very well generation?

background audio 10 (04:30:38):

Mike, good friend of mine. Ricardo. Friend of mine. Really good. Ie. Attorney. Great farm.

background audio 14 (04:30:51):

You

background audio 7 (04:30:52):

Were the top of John. Mike son was in my

background audio 14 (04:31:03):

Leadership

background audio 7 (04:31:03):

Class. I he's our new environmental 20 million contract to million contract to Shell involved in some other major project and he's just amazing. I know. Fact.

background audio 10 (04:31:36):

Emma, where's your farm?

background audio 7 (04:31:41):

I have Taiwanese and Western. I bought a bunch of lands from me. Endless basin in a miles from, so we own different pieces

background audio 14 (04:31:56):

And

background audio 7 (04:31:59):

Not ready to develop in my lifetime. They may have to do it because they thinking right now they move back to Taiwan. They're trying to protect their assets there before anything would happen. So they're not selling there. Which makes it difficult for me

background audio 14 (04:32:25):

Because

background audio 7 (04:32:28):

Have a place to come home to and have

background audio 10 (04:32:34):

Bad over there.

background audio 7 (04:32:43):

And interesting

background audio 10 (04:33:11):

Taiwan and

(04:33:14):

Us as Lou would be, if China was Stephen Bay, Taiwan, we wanted to go into World War III or seems to me though his solution was just to be give Taiwan some nukes and just make it too expensive for China to do it. I don't know why that's never heard anybody mention that maybe that would make the Chinese slip out. I don't know. They could protect, it's kind of like when Russia try to put nukes in Cuba soil. Obviously we flipped out about that because we could get the power to do it. But obviously that would be an existential threat to us and not that we would ever hate Cuba, the fact that we did. But at the time it was unlikely. And it seems to me it'd be very unlikely for China to invade Taiwan if in fact they knew they had nuclear arsenal. The question they seemed so technologically advanced there that why wouldn't they do it themselves? Probably money. Probably they would want us' blessing. I don't know that we would for that reason. We would kind of I think defer China unfortunately. Don't want to tick 'em off apparently. I don't know. What do you think

(04:35:03):

Water situation?

background audio 7 (04:35:06):

Your earlier comment about ards, young John and Steve Premier Dairyman. Probably not in the US. Really? I know I wouldn't debate him. I would very, very,

background audio 10 (04:35:27):

Where are all the cows going?

background audio 7 (04:35:30):

Well, we moved a lot of them from New Mexico and some to Arizona, some to Texas. The dairies are now not moving because of the economy and 70% of dairy is trucking. So you know what's happening to

our cars. The fuel is just absolutely killing it. And the third generation, so grandpa had so much money, dad had so much money, they didn't guard the money. So now things are getting really, really tough. I'm telling them I don't do that anymore. But they keep calling meaning drive tracks, politics. Are you part of the bass community? Are you part of the community? I'm but much. I had a very large Portugal experience. So when did your folks come over

background audio 14 (04:36:59):

Here?

background audio 7 (04:37:00):

Yeah, I came over in 1919, jumped ship in Vancouver Harbor. You literally jumped ship. Yeah, because of World War I. Family was starving and calling. It was at the end of World War. We had no food. Thank you sir. Then my mother came dumping chip on a 25 reward. So he made a deal with the court, a great judge.

Andy Malone (04:37:38):

Is the building open?

background audio 20 (04:37:40):

Yeah, Justin is opening right

Andy Malone (04:37:42):

Now. He's opening it right now.

background audio 20 (04:37:43):

Okay. Yeah, it's just, there was a carnival, Edison carnival going full long raging with games and company picnic. Nice. And we got there and it's like, oh,

background audio 7 (04:37:56):

What are we going to do now? And

background audio 20 (04:37:59):

So we

background audio 14 (04:38:00):

Looked at this place,

background audio 20 (04:38:02):

I texted a lot. So just come to this place because we're not going to be able to

background audio 7 (04:38:08):

Be there. Right, right. Well

Andy Malone (04:38:15):

I'm going to go to the restroom over here. It's a disgusting restroom, but

background audio 20 (04:38:21):
Yeah,

Andy Malone (04:38:22):
Many times.

background audio 20 (04:38:23):
There's another one that is much cleaner over there.

Andy Malone (04:38:25):
Oh really? Where? Right

background audio 20 (04:38:26):
Here. Do you see the building straight ahead? Yeah, in that restroom. That's the one I use.

Andy Malone (04:38:33):
Okay, okay. I'll go over there then it's open.

background audio 20 (04:38:35):
Yeah, it's open. It's quite cleaner.

background audio 7 (04:38:38):
More I think farms also.

