

Transcript of ADEQ's public meeting on the Copper World draft Aquifer Protection Permit on February 20, 2024

Explanation of the transcript

This is an unofficial transcript of the Arizona Department of Environmental Quality's (ADEQ) informal public meeting on the draft Aquifer Protection Permit (APP) for Hudbay's Copper World project. The meeting was livestreamed, and SSSR's executive director, Rob Peters, made this transcript is based on a recording of the livestream. Because the sound quality was relatively poor and some people spoke without a microphone, parts of the recording were inaudible. These sections have been marked as "[inaudible]."

Because of the roughness of the recording, this transcript should not be used as a certain record of what people said, but rather as a source of general information about what was covered at the meeting.

Because this meeting was informal, as opposed to a formal "hearing," ADEQ staff was permitted to answer questions from the public. SSSR helped our members prepare for the meeting by providing them with key questions and comments, which are reflected below.

ADEQ staff participating were Justin Harris, Aaron Tews, Wayne Harrison, Ethan Leiter, and David Kim.

Part 01. Introduction.mp4.

Wayne speaking:

So, wanted to start out a little bit and talk about some of the statutes and rules that govern the Aquifer Protection Permit Program.

ADEQ's authority is derived from the need to protect air, water, groundwater, surface waters and the state. And, current law requires ADQ to issue the permit if the applicant demonstrates compliance.

So, this is a ground water protection permit. And there are some things that are kind of out of scope for the purpose of the ADP review and approval of the permit.

Some of these things that are out of scope in our program would be:

1. the National Environmental Policy Act review. That would be something that would take place on US federal lands. And this happens to be a private land this project.
2. Any downstream physical hazards that might cause a loss. loss of life or property in the event of a potential loss. Tailings containment. That was a decision that the state legislature made back in 1997 to exclude mine tailings.
3. Dams from the Arizona Department of Water Resources Jurisdiction on the medium safety program.
4. Other state agencies that that we could refer to for other types of impacts would be the Arizona Game and Fish, which would be like Wildlife or Migratory or local bird species.
5. the Arizona Department of Water Resources, which has oversight of groundwater *quantity* in the state of Arizona. So, we're focused on the aspect of groundwater *quality* with the aquifer protection program.

So, this wallboards three aspects of the requirements in statute to receive an aquifer protection permit. An applicant has to meet one and two or one and three in terms of these paragraphs that are pretty much all straight from 49 to 43 in the Arizona Statutes.

I don't want to read it verbatim, but some of the highlights are that in #1 the facility needs to be designed structurally, and constructed and operated as to ensure the greatest degree of discharge reduction achievable for the application and best available demonstrated control technologies.

#2 the pollutants discharge from in no event cause contribute to a violation of the water quality standards at the applicable point of compliance for the facility and that no pollutant discharged will further deteriorate at an applicable point of compliance.

Part 02. Is there enforcement

Is there any kind of enforcement in this procedure? The compliance aspects are written into the permit. I wasn't planning on going over those in detail tonight, so I don't have those slides prepared. But in the permit itself, there are, um, for corrective actions. If there is an exceedance of an aquifer water quality standard.

I will touch a little bit more later in the slides on how those triggers are set in the permit. So maybe some of that will be handled in the following discussion.

But the actual kind of the nitty-gritty of how. aspects of this work may not be covered in as much detail as you're asking.

Part 03. ADEQ does not work with AZGFD

Michelle: Hi, I'm Michelle. My question is how can ADEQ be responsible compliance when you're not working directly, and you should be working directly with Arizona Game and Fish and the Arizona Department of Water Resources? If you don't work together on this issue, how can you make the right decision on the plans? You can't.

Wayne: Michelle, I want to address your question, but the answer is probably not going to be completely satisfactory to you. And my answer would be that we don't have something. So, the statute and the rule requirements don't have an authority for us to regulate [?groundwater] for quality. It's not within our authority. It's not within the program authorities given us. And that's why I mentioned that there are other agencies that do deal with what's going on.

Michelle: You don't even to talk to them, right?

Wayne: For purposes of this permit there's really not a lot of interaction.

Part 04. Chemical standards and Points of Compliance wells

The standards, the aquifer water quality standards are published in Arizona rule. There's a list of them. They each have concentrations as standards. So that defines the chemicals we're talking about. The Arizona legislature has adopted that rule for us to use and it has the constituents listed in concentrations.

The applicable point of compliance is also defined in our Statutes and Rules, and it's a vertical plane at the edge of the property boundary that goes down, if you can imagine this piece of paper being that point of compliance, it goes down to the uppermost portion of the property boundary.

There's another aspect to it, the down gradient point of compliance. So that's where the, so it has to be a down gradient point of compliance.

Part 05. Downgradient Point of Compliance

There's another aspect to it, the down gradient point of compliance. So that's where the, so it has to be a down gradient point of compliance.

Part 06. Point of Compliance well depth - monitored by Hudbay

Roger McManus: if there is any pollution of aquifers downstream from the exact point of compliance at the edge of the property ... [inaudible]

Wayne: The point of compliance, as far as groundwater, it's going to be monitored with a well that's downgradient of the facility, and if something got beyond that then you'd see it in that

well as well. So, the depths of the wells vary, and they penetrate the upper portions of the aquifer.

So, you tend to leak probably in those cases. The wells are monitored by the facility, by Hudbay. [Uproar] In Arizona the legislature guys decided that our monitoring programs are self-monitoring programs so, I do hear some concern with that approach. The legislature would be the appropriate place to handle those types of concerns that we'd like to address with your representation.

