Blackstone Class V Public Hearing February 21, 2024

[Transcript Begins]

Dan Hall:
But we'll go through a little bit more of that when it comes. I'm Dan Hall and the section manager for the Groundwater Protection section at the Division of Water Quality. And this is Porter Henze. He's the project manager for the underground injection control program. So with that, we'll go ahead and view the presentation hopefully reasonably well on both of the monitors.

00:00:31 Porter Henze

Anyway, so I'm Porter Henze. I'm the project manager for this particular site. I handled the underground injection control wells. For the state of Utah. Specifically, we're here for the Blackstone permit, which is just outside of Green River, Utah. I know we have a lot of comments about the A1 lithium sites. This particular permit is does not involve A1 lithium, this is strictly just for Blackstone. So just to keep that in mind as we're going through this. That permit is still in review.

Anyway, I'm just going to go through a brief rundown of what this with the permitting process is, what's going on, and to make sure that people are more informed.

We'll start off with a brief summary of underground injection wells, a brief geology of the area, some hydrology, the actual project itself and then goes into like the design and production of a well and how to protect it. But when it becomes abandoned, and so on.

OK, so underground injection wells are a relatively new thing with like past 30 years, we've got a lot of attention for regulation and stuff. The purpose is to place fluids into a porous geological formation and maintain protection of the USDW's or underground sources of drinking water.

So specifically, these lists can go anything from, like a mining well, that goes and injects chemicals into the ground to extract minerals, to aquifer recharge where you might take clean water and inject it into an aquifer to refresh it, or stormwater wells, all these things fall underground injection control. We want to make sure that we're not going to contaminate any existing groundwater.

Specific regulations involved are R-317-7 and 40 CFR 24. Originally underground injection control wells are federally regulated by the EPA, but the state of Utah has primacy, which means that we've applied for permission to regulate ourselves. So we follow both the rules for EPA and the laws that the state legislature has enacted.

There's a lot of different types of wells, as I said before. There are currently six different classifications and they range from disposal to aquifer recharge to exploration. This specifically is a class five well, which is a catch all sort of thing. And this particular one is a 5C1 spent brine return well, this specific well takes Brine that has been processed in a chemical process or evaporation pond and reinjected back into the formation that it came from.

OK, So what does the permitting process look like? These application permit processes can last six months to a year as we work with the applicant to make sure that it's protecting Utah's water. We received this particular permit in the beginning of June. We previously have not had a spent buying

return well permit made, so we worked with a couple of attorneys from the state to put together a new permit to protect Utah's environment, and so on.

We put out. For public comment in November and received about 7 comments, plus a draft letter requesting a public hearing here that is happening here today. After today, we will compile the different comments. We won't be able to probably respond to every comment individually, but we'll probably take we'll compile all the notes to different themes and topics that each of the comments, and then we'll address those topics or comments or things and anybody who has given a comment or anybody who has requested it will receive a copy of the response. And based on that response, we will either issue the permit. Or request additional changes to the permit based on what we find.

So let's go move on to a brief geology lesson. So we are currently located on the northern part of the Paradox Basin. It's a rather exciting area. The world knows about Moab. It's really cool. It's an old asymmetric foreland basin. To give an example of asymmetric foreland basin, basically imagine if you had a shelf and you put a bunch of heavy books on it. It starts to bend. A Portland Basin is basically when a mountain range starts being made and starts compressing the rock beneath it. It creates these little pockets where these inland seas happen. A good modern example of this is the Persian Gulf in the Middle East. Basically, that heavy weights of the mountain range pushes down and allows water to collect

So that was Utah, where I was, SE Utah about 300 million years ago in the Pennsylvania and it created this inland sea and the Inland Sea got trapped and that created all these brines that we're talking about.

This particular project is about lithium, but all these pockets in this inland sea created natural resources including oil, uranium, copper, potash and lithium, which have been explored since the 1920s. Lot of oil exploration. I actually put up a stratigraphic column sort of showing what.

The current geology is this specific Strat column is from the Cane Creek or close to Moab, but the geology is close enough that I it is a good example. We basically have a bunch of layers of salt and shale interbedded on top of everything, and then about 6000 feet down below we start getting to these interbedded evaporites, sandstone and brine layers. It's about 6000 feet. So, Blackstone is extracting from classic 31, which is at the very bottom. With the pillar on the right side and then disposing it back into the paradox formation on the upper side around 7 and 19.

Anyway, here's a brief general hydrology discussion. So currently Green River sources. Most of its water from the Green River, Surprise surprise. There is no current USDW or underground source of drinking water. There are a lot of minor aquifers and pockets of water, but those are either not enough to like, sustain a well, or they're not potable or they're too briny and so on.

Even though there might be some wells that might tap into these things, these aren't enough to be considered USDW water by the state. There are two existing non-potable aquifers that are significant. They're located above the brine layers, but they're non-potable and we don't really source water from them

00:08:21 Audience Member

Are those traceable in the clastics that you have?

00:08:24 Porter Henze

I mean, I mean, they are in the clastics above the brine layers, but.

00:08:27 Audience Member

You know which ones?

00:08:28 Porter Henze

There's one in the Mesozoic. I don't know exactly where they are, but it's not the targeted areas for this specific project.

The brines themselves are confined by evaporate beds at depth of between 6000 to 9000 feet. They don't connect hydraulically to the Green River or any other aquifer. These are very saturated, very briny areas. If they connected to the Great River, we could tell, and if they did. They wouldn't be valuable because this water has just sat there for millions and millions of years, condensing and contracting and collecting.