Andy Malone (04:38:45):
I'm going to go to the restroom over there and then we'll just meet over at the

background audio 7 (04:38:51):
Buildings.

Andy Malone (04:38:52):
Buildings, right? Yeah. So

background audio 11 (04:38:54):
I'm thinking restaurant. I'm going to ask him if he wants to walk there. And then they brought the church with him instead of driving there. Okay. Let what the hell if you even looked at a girl, do

background audio 21 (04:39:05):
You want to ask so I can,

background audio 11 (04:39:08):

It was an interesting,

Andy Malone (04:39:10):
I'm going to start walking over to the bathroom.

background audio 14 (04:39:32):
Well

Andy Malone (04:39:34):
You need to go to the restroom.

background audio 14 (04:39:35):
Yeah, you the well afterwards.

Andy Malone (04:39:43):
Yeah. So the building's right there. There's a restroom here. There's a restroom here, but it's disgusting. So Edgar said there's a newer one over here that's open.

background audio 14 (04:39:56):
Second school last week

Andy Malone (04:39:59):
I spent a lot of time in this park, but they didn't have this area over here. At that point in time

background audio 21 (04:40:08):
I spent this on the soccer field.

Andy Malone (04:40:11):
Really?

background audio 14 (04:40:29):
I

background audio 21 (04:40:29):
Need to record me and talking to you.

Andy Malone (04:40:32):
What's that?

background audio 21 (04:40:33):
I turned my mic off. I need to record me talking to you.

Andy Malone (04:40:38):

How do you do it?

background audio 14 (04:40:40):
Button

background audio 21 (04:40:43):
Addie Corner from the red

Andy Malone (04:40:44):
Button.

background audio 21 (04:40:46):
Diagonal from it.

Andy Malone (00:00:05):
The bottom. Perfect. Thank you sir. Yeah, that can just be thumb tightened. It doesn't need to be,

background audio 2 (00:00:31):
I always remember that guitar, but I never knew what the jacket was. We were here last time about three weeks ago. Those big old school buses and kids. Teams of kids. So PB three will be the last spot.

Andy Malone (00:00:47):
Okay.

background audio 2 (00:00:49):
I think Brad and Spot, but they haven't responded. Okay. I think at PB three we're going to turn around and head back, but I'm going to, so Bob Fester needs to go back. So Edgar and Justin are going to take him back to the office. Okay.

Andy Malone (00:01:05):
Right now.

background audio 2 (00:01:06):
Right now he's going to peel off on his own, so, okay. Okay.

Andy Malone (00:01:17):
All right.

background audio 2 (00:01:18):
What'd you say? The sensitivity of

Andy Malone (00:01:20):
The sensitivity,

background audio 3 (00:01:21):

The sensitivity measurement was in that? Yeah. How sensitive was it?

background audio 2 (00:01:25):

Point zero zero one

Andy Malone (00:01:30):

Inches. Wow. So it's a thousand, no, I'm sorry, feet. A thousandth of a foot. So is the resolution that we can measure in there. So it is our gold standard. We truly believe that it is accurately measuring the deformation. And so we base everything that we do, like the traditional ground level surveys. They start here and then move out. But they start with the

background audio 3 (00:02:04):

Elaborate one. What's that? This the most elaborate one?

Andy Malone (00:02:07):

Yes. Yeah,

background audio 2 (00:02:08):

We'll be talking real

Andy Malone (00:02:10):

It is.

background audio 3 (00:02:10):

Sure. We'll see. And that survey mark would be

Andy Malone (00:02:12):

On their right.

background audio 2 (00:02:14):

They're

background audio 3 (00:02:14):

What? Measuring it from a satellite.

Andy Malone (00:02:19):

Well, what they do is they, okay, so we measure, let's say we measure an inch of deformation from the last time that they did a survey. So then they'll come out to this benchmark and they'll go, it's an inch lower. Okay. 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 have occurred. But 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 a new survey. 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're there run for about two hours and they take a G P SS measurement too as a check.

background audio 3 (00:03:14):

And what's the sensitivity of that?

Andy Malone (00:03:18):

That's a lookup I'd need to find out. But that's why they've set up for two hours is to kind of reduce the air

background audio 2 (00:03:25):

Associated

background audio 3 (00:03:26):

With that. It's amazing as that setup is why don't just do G P S? It seems like that would be much easier to lift.