Part 07. 2-year process to set AQLs

Nina Luxemburg: Those monitoring wells have not been constructed yet, so that permitting your proposing is going to be issued before we even get a baseline of what a scenario would look like. Number two, we talked about standards, there's some people somewhere, but the state has no standards for uranium. It has no standards for sulfate. And the state standard allowable level of arsenic is five times higher than the federal limit. So, you have to come up with AQLs that are responsible numbers. And that does not appear in the draft.

Justin Harris: So, we're going to cut off the questions now and we'll do more questions after I went to the last 10 minutes.

Wayne: I'll repeat your question. The question was about what happens if you don't have the wells installed right now and you do establish the baseline before you issue the permit? The rule is not about timing on that, but in this instance, what's going to happen is the wells would need to be installed, ... we've agreed on the locations and where those wells will be in our grant permit, and then those wells will need to be installed and monitored and sampled and those limits will be set and that's where your baseline condition will be established. And then I have a slide about this later on but there's a process of setting those sites-specific standards, and that's usually a two-year process. So, we usually look for 8 quarters of data to base our statistics on setting those individual well-specific limits for each well. And that would have required to discharge.

Question: And then monitor throughout the life of the line?

Wayne: Correct. And post closure. So, pre-operation, during operation, during closure, and in post-closure.

Part 08. Action by ADEQ if mine out of compliance

Question: In the event that a reading is found to be out of tolerance, what is the next on the agenda?

Wayne: The permit requires that any exceedance of the standards would require the company to notify ADEQ. There's a five -day notification requirement.

Question: Would be any shutdown of operations until everything was in compliance?

Wayne: I'm going to try to get it there. Okay, so we've got a five day notification requirement and you've got a previous notification requirement, and they have to come up with a corrective action plan. They have to determine the cause of the exceedance and then come up with a corrective action plan and submit that to ADEQ for review.

Part 09. compliance-monitoring-closure

There's a couple of things that we have to determine when we issue permits and that is the company demonstrating compliance with the requirements to receive a permit, and those are outlined in rule and statute. And what permit conditions should be applied to ensure compliance and that's what we do when we look at a draft permit.

So, the components of an application that are required when an application is received is that it has to cover the type of ... where is the local facility located, what type of facility is it, what is your proposed design? There's a requirement that they provide a hydrogeology information, which would include site conditions, geology, groundwater depth, and flow direction, groundwater flow direction, which is important for determining a downgradient point of compliance well location.

There's also civil and geotechnical engineering requirements that go along with that. They need to provide a monitoring network proposal, which would include discharge monitoring, leak detection under liners and ponds and things like that, and then a monitoring network of wells that monitor the groundwater quality.

There is a closure cost estimate that is provided by the applicant. It has line items for things that would need to be captured in closure. So, if ADQ, if for some reason the company went on business, ADQ has a financial assurance mechanism, a bond if you will sorts, that we would have access to in the event of that eventuality. And then we would have to use that money to contract other folks, other entities to, we would contract somebody to close and clean the mine.

Yep, so that's what those two items are about. And then there's the contingency plan requirement, which addresses various contingencies.

Part 10. Contingency plan

Ethan: You know, so the contingency plan outlines things including visual inspections, routine O&M, things the mine is required to do.

Question: What is O&M

Ethan: Operation and Maintenance

Sorry about that. Lots of Acronyms for the agency.

So essentially, it's, it's corrective actions that they need to spec and have a plan for to prevent facilities from deviating from their approved or draft-approved design. So, this could include visual inspection of the mine impoundments; ensuring monitoring equipment is being maintained and is performing as it's supposed to.

Beyond that, there's notification [inaudible]. There's operation and maintenance as well as corrective action [inaudible]

Part 11. No monitoring exploratory drilling

Nina Luxemburg: Hudbay is already drilling bore holes, and that alters the hydrological flow downstream, affecting our wildlife, affecting our water. You're talking about monitoring wells in the future, but what's protecting us now? [inaudible]

Wayne: So, I'm going to paraphrase the best I can. So, the question is, how do the exploratory borings affect the groundwater quality?

So, we don't have authority to, in our program, address exploration holes. That's an activity that usually happens. It's kind of an ongoing thing, but it usually happens before a mine would come in for a permit. They have to prove that there's an ore deposit there, that there's a reserve, and that they obviously would do their economic figures to make sure that's pencils out for them. But for purposes of our program, we don't regulate exploratory borings.

Part 12. Linings-bond-inspections

Wayne: Some of the components of the application continue on this slide. Draft permit conditions.

So, some of the things that would be the draft permit are requirements for mine impoundments to contain discharges, discharge monitoring, groundwater monitoring, certain reporting and record keeping requirements that the mine has to maintain and financial insurance, that's money that they ought to put up for cleanup and closure that would go to the state in the event that they're not able to perform on that. Routine visual inspections, corrective

actions when required by the permit, if there's an exceedance of groundwater in a well or something like that, we would proceed on that path as defined in the final permit and the contingency plan requirement.

Part 13. Operations layout - this is plan - no decision made

[At this point Wayne is referring to a map of the mine layout.]

So, this is an overview of the facility itself. The ridge line is approximately here. It's not very easy to see, but this is approximately where the top of the ridge line is. So, everything over here is on the west side. Everything over here is east. So north is up in this aerial photo.

So, you have a series of pits. Some smaller ones, these green outline areas are pits where the ore going to be excavated. The pink areas are waste rock facilities. Some of these pits will be filled in with waste rock.