So the most important part basically is what we want to talk about is that Green River doesn't have an underground source drink. Water comes from this Green River, although sometimes the aquifers above do drain to the Green River. For the most part, they just get transferred down. They source most of their water from like the Book cliffs up near prices.

00:09:32 Audience Member

Yes, Sir. You're saying there's no underground source of drink? Water and no wells in this valley?

00:09:37 Porter Henze

There are wells, but they're not like public drinking water wells, like a farmer might have, like a stock well or something like that. But in terms of what we're looking for. With the water Quality. There's not [any public water wells]

00:09:49 Audience member

What about? What about?

00:09:49 Porter Henze

Enough to like source it.

00:09:50 Audience Member

That is not his livestock, it’s for his family drinking.

00:09:54 Porter Henze

There might be some people who do have their own private well, but from what division of water quality looks for it wouldn't be considered what we're looking at for wells that would potentially supply, Town or something like that. So but these specific Wells wouldn't be targeted by the brain. Those are. Separated. Does that answer your question?

So let's talk a little bit about the process specifically. We do remember that this permit does not regulate the extraction process, only the disposal of the brand. We received a lot of comments about DLE and we will receive those comments if you want to give it tonight, but this. Permit itself only regulates their disposal. Basically, lithium extraction happens a lot of their ways. Typically, it's through an evaporation pond.

Basically, what Blackstone is proposing to do is that they're going to extract Brine from the paradox formation, and I pulled up this stratigraphic column sort of show where they're going, where they're taking it from, and they're taking it from the bottom of the paradox formation. So down below.

They're going to extract it and they're going to pump it to like a warehouse or chemical factory, and they're going to perform something called direct lithium extraction, where they use chemicals and other processes to extract lithium from the brine. The brine is then reinjected back into the formation. In this case, it's going to be around 6 to 17 based on their geology wells.

Specifically, how UIC wills. There's a lot of specific requirements that are involved for underground injection control wells because these are typically very deep wells and they often punch through various rock layers and offers or so have you, they're often required to be case through with cement, which stops a contamination from infiltrating different layers and so on. So there is natural geology stopping the brink from getting through, these will be cemented through to avoid contamination

On the left side of the screen, there's going to be an example of what a well might look like. You have the original casing and then you have cement casing around it. So there's a lot of engineering controls that are involved. We get a lot of questions about how is a well abandoned, how well is it plugged? How can We make sure that it is properly plugged?

If the company does go bankrupt, how do we make sure that the well doesn't just sit there? One of our requirements is that the company has to provide the financial bond, which means in the state that they have to abandon the well or they go bankrupt or whatever. There's money already in place to Abandon the well. Those prices can be like up in the millions, depending on how many wells you're closing or whatever. There's a significant amount of money involved to make sure that that well doesn't stay like for so for example, there's a very popular well called Crystal Springs Geyser which was an old well that was not plugged up properly and now it's under our current regulations that well would be required to be plugged and abandoned and It wouldn't happen.

Any other questions regarding that?

00:13:31 Audience member

[audio is muffled, but the member asked if the bonding information is similarly funded as the petroleum storage tank insurance fund].

00:13:37 Porter Henze

No. So well, the underground storage… I mean like….

00:13:41 Audience Member

Did the federal money or did the company have money set aside?

00:13:45 Porter Henze

Yeah. So they [blackstone] have to, like, go with like an insurance company or something like that. And they, the bank holds reserve basically.

00:13:52 Audience member

So it's not.

00:13:53 Porter Henze

Like with the underground storage tank where you pay into a fund. This is Money that they [the company] put up to make sure that they can't touch until they leave.

00:14:03 Porter Henze

And that's updated whenever the permit is reissued, which is five years.

00:14:09 Audience Member

So I'm looking at this one you're talking about 6 to 9 thousand feet. But if you back up the page before that disposal will is not that deep.
Audience Member
That's what he was talking about today.
Audience Member
So they not extracting from, they're extraction site is lower than their disposal. Site is not as deep.
[quiet audio]

00:14:40 Porter Henze

So we can't… this our this particular permit is only for the disposal well and this is an example of what it might look like. This is the finalized designs. Once they know the final geology of the area, what exactly they want, they'll give us a more specific design. A blueprint for it so we know exactly. Oh, we want to make sure that the casing goes through this amount and so on.

00:15:03 Audience Member

Yes, what happens after the first year of operation?

00:15:08 Porter Henze

Like from permit life or From when they start injecting.

00:15:13 Audience Member

You mentioned that it's a one year.

00:15:16 Porter Henze

So it's Five year permit. Application cycle. Yeah. So basically they have from issue they have five years to before they have to reapply basically and when they reapply, they have to submit the new information whenever.

00:15:17 Dan Hall

5 minutes.

00:15:33 Porter Henze

They just reissue whatever application they originally submitted and then we'll go through it to make sure that everything. We evaluate the bond information like with inflation. Obviously you'll have the Cost will increase, so we'll update the bonding information.

[multiple Audience members speaking]

00:15:59 Porter Henze

Periodic testing. OK, so there's something that we do called mechanical integrity testing and that's required annually. Basically, we just require that the company pass certain tests to make sure that that well isn't leaking. And I'm supposed to go down there to inspect, report and they have to report back. And then the mechanical integrity testing has to be done before they start injecting as well.

00:16:26 Audience member 3

Yeah. What was the rationale for reinjecting in a different elevation?

00:16:31 Porter Henze

They don't want to dilute the original brine, so they're going to extract the brine, taking up lithium. If they reinject the brine that's diluting their source.