Andy Malone (00:03:31):

Yeah, so G P s is good. It tells you everything that's going on below here. We can get depth specific like with the two x extensometers, shallow versus deep. And that's the type of understanding we really needed is where is the compaction occurring depth specifically within the aquifer.

background audio 3 (00:03:52):

That's the multiple data points that you're trying to figure out the whole state.

background audio 2 (00:03:57):

So to logistics for a moment, judge, Mr. Finra is going to catch a ride and go back to the office. So he is parking place with us. And I would like to suggest that perhaps given a hard time, we're running a little bit later because there's been more conversation at 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 eliminate that from the itinerary, if that's okay with

background audio 3 (00:04:33):

You. That's fine. I'm just happy I'm not the first one to drop out.

Andy Malone (00:04:37):

I don't miss you. I'm grateful to be part of your tour. Well

background audio 3 (00:04:39):

I'm so happy you Doug, have to talk about some look forward

background audio 4 (00:04:43):

To the future. They need to check my kidneys. So my wife might shoot me if

background audio 5 (00:04:49):
Think

Andy Malone (00:04:49):
A lot of water. Well

background audio 3 (00:04:50):
That's obviously important.

Andy Malone (00:04:52):
See you Bob. Take

background audio 2 (00:04:53):
Care Bob. Take care Bob. So I am also double checking with Scott Slater. He's very sensitive. We want to keep you squeaky clean. We have a stipulation that said we were going to go to that plant. So I don't think it's a problem eliminating something from the trip. I think it's a problem if we added something to the itinerary. I agree. I agree. Okay,

Andy Malone (00:05:17):
So let's go

background audio 5 (00:05:26):
One,

background audio 6 (00:05:41):
Do you want to leave your

Andy Malone (00:05:50):
Get Alonzo to start yours up.

background audio 1 (00:05:59):
Good for you being. Thank you. Good a minute to figure out the faucets in that bathroom.

background audio 8 (00:06:47):
They're having some death problems.

background audio 1 (00:06:49):
No.

Andy Malone (00:06:49):

Yeah, they don't have the best bathrooms here. And that was the nice one that you were in. Going to state parks. Now the bathrooms are so much nicer than they once were.

background audio 1 (00:07:09):
Open air and

background audio 7 (00:07:14):
Ready for

background audio 1 (00:07:15):
A

background audio 7 (00:07:37):
And it.

background audio 8 (00:07:51):
So you can see how that

background audio 1 (00:07:53):
Line of wells,

background audio 7 (00:07:55):
The river, it's intended

background audio 8 (00:08:06):
High S water no longer flows into the river.

background audio 1 (00:08:09):
The wells

background audio 8 (00:08:10):
Capture it, they pump it, the water goes to CBA one and CBA two treatment plants. The salt is extracted. So now you actually have extraction of the salt, which is not good in the basin. You also have

background audio 1 (00:08:28):
High tickets water into the railroad

background audio 7 (00:09:01):
Million facilities.

background audio 8 (00:09:04):

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 you won't hurt anybody else. If you can imagine each well

background audio 7 (00:10:14):

Comes

background audio 8 (00:10:15):

Ground water, there is a commitment to expand the capacity to what it's today, 40,000 feet a year. Andy, any thoughts on the salt nutrient management plan to add to the deuler operation? Yeah, now we're in the very southern end of 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 quality

background audio 7 (00:11:40):

Of the groundwater

background audio 8 (00:11:46):

Nitrate.

background audio 7 (00:12:10):

So the

Andy Malone (00:12:21):

And so ground come

background audio 7 (00:12:48):

In here

Andy Malone (00:12:49):

And replace the agricultural company

background audio 7 (00:12:52):

That

Andy Malone (00:12:52):

Moving out of the basin so that we could maintain lower groundwater levels in this portion of the basin. Not lose our groundwater being expansive right from all the houses. Not all because there's some other smaller ones, but this is,

background audio 7 (00:14:51):

You have to have operator not necessarily in

background audio 8 (00:15:00):

Our business

background audio 7 (00:15:10):
For those from T1

background audio 8 (00:15:13):
Or distribution

background audio 7 (00:15:14):
1 55 and one to T five,

background audio 8 (00:15:18):
It'd have to be a licensed T five to operate this and that. It requires knowledge and understanding of every mechanical and chemical component of this plant is incredibly detailed knowledge to run a plant like this, licensed operators are worth their weight in gold. You actually cannot operate a water or 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 and give them relevant experience. So this is I u a Inland Empire Utilities Agency. It morphed and got into the wastewater

background audio 7 (00:16:03):
Treatment business.

background audio 8 (00:16:05):
So the right you have solid, the first

background audio 7 (00:16:09):
Solid

background audio 8 (00:16:10):
Screening there is some core screening to take out

background audio 7 (00:16:14):
All the trash before it goes through.

background audio 8 (00:16:17):
A part of their expansion is to add

background audio 7 (00:16:21):
A fine

background audio 8 (00:16:26):
Ally passed to our right. So you want the water that will go through the same primary treatment process

background audio 7 (00:16:32):