And there is a heap leach facility. So once that ore is excavated and brought down, it goes through a sorting and grinding and crushing process. And then it is placed on the heap leach facility to get the copper out.

There are other facilities here, so plant facilities that are going to be kind of in this area.

This large F shape facility is tailings facility 1. So that's where the waste, ground-up non-economic waste products get... Think of it as sand, clay, silt-sized particles and water. It's a slurry mixture that goes in... they pipe it over here and put it in this facility.

And there's a tailings [inaudible] facility 2 that's located here.

Question: Is this the latest plan?

Wayne: Correct.

Comment: It seems to change every day.

Wayne: This is the plan we got in for review on this application.

Comment: So, the decision has been made.

Wayne: The decision has not been made.

Justin: It's in process.

Wayne: So, the proposed point of compliance wells are located where these red dots are shown. And they are at the perimeter of the tailing storage facility, the plant site, downgradient

of the waste rock facilities, facilities in the plant area and downgradient of the waste drop facilities on the bridge.

Part 14. Sampling parameters - applicant MAY sample

Wayne: So, the proposed point of compliance walls are located where these red dots are shown. And they are at the perimeter of the tailing storage facility, the plant site, downgradient of the waste rock facilities, facilities in the plant area and downgradient of the waste drop facilities on the bridge.

This is a list of parameters that are in the draft permit that Hudbay will have to sample for, like in the groundwater. I didn't think you'd really want to see a table of numbers, but it is in the draft permit, and it is available online with the materials [inaudible]. I think we have a couple of copies here tonight. So that would be on the tables at the end.

Part 15. Can more POC wells be added to NE

Dennis Winston: I have a degree in geological engineering at the University of Minnesota, but that's irrelevant (inaudible chatter) - Okay, so I've read the permit, and the ADQ has a lot of constraints and so forth in there, and they're probably good ones. (inaudible chatter) My concern is that there are no repercussions. There are no consequences if those standards are not met. All of these things, [inaudible] we'll relax the standards. In my opinion, yes, the permit, in terms of what they're trying to do is probably okay. But there's no teeth in it. It's a toothless permit. permit. And if I were the CEO of a mining company, and I saw that permit, I'd say, "Oh, we'll do this." They're going to say we're going to take care of all of this stuff, and then later on, they're going to say, ah, that's too expensive.

Part 16. Enforcement escalation

Question: So, I didn't understand you. You said that the standards and that the wells, the monitoring wells are going to be done after, right after the permit is given?

Wayne: It's required as a part of the permit. [inaudible]

Question: So, but if you give them the permit, and none of this has been established. But after the permit is given, they can do it. Then you don't have control over what they do, except to say, again, that was bad. ... once they start doing it, they're just going to keep doing it. Right? I mean, ... Now, all these things are going to happen. You can't stop it at that point.

David: Hi, in regards to all the compliance questions, the short answer is yes, if the facility is out of compliance, we will pursue enforcement action against them. Now, there is, hold on, hold on, hold on, thank you. So, there's a level escalation of enforcement, correct? There's info on

enforcement, NOVs and NOCs, which is notice of violations and notice of opportunity to correct. So that's our least restrictive or I guess, those are minor violations. They can get escalated to formal violations, which would be consent orders and consent judgments. And if it gets to that level, we can unilaterally shut the plant down, but it has to go up the chain

Chain... Make sense? Does that make sense? Yes? No? Yes. Yes. Okay.

And then also there is a monetary fine that can be levied.

What's that, ma'am? Ma'am, ma'am, hold on.

So, I was just mentioning a statutory maximum penalty for water quality that's \$25,000 per violation per day. So, if they have in their POC an exceedance and we deem that, you know, finable and we've done version enforcement action on it, and there's three wells that's out of compliance, that's \$75,000 per day that they're out of compliance. Does that make sense? So that's our statutory max, and that's, again, one of the [inaudible] because we need to start at the bottom.

Part 17. Application process dates

Wayne: So, I want to talk a little bit, just go through permitting process, and we are here, but how did we get here? So, we had three application meetings with the applicant that began in August of 2022. The application was received in September of 2022. We went through a period of administrative review, made sure all the components were there, and we went into substantive review of those documents.

And then we drafted the permit and the executive summary document in October of 23 and went through an internal and external review process in November of 2023. We published a public notice in January, and we are now in the public notice comment period.

This is the community meeting. In March, we will be having the official legally required public hearing. We added this community to answer questions in a more informal setting.

So that's where we're at right now. The public hearing and coming up, like I said, in a few weeks. The public comment period will close, I think it's. Yeah, it's starting to have the date right off top of my head. We're legally required to do a 30 day public comment period and we've extended it twice and now I think it's at 60 days thereabouts.

So, when we get the comments from the public and that window closes, we'll look at all of the comments and we're required to respond to those comments.

We'll respond to those comments in writing. And then a permit decision will be reached sometime in 2024, don't have an estimated date on that.

Part 18. Nina Luxenberg. Chemical standards

Nina Luxenberg: Are you going to establish levels for uranium? It's a radioactive material. For sulfate, for arsenic.

Nathan: So, in terms of uranium, we don't really have a numeric [inaudible] for that. However, we are planning to adopt the MCL for uranium, [inaudible]. So, similar to the other aquifer quality standards, through an adoption, which we anticipate will happen later this year, the facility would be required to do monitoring and ensure that the limits at the point of compliance well are not exceeding the drinking water standards. Similar for arsenic, which I believe is your question as well, that is actually going to be adjusted on [inaudible]. We already have standards for arsenic, so that standard will actually decrease. And when you mention the facility performing what we call ambient monitoring after the permit is issued, that will determine the site -specific conditions of the aquifer. Once those are established and then monitored for, they can't go above the aquifer quality standard, which will then become limits to the permit.