00:16:42 Dan Hall

So if I may, I could this is meant to be informational and we're happy to try and answer as much questions as we can within reasons, but it's a hearing to take comment which will start at 6:30. This is going to help you to to make good comments. So anything we said we really encourage you to make those comments so that we can give you a full written.

00:17:06 Porter Henze

And of course, if you have any other questions, you can always e-mail me or call me and I'm more than happy to talk to you one on one.

00:17:11 Dan Hall

One for anything and I would encourage them. I'm sure you've looked like I I can appreciate that it might be a little mind numbing me to look, but there are a lot of details about the questions you're asking about reporting and the testing requirements as you mentioned. The mechanical integrity and other such things and the question I think you asked about, you know, there's explanations about the, about the different depths and why they chose those and that kind of thing. But make that comment as well. So we can give you the full written explanation as well.

00:17:39 Porter Henze

Yeah, we're here for you. We want to make sure that you're understanding what's happening now.

00:17:42 Dan Hall

Yes, and we don't want to. Again, I don't this common thing people want to ask question. We appreciate that. But at the same time, you gotta understand we've got to have a time to actually write out the answer. So we're here to try and help you. Part of this is just to make sure you can have the best comments possible.

00:17:58 Audience Member

So the actual public comment period, no.

00:18:01 Dan Hall

630 yeah, we'll start in just a few more minutes. Yes. No, sorry. What's the last one? This is just.

[Multiple people speaking]

00:18:12 Dan Hall

The information let me just be this, just the information. Again, the intent of these things are to to kind of get your mind thinking about these things. You can ask the question some questions. Haven't you made comments tonight or we'll set them until the end of the week. But it's intended to help you get more information where to look as well all the time. Extra time to look because the things are listed on our website to make the best comments possible.

00:18:34 Audience Member

Do you guys use settling ponds?

00:18:36 Porter Henze

Not, I mean, I have other projects but this project does not have a.

00:18:40 Audience Member

And it doesn't have certain points on this project.

00:18:43 Porter Henze

Not as as far as I'm aware.

00:18:46 Audience Member

If they did, how big would they be on those projects?

00:18:48 Audience Member

Right.

00:18:49 Dan Hall

So again, they can be huge. We've got ponds out and Magnum, you know, haven't delta, but in this particular case, most of these types of facilities these days have moved to what's called DLE, Direct Lithium Extraction. They're not using the ponds as a general rule anymore.

00:19:09 Audience Member
That’s the Project in Delta that's going on.

00:19:11 Dan Hall

Magnum. Magnum gas. Yes. Yeah, yeah.

00:19:19 Porter Henze

Anyway, I don't have much more to add to that. This is my current contact information. If you would like to e-mail me or call me, we can even set up a meeting if you want more questions and answers or whatever clarification, feel free to reach out to me. We have about two or three more minutes. Do we have any other questions?

00:19:40 Audience Member

Is there any chance that they'll they can change to the settling? On under this contract, that is, they're trying to get permit, I mean, is there any chance that that can happen in this permit?

00:19:54 Porter Henze

It would require a modification, which might, I mean. Again, it depends exactly what they're proposing. But if they want to change something like that, they would have to apply for our modification and it would go out to public comment, again depending.

00:20:06 Dan Hall

And in the case at Magnum, where we have both, they have injection wells out there where they solution mine the salt Dome down there and then they've got those big ponds out there. We have both the UIC, which is what this permit is for those wells, but we also have groundwater permits. So both things would happen if they were to have it have ponds. They would have. This permit and then they would almost certainly would likely need groundwater permit.

00:20:32 Speaker 4

How contingent are the two on each other? I read the I read the Application and it doesn't seem to connect the two, so let's say they get the injection well, but they don't get surface water or brine permits. Are the two connected to in a way where that wouldn't affect the ability, like you could Pass on this. If they don't get the other permit.

00:20:54 Porter Henze

So in certain projects there are situations like that where we do work with inter agencies and be like, OK, if you get this we can issue this or whatever. In this case, we don't have any specific qualifications because of the specificity of this permit. At this point, if Blackstone were to move on. Without the other things, that's them spending a million. Dollars on a miniseries.

00:21:19 Audience member

Sure, under understood. But given what they spent, do you see any adverse impact on? To expand or develop another project and or even for local citizens. With that, do you see any impact there and is that why you haven't connected to?

00:21:34 Dan Hall

We can't comment on what impact speculate on that kind of thing. We're not aware of any. They've proposed a direct lithium extraction that a requires only an underground injection control permit.

00:21:45 Audience Member

OK, OK.

00:21:48 Audience Member

Thanks. And just for clarification, the permit that this is all about is for is for injecting reinjecting, they've already got the permits for drilling and it's separate, OK, so we're just.

00:21:56 Porter Henze

It's just for the reinjection nothing. No, I don't think they. Have, but we can't say it's.

[Multiple people speaking

00:22:05 Speaker Dan hall

Correct. It's injection. And so you.

00:22:08 Audience Member

For five years.

00:22:10 Dan Hall

They're renewed on A5 year basis.

[Multiple People Talking]

00:22:12 Audience Member

I've just they. They came. There was a lot of, yes, they came and talked to the City Council and he was saying, yeah, but it was experimental and temporary is what? How he phrased that. So I guess that's the five years.

00:22:13 Audience Member

Yeah, yeah.

00:22:26 Porter Henze

I mean, they don't have that. They don't have to act in five years, they just, that's their reissue time.

00:22:33 Audience Member

I have a question about the waste stream from the chemicals that will use. I assume they're either basic or acidic. Is that part of the wastewater that gets injected?

00:22:44 Porter Henze

No, at this point.