Of culation

background audio 8 (00:16:34):

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. If they're landfill material, they go to a landfill. To the extent it's compostable material, it gets put into with a sledge, it's at the end of the plant. So after the solitary move, the flow proceeds to her left.

background audio 7 (00:17:18):

And in this

background audio 8 (00:17:18):

Particular case,

background audio 7 (00:17:20):

Sewage

background audio 8 (00:17:21):

Doesn't come a prescribed ray

background audio 7 (00:17:31):

You

background audio 8 (00:17:31):

Have to

background audio 7 (00:17:33):

Hold for one second

background audio 8 (00:17:35):

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 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 along. Sir, you won't have to go around.

background audio 7 (00:18:04):

So

background audio 8 (00:19:29):

Control, I dunno, that is it may be a site of future expansion. No particular function that I'm aware of behind the building. Oh, right here is a massive solar secondary

background audio 7 (00:21:00):

Clarifiers. The water circular tanks

background audio 8 (00:21:05):

Is slowly

background audio 7 (00:22:11):

What you

background audio 8 (00:22:11):

Have to the right. You see those? Well the handrails are, there's contact basins in there where the treated plant effluent is allowed time to contact chlorine and kill off anything else that may still be living in it. And from there water can go either into the distribution system, the recycled water distribution system to be recharge the, we would like to of course as an overall management of the area, we would like to minimize how much water is put down in Santa Ana and reuse as much of it as possible. If there's more sewers in the plant can ever handle, there's a place for it to go there. Yeah. Another reason for having spare land

background audio 7 (00:24:47):

Eventually, from what I know, pretty requiring that food.

background audio 9 (00:26:17):

So

background audio 7 (00:26:43):

There is on the Santa Ana, there is

background audio 8 (00:26:48):

An obligation that I UA has on behalf of the region to release a certain amount of water in the Santa Ana river. And that's the subject for a whole other time. Recycled water is used to meet the obligation. Yeah, I was going to ask you if you had this air footage over, you had to Yes. Put back in the river. So by the way of history, do you draw anything out of it out of the Santa Ana river? Yeah, we do. Part of safety I a desalted, what 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. It's treated at the plant. We will see many more of those. But this one happens to be here. CDA one was an initial concept. Everybody liked it and so they latched onto it in 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 the plant. Our membranes here, these A membrane are the membranes. It sounds like you know about them. You drive water at super high pressure down the middle, it comes out radially out and are they leaking? Yeah, right there. That third, yes, I see it right. Huge power consumer. And so

(00:30:28):

That filters out everything that is in a water

background audio 1 (00:30:30):

Molecule

background audio 8 (00:30:31):

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 in the bottom. And when we go around, you'll see additional treatment processes back on. The theme of every water treatment line eventually needs to have increased

background audio 1 (00:30:55):

Treatment capability to remove more things.

background audio 8 (00:31:00):

What you see here, these bone towers, they're aeration towers. That's a different

background audio 1 (00:31:04):

Treatment.

background audio 8 (00:31:05):

That means what? Aeration towers. So water is fed to the top and allowed to bubble down through a filter

background audio 1 (00:31:13):

Medium.

background audio 8 (00:31:14):

And as it's going through, it's aerating because there's air blowing from the bottom.

background audio 1 (00:31:20):

And any volatile

background audio 8 (00:31:21):

Organic compounds, VOCs

background audio 1 (00:31:24):

Like T C E and pc,

background audio 8 (00:31:26):

They volatilize in the process and they become an off gas that is captured and scrap

background audio 1 (00:31:32):

And the

background audio 8 (00:31:33):

Water is now freeing of those

background audio 1 (00:31:34):
Materials

background audio 8 (00:31:36):
To the right.

background audio 1 (00:31:36):
We have, I believe,

background audio 8 (00:31:38):
Backwash

background audio 1 (00:31:39):
Tanks.

background audio 8 (00:31:40):
These are chemical storage tanks and so on. But you have some iteration primary treatment RO treatment in this plant. Say it again,

background audio 1 (00:31:53):
G C. Yeah,

background audio 8 (00:31:55):
So the G A C was a recent condition right? Ending was for Well, 18.

background audio 1 (00:32:01):
Yeah, I believe so. Yeah.

background audio 8 (00:32:03):
Again, an expensive treatment capability for volatiles. Right, because after the were built they found out, oh no, we have RO does not remove all. So without going to much more detail, I'm at my limit In this plant in particular. Once again, you see the main primary

background audio 1 (00:32:27):
And

background audio 8 (00:32:27):
Then additional treatment trains as new challenges have come up. The Chino airport, which has its own home, is a major contributor to the pollution that is now hitting CK four. Got security police points at night when everybody's gone. Seems like they be right.