In terms of the department of water resources questions of the aquifer quantity, it's important to note that, and I encourage you guys to submit your comments formally because in the event you don't get to ask your questions today we will respond in writing to any questions you get. So, if you do run out of time, ...we will get to it there.

So we already have been in coordination with the Department of Water Resources regarding the active management area and so on. So, we are coordinating. Earlier in the presentation there was discussion that we don't work with our sister agencies, but in fact we do, and if comments are received with respect to water *quantity*, we will be fulling in coordination to ensure that the facility is going through the appropriate channels to do what they they're pursuing in the aquifer.

So, the question I was asked about sulfate. Maybe you can be more specific about sulfate plume from sulfuric acid or from using the leaching process? Or from the sulfide ore itself?

Question: [inaudible]

Nathan: We're getting a little out of scope because this is in Sierrita. However, with respect to Sierrita and sulfate, they're under a mitigation order with respect to wells. The mitigation order includes wells that essentially create a boundary on the facility that they're required to pump and ensure that the sulfate does not contaminate and cause further issues downgradient. That's an example of something not going as it should after hundreds of years of mining. Our program was established in 1986. The objective of course is to ensure that that is not a reality that we face in coming generations.

Part 19. Mike Millius. Pollution control measure and POCs

Mike Millius: Just to follow up on that, Sierrita mines, any things you've learned there that you've applied? Have you taken all that stuff and applied it to the permits then for Hudbay?

Also, [inaudible] have you reviewed Hudbay practices in the past? Have you looked at all of Hubay's infractions, violations, throughout the world, and looked at almost basically, toward going forward.

And then the last was the aquifers that travel sometimes more than a quarter mile. [inaudible] So that whole Rosemont area, the wash that all flows down the wash that goes right by the community. And again, you should have a map that shows that community with all those wells.

You know, that wash would be a prime location to put a well to look for contamination, right, that flows right out of that Rosemont area.

Ethan: So, there's a lot to unpack there... So, I want to mention and go back a little bit to the POC wells and the groundwater monitoring, because the groundwater well monitoring is not intended to be a first indication of a particular issue.

We have what's called the best available industry control technology, which is an engineering control for mines in the state of Arizona [inaudible]. The objective is that any process solutions that could have a potential to degrade the aquifer, they are required [inaudible].

What does that mean? It could be a single lining impoundment, it could be a double lining impoundment. Double-lining impoundments have what are called leak collection and recovery systems. There's also other engineering controls that prevent the migration of pollutants. So, the POC well is not really the first indicator whether we have an issue. If it is going to get to a POC well, that's essentially our indicator of a quantity or a level of a POC well that is going to prompt corrective action, but that's not a sole indicator that we have something that needs to be addressed.

Mike Millius: But that really *would* be a first indicator. So, I mean, if something's occurring, there's the people with the wells, the population. That will be the first indicator, so nothing else.

Ethan: So, the question was, that would be the first indicator? That's not entirely true, because between the land surface, and where the aquifer is, that's called the [inaudible]. transport of anything that could be the aquifer would be caught in the POC well, but primarily the goal is that there's never anything that could be the [inaudible] zone, and then pollute the aquifer to begin with. That's the objective of the engineering controls that I mentioned.

And in terms of the surface water stuff [inaudible, but Ethane deferred the question].

Part 20. Mike Millius. Hudbay worldwide infractions

Mike Millius: how have you considered Hudbay's infractions across the world?

Ethan: So, being a state agency, we were aware of the fact that there are multiple mines in the state that are international, global. In terms of the statutory requirements for our review of approval as a state agency, [inaudible]. That's not to say that we're not aware of other facilities around the world. But the reality is that they're operating in different ecosystems with different regulations.

Mike Millius: But it just seems like if there are tendencies, right? Like all of who work in business, like if there's certain things that occur, then we look for those again in the future. So, if they, if they do something like this, we would expect to do it again.

Nina Luxemburg: [inaudible]

Justin: Those are definitely things that we would consider I assume as part of the permit.

Part 21. Numeric vs narrative standards

Mani {name?}: Nina touched on my concern with toxic chemical leakage and the lack of standards in Arizona for sulfate and uranium and also the really high levels that will allow the arsenic. You said something that you're working on limits for sulfate, or is it going to be for this permitting process? Or something in the future>

Ethan: So, it's important to know that there are two different kinds of a lot of aquifer quality standards. There are numeric which are defined concentration limits that are based on drinking water standards.

And then there are narrative aquifer quality standards. And typically, the narrative standards are leveraged by our agency in the event that there is not a maximum contamination level for things such as sulfate. So that allows us to perform the ambient water quality monitoring process and [inaudible] it would be beneficial to leverage that narrative standard.

So, with respect to sulfate, ... if we receive public comments and sulfate is getting a lot of interest, that is something that previous public notice periods and public hearings changes have been made in a permit on the basis of public comment. This isn't just a process that we follow and don't take seriously. So, if there are comments with respect to things that we can leverage or any more steps, that's something that we would definitely entertain and take seriously.

Our objective is to issue a protected permit. So, if there's an avenue to do that with respect to sound comments that are [inaudible] and leverage to find a solution and working with the permittee we will be able to do that [not sure of words].