00:22:46 Audience Member

Where does that? How do they separate and where? Does that go?

00:22:49 Dan Hall

So again, that's a great comment.

00:22:54 Audience Member

That that's pretty.

00:22:55 Dan Hall

We don't want to make any errors. And I appreciate that. You want to and this comes up, but that's a great comment and we'll respond fully in writing. OK.

00:23:04 Porter Henze

Yeah, because that gets complicated.

00:23:07 Audience Member

How detailed are your reports when they come? Out like, are you actually? Explain the science and the chemicals that you're using. Or is it just? Generic. Well, it depends.

00:23:19 Dan Hall

If you want, I'd, I'd encourage you to make your own judgment. We feel they're more than adequate to meet the regulations and to be satisfied. If we had to go to court and I had to go to court on some of these and to make to make the right determinations that would, that we would prevail.

00:23:37 They're very detailed. In general, they do a lot of work

00:23:40 Porter Henze

It's over 10 pages right there, so 10 pages right now so.

00:23:49 Audience Member

It's 630.

[multiple people speaking

00:24:00 Dan Hall

Yeah, 630. All right, we'll go ahead. So just in case anybody didn't hear, there are two sign up sheets in the back ones just to say you're here. The other one is to comment. I'm Dan Hall, I'm the section

manager for the Groundwater Protection section. Porter is here And when we get going and I'll grab the sign up sheet. After I get done speaking, when you come up kind of get right there. John, I think kind of give. Yeah, that's it. So yeah. So if you just come up and make. Sure that the microphone.

00:24:30 Audience Member

Are you guys at the EQ? Yes.

00:24:32 Dan Hall

We both are. Yeah. Division of water quality so. We'll start to start the public hearing. I'm going to read a statement and then quarter we'll read a statement into the record and then you can come up. If you haven't signed up. And yet there's enough time come up, you know, but sign it. We'll start with the people who have signed in for to speak. OK.

00:24:54

All right. Well, good evening, ladies and gentlemen. I'm Dan Hall from the division of water quality. I've agreed upon the request of the director of the Division of Water Quality to be the Hearing Officer tonight. We are here to receive comment from the Class V spent brine return. Well, underground injection permit for the Blackstone mineral.

00:25:16

There are some specific ground rules for the meeting that I will explain a little later. A public notice of the proposed draft permit and legal notice for the hearing was published. In the ETV news on January 17th, 2024, individual notices were emailed directly to interested parties and organizations. Based on initial comments received to date.

Copies of the draft permit fact sheet and statement of basis and supporting data have been available online on the division of Water Quality website as described in the January, January 17, 2024 public notice. Or comment will be received for this issue until the end of the hearing tonight. Written an e-mail comments will be received until 5:00 PM February Friday, February 24th.

Friday is the 24th, I believe. February 24th, as directed by on the public. Notice. The public comments will be considered in the final determination to be imposed on the permit. A formal comment response summary of all comments received during the comment period will be issued with the final permit.

OK.

I will now explain the ground rules for this meeting. If you wish to make a formal statement during this meeting comment period, please sign in at the door. The division will make a list of names submitted and call for comments by name in the order received. If you have a written statement, please provide it. Provide a copy by sending it via post or e-mail to division, or you can hand it to us. Right via the e-mail address identified on the public. Notice for the accuracy of the record, we will attempt to allow anyone who desires to speak an opportunity subject to reasonable time limitations. We are recording the proceedings and transcribing the statements after the hearing for the public record, anyone who makes unrelated unfair. Inappropriate comments will be cut off based on my discretion or that of the division staff. It is requested that those making statements confine their remarks to the issues at hand and try to limit statements to 5 minutes if there is additional time, people may make additional comments. Again,

deviation from the issues related to this permit will not be allowed direct questioning of anyone who make making a statement will also not be allowed, but I will attempt to point to obtain clarification from the person making the statement or from the staff if requested speakers are asked to avoid repeating arguments or comments of previous speakers, but should not hesitate to express support or opposition to earlier statements.

Those making statements are advised of the possible need by the hearing officers officer to interrupt for questions to questions during their presentation, but such interruptions or comments should only be viewed as needed for clarification and attempt by the hearing officer to clarify and understand each speaker's position. Following the hearing, comments will be evaluated in a response summary prepared and sent to those who have made comments.

Any questions?

00:28:29 Audience Member

Friday is the 23rd, so I suppose on the 23rd.

00:28:32 Dan Hall

That's a good question. Whatever it says in, that's what I thought. I thought the 23rd when I said that. What does it say in our hearing? Whatever it says in the public notice is what's official. I think we have a typo on our on my sheet. So the 23rd Friday, the 23rd, that's great. Thank you.

Any other questions?

It was asked that if you have comments for others, you can provide them to this or you can read them for the other person. If they're not here. If there are no more questions, Porter can give his statement and then we will start taking comments.

00:29:12 Porter Henze

So I'm Porter Henze of the division of Water Quality Representing the director. We'd like to take the opportunity to provide information on the statutory and regulatory basis of and process for underground injection control permitting and permit requirements and for the receipt of public comments as this may assist in the formation formulation of your comments.

The city of Utah administers programs to protect the quality of water under statute. Statutory authority of the Utah Administrative rules found in Utah Administrative Code UAC, R317-8, the Utah Water Quality Act found in the UCA section 19-5 and Federal Overlake regulations found in Title 48 of the Code of Federal Regulations CFR. More specifically to this permit and as part of the Clean Water Act Requirements Division, has been delegated authority from the EPA to administer the UIC program as incorporated by reference in UAC R-317-7.