background audio 7 (00:32:53):

Yeah. Yeah. So where

background audio 8 (00:33:08):

Would you say is the Chin airport? We immediately to our left, so the trucks are obscuring, but you can see the tablet of control tower, that airport back there. So all the contamination from which unit airport

background audio 7 (00:33:32):

Is, it's

Andy Malone (00:36:14):

The largest riparian Southern California

background audio 7 (00:37:35):

Of the so about

Andy Malone (00:38:25):

To preserve habitat there and not let it degrade because of their practices. So when they read our squa 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. So 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. And we 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 and temperature

background audio 7 (00:39:16):

Fires, the auto basin annual report.

Andy Malone (00:39:45):

And

background audio 7 (00:39:46):

We get together

Andy Malone (00:39:47):

With a stakeholder

background audio 7 (00:39:48):

At least once a year

background audio 8 (00:41:26):

Homes or that track homes. But now things like if you want to close down a school enacted the Peter was

background audio 7 (00:43:18):

Telling me the difference between

background audio 8 (00:43:19):

Got in the car drive around versus where we are today. Yeah, it's a different time. It's definitely, definitely different time. Different time. Mark Wilder moved by the way, we were fortunate to have him work at us. Mark was a consultant for a large consulting firm. Then he created his own called Wilder Environmental. That's where this came from. Yes. Wilder North Environmental was our master's engineer for decades until it was acquired by West Yost in 2020. Yeah. So now West Yost. So Andy went from a W E I employee to go to West Yost employ, but because they kept their groundwater unit intact, that they basically absorbed what was w i. We kept them as our engineer. They have the knowledge, they have the history of the basin. Mark was

background audio 7 (00:44:17):

The one that,

background audio 8 (00:44:49):

And of course having the senate, the brine line, the river intercepted

background audio 7 (00:44:55):

Was,

background audio 8 (00:45:12):

We showed you water management, the office, they have a point of view, but eventually through most challenges basin.

Andy Malone (00:47:18):

So this is called a well cluster. The other one was a monitoring. Well nest one borehole with a bunch of wells in the same borehole. These are two different bore holes. These are really shallow though. One goes down about 50 feet, one goes down about a hundred feet because our depth of water is so much shallow here, like I said, nine of these facilities were constructed all along the edge of the Proto basin, which let's take a little walk down here and see. We call this the Prodo basin, but this is actually the floodplain of the Santa Ana River. And we're sitting up maybe 30 feet above the bottom of the floodplain.

background audio 10 (00:48:04):

What city is this?

Andy Malone (00:48:06):

I think this is Eastvale Eastvale. And where we're in the basin is, we're kind of right. There's the Santa Ana river here. So we're right down, right around here somewhere right on a river. And so the river's

flowing out there. All this vegetation is feeding off of the shallow groundwater. However, these monitoring wells behind us are measuring depth to groundwater that is below the bottom of the river there. 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 desalt 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, 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 10 (00:49:37):

Plus it'd be contaminated

Andy Malone (00:49:38):

And plus it would be contaminated. Yeah,

background audio 10 (00:49:41):

There

Andy Malone (00:49:41):

You go. 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's about.

background audio 10 (00:50:02):

It smells so good.

Andy Malone (00:50:03):

I know.

background audio 10 (00:50:06):

Can you actually see the river from

Andy Malone (00:50:07):

Here? I don't think so. It's pretty thick. And this is a pretty wide floodplain too, so it's out there somewhere. I don't know exactly where, but it's beautiful and it's very robust habitat.

background audio 10 (00:50:25):

These wells were put in 20 12, 20 13,

background audio 11 (00:50:28):

Andy? I

Andy Malone (00:50:29):

Think maybe more like 14. 2014, yeah. Do

background audio 3 (00:50:36):

You actually test the water from the river?

Andy Malone (00:50:41):

Yes, we do. Yep. Yep. The regional board. Initially it was part of our monitoring program 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 G Ss does a lot of monitoring at prodo and then upstream here where it flows into our basin. So we rely on a lot of data from the U S G S, but we do still do some sampling of the tributaries that flow into the river and the river itself.

background audio 3 (00:51:13):

And how often do you do that?