Part 22. Lynn Harris. Housing and surface water in Sycamore Canyon

Lynn Harris: My question is about [inaudible]. So, there's a lot of water. Some of which will evaporate, some of which will migrate into the soil. The majority of the thousands of acres of these tailing piles are located close to the existing residences, some of which have the existing wells. And also, at the head of Sycamore Canyon, which is an important reserved area ... and it supports wildlife. [inaudible] So, do your monitoring wells protect or allegedly protect both the vital well sites as well as surface water? How do we know if the surface water, in particular in Sycamore Canyon, contain these tops of detergents?

Ethan: Great question. So, the point of compliance was required so that they retain the quality of water pre-operations. So that's the objective of establishing those limits. In terms of the research on ecology, biology, question, and reliability, to that I think we might have to capture and take back because it related to things a little bit outside the scope of my comfort zone in answering.

In terms of the wells, the residential wells that may be to the west, I think is what you heard. It's southwest of the town storage facility. I can't speak to the depth of those levels, but again the intent of the point of compliance being located in the upper most aquifer is to ensure that there's advance insights into what's happening in the composition of the aquifer in order for it to travel outside to impact the residents. So, as I mentioned earlier, the point of compliance well and in the sampling conducted within it should not be our first indication if something is not going as approved.

But in the event that it did, that would be where we would be located. And many, many wells in the state are not located for drinking water use, even though this facility needs required tests for those standards in the uppermost aquifer. Typically, what you'll see is drinking water wells located in deeper aquifers, but that said, the facility doesn't get to [inaudible] regardless of the location. And again, all aquifers in the state of Arizona are designated protected [inaudible]. So that's where part of that comes from. We have to test and retain the quality of drinking water.

Part 23. Gary Townsend. Can we trust Hudbay monitoring

Gary Townsend: So, Hudbay is going to drill those wells, they're going to tell you what they're going to do. They're going to monitor the water, they're going to report back to you what they find, and then you're going to find, potentially, if they go over there, there might be repercussions. So, Hudbay being a for-profit mining company with shareholders, ... what would be their incentive to give you accurate information?

David: So, their incentive to give us accurate information is so that they don't go to jail, right? So, we have an ongoing case right now where we had the SMIRM [? Spelling?] facility in the

SMIRM self-reporting and they violated it, they basically lied. In the case you're talking about, we're going after them for enforcement penalties at \$25,000 per violation per day, right?

We do our data processing and review and our SOP for standard procedures. So, if they do lie, and I think we have members of Hudbay here, I don't know who the designated felon will be, but that's a short answer. Yeah, we'll do something.

Gary Townsend: Yeah, I just, I mean, why wouldn't a responsible entity at least recommend to, if you don't have it, if ADEQ doesn't have the authority to implement something that they have within a [inaudible], why wouldn't you at least recommend that it be a third party or somebody else also to implement something [inaudible]

David: We're here, right? So, they can do business as they see fit. We're not, just like you have [inaudible]. But the government can't come in and say, you have to drive an EV, right? Because that's where we're going. We're not California. So do what they want to do and how they want to do it. We're here to make sure that they do it in accordance with the law.

Part 25. Michelle W. Tailings description. Upgradient monitoring

Michelle: So, to elaborate a little bit on the tailings, I used to work at a copper mine, and the tailings are kind of inevitable. What they are, they're the color of his gray pants, that's what you'll see everywhere. And it's a fine, fine ash. It blows around, it kills everything. I've seen it first hand. It's miles and miles of desolate gray dead... That's what tailings are. And it does go into the ground. [inaudible] We all know that. Yeah, so my question is, and we talked about downgradient with wells, but what about upgradient? Because you never know how that's going to be affected. So, is it the same type of monitoring or based on our conversations tonight are there going to be water wells added to monitor for these situations that weren't thought of? [inaudible]

Wayne: So, your concern is about groundwater flowing up gradient?

Michelle: Yeah, discharge water up gradient.

Wayne: So, hydrologic first principles tells you that water is going to follow gravity. It's not going to go uphill. So, the downgradient point of compliance is what we are required to regulate and so that's why the well locations were chosen where they are, downgradient to the facility on both sides of the ridge, they'll be wells on both sides of the ridge.

Part 26. Russ McSpadden. Does ADEQ vet Hudbay's human rights violations

Russ McSpadden: First of all, it's a statement and then the question relates to it. So according to news reports, Hudbay has a history of human rights violations and environmental intimidation globally. Just for example, the company hired a [inaudible] detachment National Police, which subsequently beat and teargassed villagers that were opposed to their Constancia copper mine. The Hudbay security chief at Guatemala nickel mine pled guilty of murdering an indigenous leader who was opposed to mine, and Hudbay's copper smelter in Flin Flon, Manitoba poisoned the land and left elevated levels of lead in the blood of the children that lived nearby, that company then sued the first nation in Manitoba that opposed its mining operations and practices.

So, my question is does ADEQ do background research in the history of compliance violations by mining companies that become your permittees?

Nathan: So, similar to other businesses in the state, there's a corporation commission is the main entity that a facility, whether it's a waste treatment facility or a mine, is required to go through. So, in terms of research and background checks on facilities that the company may be in ownership of in other nations or across the world, it's really outside the scope of the State of Arizona.

Audience shout: Let's do right by the people.

Nathan: so, if everyone could not scream, [inaudible] but I will answer if you have any comments. So again, us being a state agency is not an excuse. In fact, we're really happy that we do have a state program because some states do not. And so, in terms of the actual question that was posed or maybe derailed, we don't look at humanitarian-related components to mine practice, The laws of the state in the United States are related to this facility. So that's outside the scope of us determining [inaudible].