Blackstone Minerals first minute UIC permit to the division in June of 2023. The application was reviewed by the vision and the company subsequently modified the application to provide the updated technical information and to reflect changes and other information as requested by the division. The updated permit application information was completed in November of 2023. The division drafted the UIC permit and repaired the draft permit documents for a public notice and a comment period as required and the applicable provisions of UAC are 317-8. Public notice of the draft, UC permit and initial public comment

period, which ended on December 14th, 2023, was published in the state of Utah and Divisions website for at least 30 days as required by UAC R3178 Dash 6.5, the public notice stated that the draft permit, including the fact sheet and the company documents were available for review on the division's website.

The public participation process was described in the public notice and the fact sheet as published on the division website, along with the draft permit during the initial public notice and comment period, approximately 7 written comments were received via e-mail, including separate requests and assigned petition for a public hearing. Upon reviewing the comments and requests as received.

Division made a determination to hold a second public comment period and to include a public hearing. Individual notices of the hearing were emailed directly to the parties based on the initial comments received during the First public notice period.

The Division advertised notes of setting second public comment period and this public hearing and the Green River ETV News on January 27th, 2024 and also posted notice on its website once again along with the draft permit documents.

This public hearing is being conducted to solicit further comments on the draft UIC permit. The goal of the public hearing are to provide information on the draft U PD draft, UIC permit itself, and to receive any additional public comments regarding the drafter or comments or comments regarding this draft USC permit will be received as recorded here tonight until the end of this hearing and any additional written comments emails will be received until 5:00 PM February 23rd, 2023.

All public comments received by the vision during each of the two public notices and comments will be considered in the final determination to be made regarding UAC permits. A formal comment response summary of the comments received during both comment periods will be issued at the time of the final permit action decide decision by the division. Thank you for your interest in the this UIC permit and you now yield back to The hearing officer.

[multiple people speaking]

00:32:53 Dan Hall

Any I'm sorry. So thank you. OK. So we have a list of four people, like I said. We'll start in order, and if you don't mind, come up, you know, right about the middle or, you know, close enough and just state your main as clearly as you can for the record. And if you're represent anybody or or anything like that, Mister John Weisheit.

00:33:18 John Weigheit

I would rather yield to somebody who's from Green River. I'm from Moab.

00:33:24 Dan Hall

OK, Jeremy Pearson.

00:33:36 Audience Member

Just stand there.

00:33:36 Dan Hall

In between the two? That's fine. I'm sure it'll pick it up right there. Where?

00:33:40 Audience Member

I'm not.

00:33:40 Speaker 1

You feel comfortable.

00:33:41 Speak 9

Yeah. OK. And I apologize, I attempted to yield as well since I'm from Castledale.

00:33:53 Jerry McPherson

Invested in in projects. So I'm doctor Jerry McPherson, director of the San Rafael Energy Research Center, and orderville, Henry County and. And So I'm interested in this project. Well, I grew up in California just a just a couple, just short distance from the Salton Sea, where they're doing a direct lithium extraction from a really hot reservoir, they're also getting geothermal energy injection and came to Utah for schooling and ended up where I end right now.

But at our Research Center we investigate a lot of advanced energy, nuclear and coal and solar and as well as water resources. So it's a really great thing for emery county, especially with like coal plants retiring and but one of the reasons they got into water I was at a nuclear energy conference and research, right. Sitting from Idaho National Laboratory. Was talking about these Brine aquifers, but there's one that Underlays Arizona specifically that could supply fresh water and was desalinated for 200 years and I thought that was that was pretty fascinating. And so. So I got into that. And so my main question and I'll just stay on topic is is on interconnectivity, but what it was what she I approached her later and said where did that project go because you can. Take out these aquifers. Take out the minerals and sell them and then supply fresh water to our region.

And she said that the project installed because there was concern within her interconnectivity. So if you pulled out that salt water, desalinated it, then the Colorado River would really seep into it. And you kind of just be robbing Peter to pay Paul, that kind of thing. And so appreciate the answer you gave that there aren't any inter connectivity concerns, but just wanted to highlight it to the extent that we have. Staffers in Utah they could The very real source of water augmentation. For our state and in fact that our Research Center, we're working with two companies, one from Salt Lake that's testing in advanced thermal dissemination system that came out of UC Berkeley and another one that spun out spun out of Utah Tech in southern Utah and advanced centrifugal reverse osmosis technology.

They're called Eden Tech and and we're going to be demonstrating the technologies at our center and they could even couple together to take desolation all the way to the LD 0 liquid and. And so we're really enthusiastic this year. We're going to be demonstrating the projects and at some point in the future that could be applied to these Brine aquifers to it.

I'm not saying blackstone has to do this, but there's a potential that that you can pull it up and then never have to push that down. If you can desalinate it can. Recover the fresh water. So just wanted to say I'm supportive. Interested in the interconnectivity and not just this, but other reservoirs. And then just

mention that I trust the DEQ competency and capability to evaluate all the safety necessary for these projects.

OK.

00:37:10 Dan Hall

Terrific. Kim McFarlane.

00:37:17 Kim McFarlane

Kim Mcfarlane, resident of Green River on planning and zoning so my biggest concern is that given the proximity to the river. There should be adequate casing to a depth that is beyond what is necessary to protect the local aquifers and the groundwater, and that should be extended beyond what the minimum would be. And I would also question why the injection well would not be deeper than the extraction well and would think that that should be evaluated and that the injection rule should be deeper than the extraction and go to the lower aquifer and that that would be important to maintaining the quality of our water in the valley and the potential to do extraction for other projects in the future if there is a potential for salvageable aquifer to supplement drinking water or higher quality water, hopefully that would be closer to the surface. So we should not allow them to do the minimal depth on each injection well.