Andy Malone (00:51:15):

It's usually a quarterly,

background audio 1 (00:51:20):

But

Andy Malone (00:51:21):

We have another annual report called the Maximum Benefit annual report and that's where we report on all of our monitoring of groundwater and surface water down in this part of the basin.

background audio 10 (00:51:34):

Anything related to the C D A hydraulic control is all part of the regional boards. Our commitments to the regional

background audio 11 (00:51:49):

Monitoring is a big deal and reporting is a big deal. The nice thing about all the

background audio 10 (00:51:55):

Reporting is there's a robust

background audio 1 (00:51:57):

Record, a really good history of everything that's been done over time.

background audio 11 (00:52:04):

Isn't this amazing? This

background audio 3 (00:52:05):

Is beautiful. Yeah, it really is. Imagine the San Vein basin looking like this.

Andy Malone (00:52:12):
Now you're going to look at Lake Ocho and go, what a turd

background audio 1 (00:52:18):
With the this be a good spot for a group chat. We would love it.

Andy Malone (00:52:21):
Absolutely. Alonzo, would you

background audio 1 (00:52:22):
Mind actually

background audio 12 (00:52:37):
1, 2, 3, take a few and then we'll do one.

background audio 11 (00:52:42):
We will send you all the photos.

background audio 1 (00:52:43):
Okay, great.

background audio 12 (00:52:45):
Ready? 1, 2, 3. Perfect.

background audio 1 (00:52:48):
Thanks

Andy Malone (00:52:49):
Alonzo.

background audio 1 (00:52:55):
Yeah. Yeah. This is gorgeous.

Andy Malone (00:52:59):
Yeah, it it's an important place biologically.

background audio 11 (00:53:04):
And what kind of water flows in the river? All recycled

background audio 10 (00:53:09):
Water from most,

background audio 1 (00:53:10):

Yeah, very little native,

Andy Malone (00:53:13):

Right? Mostly. Yeah, very little Native storm water. We get storm flows, but during times like this where there's no storms, it's mostly recycled water from San Bernardino, Rialto, and Riverside.

background audio 13 (00:53:26):

So native flow would not support what you see here? No.

background audio 2 (00:53:30):

It would be a female.

background audio 13 (00:53:32):

Yeah. When

Andy Malone (00:53:33):

You think about it, the Santa Ana River and 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 supply.

background audio 2 (00:53:51):

And if you want to see that little bigger scale that recycled water came from, some recycled water, just like the water. Recycled parts also have salt issues. Those basins also have salt issues.

background audio 13 (00:54:07):

Well it's all recycled. We're all drinking dining.

background audio 2 (00:54:09):

That's right. 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 13 (00:54:45):

But it really feels like this, at least your portion is really working.

background audio 2 (00:54:50):

It's working because yeah, the judgment, the parties collaborating, the O B M P and the peace agreement, the peace two agreement. It's working because people have put time

background audio 13 (00:55:00):

And money. Yeah, it's byproduct the users. You're using that water. Really amazing. This is dwell.

Andy Malone (00:55:17):

Yeah, I know. Yeah, there's more to see if ever you're interested. There's lots of places to see in Prado Basin. Orange County Water District has a nice facility where they do a lot of their biology and

background audio 2 (00:55:32):

They're interested in how this wetland filters water naturally, biologically filters water. So the recycled water that's coming, how much cleaner does it get before it gets to them? 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 14 (00:56:08):

I think you've covered a lot of information. You've

background audio 13 (00:56:10):

Done a really good job. It's

background audio 14 (00:56:12):

Not how it works. It's obviously important to all of us for the economy, obviously for our customers to have the supply available and subsidence, 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 coming out. See what

background audio 13 (00:56:37):

Time most spent. I'd rather be out here than in court courtroom.

background audio 15 (00:56:44):

Yeah. I would say non-ag parties are business and industry like 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, he wants to support the greater good of the family as we're sort of just generally speaking, big customers of the basic

background audio 14 (00:57:07):

Controversy. That doesn't lie with Don Ag

background audio 15 (00:57:12):

And 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 we been at 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? Yeah,

Andy Malone (00:57:27):

Yeah, definitely. The monitoring, well data we report on and then as far as our monitoring of the habitat health and yeah, we stretch all the way up and down the river and then up

background audio 2 (00:57:38):

Into the aerial photos. Orange County pays for the area photos. There's also vegetation transects. If you've never done vegetation transects, you haven't lived, you actually you stand over here, stand over here and we hold a 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

Andy Malone (00:57:59):

The freelance at data that we process and look at too. Lance at data

background audio 2 (00:58:03):

That show greenness.

background audio 15 (00:58:04):

You didn't bring a string with you today. No.

Andy Malone (00:58:05):

Yeah.

background audio 2 (00:58:07):

So 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 our booklet has a page of that, but it is a great collaborative exercise. Okay.