Part 27. Roger McManus. How are chemical standards set. Speed limits

Roger McManus: So, I have a relatively simple question and not a simple answer. Earlier we were talking about how are we going to set up monitoring and who is responsible for what in the process. Is that a statutory requirements that you're relying on? [inaudible]

Ethan: So statutory is regulatory. When a facility such as a mine requires monitoring, they submit that data set to us, and we review and determine what the data set looks like and then

statistically we set the limits. The objective is that the groundwater quality is at the same level or below the drinking water standards.

In terms of what regulatory agencies oversee the monitoring and sampling, which I believe is your question about overseas.

Roger McManus: it's not "overseen." It's who sets the standards? If you're going to monitor and you have standards, the standards have to come from somewhere. So, it's a relatively simple question. Is the state legislature setting the standards that you have to comply with? Or are you setting the standards with which you're going to comply?

Ethan: So, we're fortunate that we have a numeric [inaudible], which are based on drinking water standards.

And so, when a [inaudible word] comes in and they want to get a permit, they need to ensure that they're not going to further degrade the aquifer [inaudible]. So, that's a pre-operation issue. So, these are the standards that they have to comply with. Overall, we have the numeric, and then we utilize those tables that you saw in the presentation to determine what monitoring is required based on characteristics of the facility's operation and discharge, and then they have to comply with those. So generally, we set, at least for mining facilities, standards at the drinking water standards themselves. And the Department of Health Services ensures that laboratories consider [inaudible].

In the event the facility were to sample and things were oddly high or above the standard, we would look closely at that to determine if there were anything contributing to that, perhaps in the geology of area. But again, the objective is that they have standards set that are essentially thresholds that they can't pass through their operational and post-closure processes.

Roger McManus: So, if I could just go back... It's the agency that is setting the standards, not the legislature?

Ethan: So, the legislation tells us what the standards are [inaudible] based on drinking water streams. So then when a facility comes in, we have a road map to follow in terms of concentration based on drinking water standards. And when they perform their ambient monitoring period, we essentially confirm that the quality of the aquifer is either at those drinking water standards or below and make evaluations statistically determined if anything is happening to the aquifer pre-operation to make an assessment on what they need to comply with.

Roger McManus: If I may, if you find something that's not up to snuff, are you the ones who are setting the fines and the penalties for that? And I guess the real core of this question is you're

getting information from the applicant, the people who are actually doing the work. They're monitoring this, you're not doing it. They're reporting or may not be reporting. So, you have the ability to adjust what you think is the penalty. And you know, I'm kind of sure that in business, a lot of people make mistakes and there's variables and that sort of thing. And in some cases, companies are known for actually breaking the law. And it seems like the agency, the regulatory agency in this case, is making a determination about a \$25,000 fine. Which we all know \$25,000 doesn't mean "hs" to these people... And you have to find it out. [inaudible] You guys are setting the standards. So, if they make a mistake and or if they are doing something illegal that you established, you're the one sort of responsible for the permit [inaudible]. And the public has a right to know.

Ethan: So, the way the draft permit for the proposed project (works) is that we are setting essentially speed limits. So, with respect to aquifer water quality standards, we're establishing limits that they need to comply with.

In terms of the compliance and enforcement [inaudible] we are structured in our agency to do permitting and inspections, compliance and enforcement. So, we are essentially establishing what the speed limit is, so to speak, in a simpler way, approaching the analogy, they need to comply with the terms of the monitoring components. I'm not going to speak in depth on the facility and what may be a motivator for them to comply, but there's a significant liability with, you know, DBA [?spelling?] and what the permit criteria is.

Part 28. Jean Vickers. Measure to control dust

Jean Vickers: I wanted to talk about spraying the dust because I live downwind.... And what water are they going to use to keep that dust tamped down? And when you are the Arizona Department of Environmental Quality, and I'm assuming air comes under your jurisdiction as well. How is the air quality from the toxic dust being blown off of the mines going to be monitored or managed? I know in Green Valley when there's really windy days, people get dust over their houses. And that's when those mines seem to respond.

And then I just touch on another question that you may or may not want to comment on [inaudible] because I started counting how many times you said statutory regulations or statutory laws limiting what you can do. And I just wanted to get your opinion. We elect different people to the state legislature. Do you think we could get some of those statutory regulations and laws changed?

Ethan: So, you may know that air quality also has a draft permit. I don't believe there is a public notice quite yet. So, in terms of again, our scope within this unit is aquifer protection, but the public notice period is unique because any comments that you guys have about permitting the project as a whole, we will coordinate air quality [inaudible]. So, in the event that you have a

question with respect to air quality and where the water is originating or industrial -related activities, I want to encourage you guys to provide those questions until we can respond when we have [inaudible] for the respective programs in a meeting setting [inaudible].

Part 29. Cathy McGrath. If citizen finds contaminated water can ADEQ monitor

Cathy McGrath: Hi, this [Cathy holds up big photo of water flowing in Sycamore Canyon] is on the edge of Sycamore Canyon, also known as the [inaudible] Protective Waterway [inaudible]. And you can see this was taken on August 2nd, 2016, from my house. My property abuts up against Hudbay's property [inaudible] depending on how they plan.

And I just really want to know if something like this happens, and I will tell you that I've lived there 25 years, and the bottom of the canyon contour changes [inaudible].