00:38:57 Audience Member

10/10.

[Multiple Thank you's]

00:39:00 Tanner Mcfarlane

So the questions that I have are specifics, I would love to know what the state says the specific depth of our highest aquifers are. I'm sure that there's going to be multiple. Are there Safety tests done on the quality of the water before, during and after specifics as to what those results are, how they're published, where we can research that information and collect it for ourselves, and how frequently those tests will be done? If they have to reapply for the permit every five years and the samples only taken once. Or are they taking every six months or every four months? If community member notices A substantial change because they've had water coming out of their pivots that are fed by a well, how would they bring those concerns and address those concerns? Would it have to go through the state or could it be taken up directly with the company? Or is it a mix and match? And then finally, Can we get, He gave us an example of a [stratigraphic column]. Yeah. Could we get something that's more specific as they're doing the drill? So I assume that it's going to be a pilot drill first to proof of concept basically and then they'll. Probably come in. Afterwards, to do the direct injection well rather than. Drilling the injection well first and then doing their exploratory correct?

00:40:38 Dan Hall

You know, I don't. I don't know what the, what the steps, sorry

00:40:45 Porter Henze

I think we come at the at that point, but yeah, that's typically the Process. Yeah, so.

00:40:51 Tanner Mcfarlane

Either way, just as they're doing that, whatever information they can provide the community, great, but that that helps us feel a little more comfortable with new technologies in our backyard that due to similar technologies raising Red flags where could? Obviously bring a little bit more concern. To all, so those are. The questions that I have.

[Multiple Thank you's]

00:41:19 Dan Hall

I will give a brief respond Porter Is the project manager, so you know review, review to Specific things that they report on and those types of things, or if you see something, we often get comments or questions as permits, progress and people are active. You know you call a lot of people, you call the company. Sometimes they know they.

00:41:36 Porter Henze

I'm on the state liaison on project manager. Yeah.

00:41:44 Speaker 2

All right, you're up John.

00:41:44 John Weishheit

OK, thank you. Sure.

My name is John Weisheit. Hi. I'm the conservation director for Living rivers. I also have a contract with the Waterkeeper Alliance, and I serve as the Colorado River keeper.

And I also managed the Canyonlands Watershed Council. I've lived in Utah for 45 years as a professional river guide. Before that, I lived in Maricopa County. I worked on a farm for three years, and I worked in the construction trades for 15 years. I'm going to. I left my home without my paperwork, but I brought my computer, so I'm going to read from the screen if that's OK, I'm going to start with my conclusion. There's some things I think we need to be aware of and one that the targeted brine layers at depth are under significant natural high pressure. The saturated brines at depth can flow as the velocity current. The natural high temperatures of the brine at death at death is quite significant. Which means blowouts of well casings have happened in the past and will be and will happen again in the future. Accidental discharges of brine from failures of well casings and plumbing conduits can cause harm to residents, to workers and the environment, and the visitors to Green River City. An industrial accident will defeat the objectives of the Colorado River Salinity Control Act of 1974 and the Mexican Water Treaty of 1944. Concerning this activity, most of the peer reviews considered direct lithium extraction and untested technology. So we're this community is basically an experimental community. This technology uses harsh chemicals and it is not clear to the public what the waste stream of these chemicals. How they are being regulated not only for water quality but for air quality. And last, there is a profound weakness in the planning and zoning dishes. Decisions made for a high risk activity. We think decision makers are making

serious missteps that could lead to future litigation. Essentially, what I mean by that is we're putting a very big project in the wrong place. How much time do I have?

00:44:33 Dan Hall

We're here till 8:00, so keep going.

00:44:42 John Weishheit

There is a person missing from here and had that he's my partner and his name is Kyle Warrank. He's the executive director of the Great Basin Water Network. He's currently in the legislative selections of the Utah legislation. He regrets not being here. Our general concern is that the agencies and service providers do acknowledge that well casings that penetrate into the paradox formation have been problematic in the past. And this is a very, very serious permit and it needs to be and because it's experimental, it needs wonderful oversight. I have documents that I would like to and submit to perfect the administrative record. One is our comment letter to the state engineer. I spent a lot of time researching paradox formation geology and it has lots of references that I think would be helpful. I was here for the Bureau of Reclamation presentation to the hearing for the state engineer. And it was an excellent, excellent presentation. And I would like to share that with you. I was hoping they would be here. They too feel that this could threat threaten the some of the salinity Control Act and the millions of dollars that have been spent. Handling the salt that comes out to Mancos shell and Colorado, Utah and Wyoming.

My biggest concern is that they're basically inflating zone 7 through 19, much like the view of reclamation is in the paradox Unity control unit in Bedrock, Colorado, which and you know that worked for about 10 years, 15 years, and now we have. Richter scale 4 to 5 earthquakes and so I'm concerned that. Between the earthquakes, the salt flows and things like that, you know the it's very highly the conduit would be the well casing would be severed and then? Terrible things would happen. I was well, I would be curious to know. What the full fail safes are to prevent those kinds of accidents that's from happening. So we don't have another crystal springs geyser going into the grid, but also I mean the plan is right next to Browns, wash, that Browns Wash is because the conduit for an accident spill that would go in to the Green River. So that's a big issue to me as well.

Let's see, I think. That pretty much covers it, except I'm also concerned about green rivers. Water purification plant. Very close proximity, I would hate for that to just be part of an accident that takes the critical water away from for sanitation until for the Community. So I think you should be consulting with the city manager and mayor about. That water treatment plant for drinking water.