Andy Malone (00:58:33):

You can see they serve recycled water here. Purple boxes. The butterflies are out too. I want to go back out to where we started the views

background audio 15 (00:58:58):

There now. Yeah,

Andy Malone (00:59:00):

I know exactly. Yeah, we can go back and see the view now.

background audio 1 (00:59:04):

Yeah. Yeah.

Andy Malone (00:59:07):

Should have ended there, huh? Oh well

background audio 8 (00:59:20):

I'll have one. Yeah, that sounds awesome. Thank you. Here for you. Yes please. Thank you. I'm good. Yeah. It's Friday, right? It's Friday. Alonso has been very quiet today. I had probably the most fun I had was for work before I came to work for Water Master. I was working for the city of Dale. I was very involved with association

background audio 7 (01:01:56):

And

background audio 8 (01:02:41):

The Disneyland employees have the park to themselves before it opens to the public. So they do canoe races and all the water lagoons and they have parties of their own.

(01:05:00):

I attempt to say the most interesting single case that I have in my son Gold Mine what? 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's 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 Japan for gold and it's secured a little pen in 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. The way to get rich, if you can get rich, actually it's people that sell gold miners equipment that get rich, right? More the mercantile guys than the guys actually looking on 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 sediment and put it through a slusher and get it a little mining operation. But it's horrible. And so a couple of environmental got wind of what was going on. And so actually going on company down the state. And so they

(01:06:33):

Tribes under, there's a very vibrant community of Yosemite Sam,

background audio 7 (01:07:07):

Also chemical

background audio 8 (01:07:13):

Polluting that have settled in the bottom of that river over the decades and decades.

background audio 7 (01:08:29):

And

background audio 8 (01:08:31):

They decided to put it in the court that could deal with it the least, the most overcrowded for San Bernardino. I mean I need an operation ome, 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 for the striking origin. Anyway, it all ended up here. My court and every time we had a hearing, the courtroom would packed. There'd be all these gold mins that were in the audience that were very vocal. And whenever I ruled against them I'd get lamb blasted. Social media was kind of new at that time. And whenever I go against the tribes or Sierra Club, they'd loved me for a month. It was interesting because time

background audio 7 (01:09:58):

Of fish and wildlife,

background audio 8 (01:10:03):

They start out if issues of fish and game by the time the litigation happens.

background audio 7 (01:11:25):

I found it fascinating that

background audio 8 (01:11:27):

The initial stages of gold mining were my goal in mining. I dunno if that came up at all in the court proceedings, but they pressurized water and shoot it out of a water tank. Well that type of uber destructive why it was outlined. So that was

background audio 7 (01:12:45):

District.

background audio 8 (01:12:51):

You have an attorney, which is,

background audio 7 (01:13:23):

If you could

background audio 8 (01:13:25):

Make one change to SQ l, what would your change be? I think you have to be an actual stakeholder issue. SQL is too easy for anybody to come in, challenge it. Also, there's attorney's fees provision and that only drives litigation. Yes. You should never be able to get attorney's fees for litigation like that. It's free. It's free to litigate. Yeah. It's essentially free to litigate because all you have to do is get a settlement and if you're right back in court, which could be $10,000, but because you litigate for five years, you have a $3 million cost bill. So that unfortunately fees any statute that's connected to attorney's fees. It's always a bad idea. But only actual stipula

background audio 1 (01:14:26):

Should be.

background audio 8 (01:14:30):

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 lawsuit should have to show actual harm for the forward. What is going on here? All these piles of dirt and it looks like a disposal site soon to be a new development. Yeah. Sprinkling

background audio 1 (01:16:57):

The cutting

background audio 8 (01:16:57):

Here and then

background audio 1 (01:17:41):

So

background audio 8 (01:17:41):

You kind contrast with where we are with SE 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. They just burned their own trash every day. That obviously was a disaster. That doesn't work either. That doesn't work either. No rules don't work very well at all either. It seems like the secret has to be reasonable rules, common sense and obedience to common and collaborative efforts. Her director said no. Okay. Surprisingly she doesn't work for the same entity. I work for work for the state and she's accounting 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. Interesting. Eventually they'll work for the state, but right now they're still county still.