And I just want to know when something like this happens that's probably above the norm for what you guys are expecting based on what the standards are. If I started testing the bottom of the canyon and at the bottom of my house and well,... and I start seeing toxins, and I notify you of that, would you be able to go on to the private land and check the wells they're monitoring [inaudible] or would you have to wait until they allow you...?

If you get a report from a citizen who is monitoring... if I monitor my property at the bottom of the canyon, and I started seeing toxins coming through after something like this.

And this washes right through the Sycamore Canyon subdivision. If I notice that the tests are known to be in tailings, would I be able to make a phone call and you would be able to assess further?

Ethan: So, I would encourage anyone [inaudible], if see anything from your own testing that you notify us. We have a number of different ways to get in contact with us. This is a bit more of a drinking water related question, whereas our objective is to ensure that it never becomes a drinking water issue. But if you were to see something like this following a big storm even such as that, yeah, so in the event that were to occur, we would welcome that feedback and that data to evaluate what's happening [inaudible].

Cathy McGrath: Is that coming down to further testing?

Ethan: So, are you on a public water system or private?

Cathy McGrath: private

Ethan: [inaudible] Depending on what you're seeing, I would definitely encourage you to let us know.

Audience question: If she finds an anomaly, and do you as an agency go to Hudbay and make those measurements yourself, or are you relying on Hudbay to then give you a report?

Justin: Yes, as an agency we can. As an agency we can. We'll probably send somebody to test it and verify for ourselves.

Part 30. ADEQ. Who are ADEQ higher ups who approve permit

Justin: This [permit] was approved, we vetted this everybody, not everybody generally, but the director of water has seen this. He knows what it said. His name is Trevor Baggione. And it's gone through our communications department.

[Trevor] answers to Amanda Stone, who is the deputy director, one of the deputy directors of ADEQ, and she answers and she answers to Karen Peters, who is the director of ADEQ. So, they're all aware that these conversations are taking place. They asked us to come out and speak.

Audience Question: Why aren't they here?

Justin: Because they can't go to every meeting across the state. They have a lot of meetings, multiple things that they go to.

Audience Question: Who does Karen Peters report to?

Justin: the governor.

Part 31. Susan Waits. Why give permit before POC wells establish baseline

Susan Waits [?spelling?]: So ADEQ is proposing to give Copper World a water permit before point of compliance monitoring wells are established. Since the monitoring wells will be essential to know how much contamination the mines put into the ground, then why not require monitoring and evaluation of the point of compliance before Copper World gets to submit the APP. I mean, does ADEQ have any leeway or discretion in terms of changing the order of things around a little bit so it makes more sense, because if a Copper World gets a water permit and can start construction before the monitoring wells were in place for two years, how is ADEQ know whether the chemical levels in the wells are natural or the results of construction with mining.

Justin: There were a lot of questions there, but I think the basic one was monitoring at the point of compliance that you were asking about?

Susan: But the order.

Justin: Okay, the timing.

Ethan: [inaudible] So, the timing is really an aspect of having an approved design in house, so we can determine and agree on appropriate locations for point of compliance wells. So, we have a sign that the facility intends [inaudible]. The reason for that, as Wayne said earlier, is that the POC wells are in the uppermost aquifer downgradient of the facility. So, it just isn't really feasible for them to have a draft design and then agree on point of compliance wells.

I think the main component of your concern relates to appropriately characterizing the aquifer before they're in operation. So that's the objective of the [inaudible]. So, prior to them performing the activities [inaudible] they are submitting an affidavit to us, we're reviewing it, we're identifying if there are any anomalies that can be explained that need further follow-up and more statute limits based on that. Upon establishing those limits, which I think is your concern, [inaudible]

Part 32. Rob Peters. How does ADEQ track Hudbay's changing plans

I'm Rob Peters, Executive Director of Save the Scenic Santa Ritas. I know a lot of you are here today.

The first one is sort of a macro question about the process, and it has to do with the fact that Hutt Bay presents a very moving target in terms of those plans, right? Like, until last year under the Preliminary Economic Assessment, they were proposing to start digging at large scale on the east side [inaudible].

And I believe that that plan certainly coincided with your initial discussions with them about the sort of pre-application discussions and submitting the application and so on.

In the end of last year all of a sudden everything changed and in part because of an unfavorable, for them, court decision, where they said, OK, we're totally changing our plan. We're jumping over to the west side. And we saw a picture of all those mines.

So my sort of mega-question here is what actually happened to make sure that as those plans dramatically changed, that your process started under the old plan, which was radically different, still has all the monitoring wells where they need to be, still has everything that needs to be taken to account with this radically different plan.

And then sort of follow up to that, is what happens if next year or the year after, there may be some changes in political landscape, perhaps a different to judicial decision, which leads them to radically change their plan again. How do you know that this APP, now in draft form, adequately takes into account the changes from the plan in the PEA to the current plan in 2023 and then how do you adapt it to whatever other plan they come up with in 2024?

Then I have one more question. Okay. Yeah.

Ethan: Thanks for your question. So, it's important to know that we have different types of amendments that we issue. We have minor amendments, other amendments, and significant amendments. Significant amendments also include new facilities which this is. We review and approve of the plan that they're seeking to get permanent or go to public notices on.

So in the event they want to alter, and mines do this a lot, right? Mine plans change, whether it's feasibility changes or economic factors move them in a direction that the shifts them [inaudible]. That's something that if they want to move on and change, then they need to come to us for another. Which, depending on what they would like to do, it would determine what category of amendment it would be. Generally, for mine sites, if they're proposing a physical or material operation of the plan, that's a significant amendment.