OK, I will submit that I have. I will submit these documents in this letter by Friday. And do I have till midnight or until Friday? OK and.

I'll. I'll yield to somebody else, but.

[multiple people speaking]
John Weishheit

And I, I will say she has three hyperlinks here to documents that I will submit to the record, but I'm going To read this.
Audience Member

From Gayna Salinas, my sister

John Weishheit [for Gayna Salinas]
And first of all, she says thank you and she's appreciative And she's sorry that she can't be here.Several points I am concerned about the Utah Division of Natural Resources oversees all the drilling water rights and water quality concerns in the state. To my understanding, Anson is saying that they are very least they have all the permits to start drilling this next week, February 11th statement from Hanson. That's one of the. Documents that I will send to you, they say the brine water will only be above ground for six hours before being reinjected. Page 3 February 11th newsletter from income resources. I do not see any water rights granted yet, nor do I see any permits for the injection. If the brine water is to be only above ground for six hours, then the injection wells need to be in place before the drilling of the wells. To bring up the brine water or there will or there need to be or there need to be huge tanks in. Brine and that's another comment. I think the fire department needs to be aware they need to, you know, high pressure, high volume water thing for Accidents, and I don't know if that I haven't seen any literature? On that, sorry for the diversion, but that's a good point. I am not seeing any communication between the different organizations, IE DWQ. Division of Water Quality, Utah Division of oil, gas and mining and water rights. I am not sure what DW will say about.

In the Anson 11 February notice, Page 3 footprints the information about the geological formations and the salts is from the 1970s. Is there no other more current research that can give a better indication of what is happening between the geologic layers?

Anson says the salts are plastic. They can flow between layers, but then it reseals they insist there is no interruption from Green River aquifer. The salt brine will flow to the demonstration pro. Processing plant but it does not say how this bent Brian gets to the injection well. Or are they drawing Brine up and then reinjecting in the same well. Also this does not mention anything about the extremely high gas pressure. What happens to the natural gas. That brings the brine up. Are they forcing the gas back underground, or does it just go airborne?

I assume, oh, I assume John will be at the hearing and let's see if any other things to be concerned about other than what I mentioned before in my first letter. I will Contact you again. That's it.

00:52:20 Porter Henze

OK, terrific. Thank you for your comments.

00:52:25 Dan Hall

Anybody else?

Go ahead. No.

00:52:27 Christine Sheeter

OK, I'm Christine sheeter. I'm a citizen and I was curious about the when you're talking about, there was Jeremy, about the interconnectivity of geologic layers and what is the certainty that there isn't any Passing or ability to pass there I I'm just wondering. That's a huge thing, and no one talked about the data percentage of knowledge known there or how that's determined when we're talking about death.

And then just as a a point of interest, I was wondering when the EPA did no longer had jurisdiction over this type of process. I don't know if you guys can answer. That now, but.

00:53:19 Audience Member

They still have jurisdiction. We just have first jurisdiction.

00:53:23 Dan Hall

So the way that all the federal safe drinking water, Clean Water Act, the Fed, where states can get primacy, so they are the first line to issue permits under the safe Drinking Water Act in this case for for drinking water plants and the UIC program or the Clean Water Act for UPDS for surface water discharges. But the EPA retains oversight authority. So we're the prime, we have primacy. This state does some states don't, but most states have primacy. So we enforce the federal regulations with their oversight, they haven't given it up. They've delegated it. Yeah. Does that make sense?

00:53:58 Christine Sheeter

OK. Thank you. They haven't given It up. So they're your boss.

00:54:03 Porter Henze

Yeah, basically they're aware of this project

00:54:06 Christine Sheeter

OK.

00:54:15 Kelly Denham

If nobody else has someone else.

My name is Kelly Denham and I'm a citizen also. Just repeating pretty much everything that John and Dana my sister had to say, but that the big thing is.

Who also like if something does go wrong, is there any kind of repercussion? Is there anything that and it's like because it is speculation and round wash is right there? And there is a drill rig on site right now. What if they start drilling? I know like the same thing if they drill out, it's got to go back in somewhere supposedly that so if they start prior to having all of the permits and stuff in place.

The information that John referenced Anson's in all of their information, it says Anson/Blackstone. So it's the same.

But today's information says very specifically that they do have all permitting in place already, so they are planning on starting now and I don't know if it's all in place just for the exploration or if its for the whole deal. Is that? So I guess and then like for the exploration, well, there has a very small berm that if anything I mean. Anything a good rainstorm could breach the burn into. Brown's wash, so just the concern of All the gas and water going to where It's not supposed to. Thank you.

00:56:15 Austin Carter

My name is Austin Carter. I used to be a citizen here. Now I'm up in the book. close more or less. I have some concerns when I hear everybody keep repeating what if something happens, what's in set in place? I'm currently dealing with the DEQ of Utah and some pretty substantial things are harming the river and the integrity of the river and a real serious manner and my own livelihood and my own health and I haven't seen any integrity from the DEQ by any means and I don't think you guys will. I think you're here for an agenda. I think all the decisions have already been made. I don't think you made our Voices make any difference. I think the state of Utah is probably making a big paycheck off of green river as usual.