(01:20:03):

Well our office, Ruby in particular, reaches out to your clerk on a regular basis for coordination and is very happy with the relationship responsiveness to helpfulness of the clerk. Very good. Yeah, Jennifer is very helpful. She's got a lot of good people skills and try to pride ourselves on customer service. The courts are here to service the community, vice versa. As attorney have many courts that have the office of you. But everything I do is based upon my P T S D from being a lawyer, judges, you have role models of what not to do being raised by grandparents. The reason why decided to get on the bench was because in my 22nd year practice, I had a mandatory settlement conference in la,

background audio 7 (01:21:41):

Nothing

background audio 8 (01:21:42):

Crazy, just kind, usual stuff. And he turned me, so what's his case about asking me the exact same question and I think he got three rigs out of my mouth. You're full of

background audio 7 (01:21:51):

Shit. This was

background audio 8 (01:22:41):

A client. And so my client walked away with the impression that the 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. I result judge having a bad day. It's the system's against 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 might back the office, I said to myself on my worst day, I could be a better settlement judge than that guy. Because I thought, be a judge, you've got to have lots of patients, lots of wisdom stuff, everything. I don't think I could do that job. But I said, well in fact I could do it. I could do it. I 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 applications. No, no, it's the big one. It works. It's on top facing the top right, I'm sorry. Top left. The lumber.

(01:25:05):

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 the judge had been disciplined months later. And so that experience, which I think was a really good experience to have becoming a judge, what the effect of somebody comes to the table that's biased is not being how that really has a cancerous effect on the system. Joseph, you can't really have that dog much more than the case.

background audio 7 (01:27:30):

I get away with it.

background audio 8 (01:27:36):

Yeah. I wouldn't do it.

background audio 7 (01:27:41):

Just crazy stuff.

background audio 8 (01:27:45):

What's the part you like most about being a judge? Yeah. I like most is I get to come and 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 and the favorite part of my day is sitting down with the attorneys before we walk into the courtroom, start a trial every day we're sitting down, we're talking about the case, we're drinking coffee, having a donut, just talking about stuff. And we're

background audio 7 (01:29:43):

About that Judge. Judge

background audio 8 (01:29:46):

Wife actually worked with him at Liaison Really? And that's a terrible, terrible thing very back then. Was very friendly

background audio 7 (01:30:22):

Drinking or something like that. He was drinker,

background audio 8 (01:30:28):

All kind of drinkers. I don't care how drunk I would get. I don't know how you gun into your wife and pull the trigger. Yeah. Yeah. Alcohol affects different people different ways too.

background audio 1 (01:31:02):

Sure

background audio 7 (01:35:40):

Of

background audio 1 (01:35:41):

Go farther. I'm great.

Andy Malone (01:35:47):
And you come back out here and you're

background audio 1 (01:35:48):
Lousy again.

Andy Malone (01:35:54):
Wow. The mountains are beautiful. Now we can see them.

background audio 1 (01:36:03):
Well want me go up there on the photos? So how far do you drive?

background audio 7 (01:36:59):
You're less flexible.

background audio 1 (01:37:03):
I think

Andy Malone (01:37:03):
I'm better

background audio 1 (01:37:04):
Here than I

Andy Malone (01:37:08):
Used to overthink that I was a 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

background audio 1 (01:37:21):
Nervous.

Andy Malone (01:37:30):
Also playing at a club and we play for money a lot and everything and that once you learn how to play

background audio 1 (01:37:38):
Under that type of stress,

background audio 8 (01:38:58):
We just had a judge's top golf Audi about two months ago. That was really fun. Yeah. I had to go check out one of those places. It's fine because you don't feel that pressure putting on the tee. Everybody's just out there having time and not really watching people next to you. It's just your little group. Yeah.

And being monitored is always fun as far as how far the drive goes and whether you're not good or slicing it. Yeah. It matter whether if you hit 200 yards or 230, 30 yards, they're pretty accurate. And it goes off an algorithm that they've tested side by side with somebody hitting the ball in real time on a golf 66. That's kind of cool. They didn't tear down that surface data. Yeah, it was decrepit. I know. For a long time. For a long time. And they rebuilt it to replicate what it was. That's what I call now. Yeah. A nice little short piece. Historic day.

background audio 7 (01:44:19):

The

background audio 8 (01:44:19):

Next judge tour won't be 20 years from now. Yeah, please do take us up on the offer. Pleasure meeting

background audio 16 (01:45:13):

Folks. Hope to see you again someday. Great tour.

background audio 6 (01:45:15):

You guys had a fabulous job and appreciate all the information I guess. So much smarter.

background audio 8 (01:45:23):

Hope it was helpful now that when I got here this morning. Yeah. Good.

background audio 6 (01:45:27):

So I just really appreciate it. See you. Have a great weekend. You Brian.

background audio 8 (01:45:35):

Thank you so much buddy. I'll take

background audio 6 (01:45:39):

Yes, thank

background audio 8 (01:45:40):

You.

background audio 16 (01:45:42):

Outside of the boardroom. Yes, the norm operations. Okay. See you Chris. Good to go. Hanging out. I'm going to go in. Good stuff. Sounds good. Good job. Alright. I hope so. I can't promise for 35,000 feet. Good job today. Thank you. Thank you. We see you soon. I'll you guys snow before that sounds.