So, does that answer your question?

Rob Peters: Yeah. I think I would love to follow up more about it with you so I can better understand the process. So right now, to put a cap on this, the current draft permit is based on what? The plan as outlined in the Pre-Feasibility Study of 2023?

EPA Engineer: [inaudible] 2023.

Part 33. Rob Peters. If SSSR demonstrates problems with APP is there time to revise

Rob Peters: My question has to do with process. So, our organization has been investing a lot of our resources donated by you guys, thank you very much, into hiring under contract, a couple hydrologists and a mining engineer to take a really deep look at this APP. No aspersions on you guys who have worked diligently, but you know, trust but verify, right? We want our own experts looking at it.

And I'll say in passing that you guys took pretty much a couple of years to look at this plan and develop it, and we were given, as you mentioned already, even with the extension, we were given 60 days, so we've been really scrambling to get a handle on this.

I think after the preliminary looks that our experts have done, we've got some significant concerns about certain aspects of this APD and places where we think it needs significant improvement in order to protect our water.

So, if that's the case, my question becomes, if indeed we can show you guys things that need to be fixed, what's the process and can you expand? I know you have a deadline, a legislatively set deadline when you have to respond to the permit. And so, the question is, what happens if we

say, hey, this isn't right, this isn't right, this isn't right, this isn't right? And you guys going to take more time? What happens?

Nathan: in terms of the public providing technical and substantive questions and comments on the draft proposed project, we love that. We've had third-party consultants, engineering firms, geologists provide really constructive feedback to us before, and this resulted in changes to the permit itself, including what I mentioned earlier. Discussions took place, and something that did not have a standard or a numeric standard turned into the numeric standard that got included in the permit.

[inaudible] public comment concern that was legitimate, right? and technically sound. So, we welcome that. That's the objective of the public service period and [inaudible].

Rob Peters: What happens if we turn up something substantive, and you guys say, yeah, there's something there, what happens if there's something there and you guys are hobbled by the legislatively set deadline? Can you in fact push it out if there are significant problems with the plan as you presented it to us, and you guys need to come back to us with a revised plan, is it possible to do that within the legislatively set timeframe?

Ethan: Yes, so we went over the timeline of the public notice period, [inaudible]. That is modifications that are suggested in some public comment. A number of things lead to that decision. If it's past that point of time, there are other avenues with which comments and or written dialogue can take place. So, that's out of the scope of where we're currently at. We reviewed a few letters on the 180 -day extension. And as you mentioned, we having to factor in the licensing criteria, which I think you may be aware of, in balancing the 30 -day criteria, which is required by law, the extension to 45, then ultimately the 60 -day extension. So, we're having to juggle all the different expectations of us.

Part 34. John Murphy. No ecosystem or spring monitoring

John Murphy: My question has to do with groundwater for ecosystem. Both sides of the Santa Ritas mountains, in both the Santa Cruz and San Rafael valleys, both ecosystems exist because their roots go down deep enough to reach groundwater. Once the mine starts pumping water, it's going to take some amount of time before one of those drops below the point where those plants can keep their roots in water.

At that point, those ecosystems disappear. Right now, there are multiple endangered species of plants and animals in those ecosystems. What I want to link to see is the Arizona Department of Environmental Quality also looking at the level of the water table [inaudible] Are you going to monitor the level of that water in those ecosystems?

Wayne: [inaudible] There's an important difference between state permitting and federal permitting. We do not monitor springs or the groundwater, depending ecosystem that you're talking about. So, we did not analyze those impacts; that is out of the scope of our program. I would say that if you are interested in that issue and you would like to see more, like to see that change, the way to do that is to communicate those concerns to your representatives. To let the legislature make such changes in our statutes and rules.

Part 35. ADEQ - Aaron Tews - closing comments

Justin: Unfortunately, we said we're going to close the day and we don't have more time. We apologize. We know there's a lot of people here who have questions. I would direct you to ... online [inaudible] this.

Aaron: Before we leave, I wanted to touch on some of the things that are in this meeting. So first, change is happening to permits compared to the process in the past. Based on public comment, we do consider these at a high level ... [inaudible]

Our goal is to write a protective permit. We're here not to give the mine a pass, not to just sit here and be an agency. We're here to write protective permits, and we're here to protect human health and the environment.

I think David helped demonstrate that we do have repercussions for the mine for violations. There is a whole process for violations that we follow. We also, I think, stress the importance of your state legislature. I think there are a lot of statutory requirements that we're required to follow. I think you should reach out to your state legislator. There are standards there that are made by the state legislature. You can tell them to change through your vote and to reach out to the legislature.

And finally, I want to say that we do take community data as part of our process. So, we work with communities. [inaudible] For example, in Patagonia, there's a lot of sampling of the water there, and we have an ongoing community project [inaudible].

I'll tell you guys about what's coming next... Upcoming ADEQ public hearing on March 5th, which is the formal process that we're going to have. [inaudible]. Again, the comments will be recorded and responded to at a later date.

After that, we're going to have the air quality permit community meeting. [NOTE: the Air Quality Permit dates stated here are being changed.] This is the same format as this meeting tonight. It's going to take place on March 27th again here, and we're going to discuss that permit and the air permit process, and I know that we got some air comments tonight, so I hope to see you there.

Finally, we're going to have a new formal hearing April 17. Again, the comments are recorded through the full process. We will have some of our staff here a little bit to answer some of your questions.

And with that, I want to wish everyone safe travels home and we do thank you for your guidance coming here to your folks.