I think we're a Sacrificial lamb in this case and I think the things that are set in case if something happens, is that its just green river. We'll just be the sacrificial lamb. There won't be any you know? It'll just be left because that's experience I have. I have underground fuel tank removal program materials that never are supposed to be left, supposed to go to certified landfills. Somehow destroyed my cabbing operation along the Green River. I've tested it myself. The DEQ refuses the test. You can visually look at the pile. You can visually look at the water source going. Into the river. My animals became sick. I no longer live on that property over those things, so I don't think the integrity will be showing that the people in this valley deserve. If something does happen. I'm that's my big concerns and I think people should know those things. I don't think that Department of Environmental quality is in place to watch out for the environment or the people. It's to make money for the state of Utah. Right. Now, and that's heartbreaking for me. So I honestly believe it was there to protect the people and the environment. And I'm somebody who has to carry my water or haul every drop of water I have 30 plus miles a day. And when I'm on the mountain, I have to carry it and go find it with a shovel. So I know the value of water. It's beyond what these wells and this project's worth. I guess that's all I have to say about it. Thanks for your time. You guys have a good night.

[Multiple thank you's]

00:59:03 Dan Hall

Well, anybody else?

00:59:21 Audience Member

I'm sorry, I'm sorry.

00:59:24 Unnamed Commenter

I would like to say that I appreciate that John and what he had to say, and also Austin when with the sacrificial lamb thing and Green River being an experiment thing. I mean, look at the missile base where boom and Bust town and it feels like that again.

I agree with Austin. That you guys are just like having an agenda. There's people in the background doing whatever and let's go boom. Let it happen. It's just Green River. So what? Kick it to the side.

Thank you.

01:00:11 Unnamed commenter
Have you been a project?

01:00:12 Speaker 7

Manager over on the projects, yeah.

01:00:13 Porter Henze

Uh, yes. I've issued a few permits. This is my first spent brine, this is the first time Brian return well for Utah.

01:00:21 Unnamed Commenter

Do you? OK, first spent? Sorry. How many spent Brine projects are there in Utah.

01:00:29 Porter Henze

In Utah, there are 0.

01:00:31 Unnamed Commenter

Exactly 0 all right.

01:00:32 Speaker 3

Sorry, I should refrain from answering.

01:00:34 Audience member

Yeah. Yeah, maybe we shouldn't cause. Sorry, that's not.

01:00:38 unnamed Commenter

I got a chance.

01:00:38 Audience Member

Well, that might sort of be.

01:00:39 Dan Hall

It might sort of be true, there's intrepid pot. That's there's other facilities.

01:00:42 Audience Member

Like but you have to.

01:00:43 Audience member
Like in your defense, these guys are doing their job too. So like, take that into consideration, that's all.

01:00:54 Audience Member

I was wondering more If you have examples of when things have gone wrong, what were the remediations that were taking?

01:01:04 Porter Henze

I will respond in the actual response because I can get better answers. It's Complicated.

01:01:12 Audience Member

No, Absolutely, especially after some of the concerns you've recently heard, that would be an resource.

01:01:19 Diane Chandler

I'm Diane Chandler. I live down just down from Browns, Browns. Watch the 1st next property and I have a big concern about the if something happens is that water? Is that Brine going to go into the river? And I think it's been mentioned Brown's wash, Is, you know, like conflict. So I just wanted to. Amway, that's my concern

01:01:44 Porter Henze

Thank you.

01:01:48 audience member

I have a question. Sorry, will your Official responses to these comments be public.

01:01:58 Porter Henze

Yes, they will. It will be an official document that we'll Send out to everybody.

01:02:11 Audience member

On your Website can we access any? You don't have anything on the website that we can ask like on water rights or that kind of thing.

01:02:22 Dan Hall

Not so much. Other the agencies. You know, typically public notice the sub back sheets, their basis in the permit, sometimes some other documents, but they're available if you'd like something if there's something mentioned in there or Tanner asked about some of the reports and that kind of stuff. They're public access documents, they're available. If you would like them for sure. Just tell us what you'd like. Yeah. Sometimes we post stuff, but there's no requirement that we post anything, but it's all available. If you'd like.

01:02:50 Porter Henze

Yeah. If you need help. If you need help navigating it or finding something.

01:02:51 Audience Member

For sure, yeah.

01:02:54 Audience Member

We'll be there now.

01:02:56 Audience Member

That that's the big one.

01:02:57 Audience Member

Yeah, yeah.

01:03:00 Audience Member

You can you hyperlink that helps.

01:03:03 Audience Member

I mean, it could be.

01:03:09 Dan Hall

So we are scheduled to go until 8:00. We'll wait another 15 or 20 minutes, but feel free if somebody wants to comment.

01:03:17 Audience Member

One more question, just to be clear, you have not approved any injection wells at this point here for this project?

01:03:25 Dan Hall

This is, yeah, this is a draft permit where, you know, we have not issued it. It will, the final issuance will come after we have made responses to all the public comments and any changes in in the general way that if in not just in this case but in any case, if there were really substantial one, Really substantial ones. We would then go back out to public comment again if they were really the change important conditions. But the answer the direct answer is no. This permanent permit has not been issued and won't be until we read through all the comments, give a final risk, give a response to all of them. And then if there aren't substantial changes, if there's just, you know some basic. Changes or none or whatever, then we'll issue it. We would all be issued together the permit and the comment responses.

01:04:14 Porter Henze

There are also some requirements that the Blackstone will have to submit some additional documents before they can begin. Going even after, the issue of permits they have to submit more things to us.

01:04:28 Audience Member

Off the top of your Head. Do you know what the difference in distance between the depth of the natural gas? Around here versus the Salt from where they're Attempting to get.

01:04:39 Porter Henze

So, there's not like a specific layer for natural gas, like it's in pockets all around, so I can't give a specific answer to that question.

01:04:45 Audience Member

Yeah. OK

[END OF PUBLIC Hearing]