

Federal Orphan Wells Program Webinar Overview - January 6, 2022

- My name is Steve Feldgus, I'm the Deputy Assistant Secretary for Land and Minerals Management at the Department of Interior. And it's my pleasure to welcome all of you to the Bureau of Land Management, stakeholder webinar for the new program to clean up orphaned wells on federal lands, a program that was established by the Bipartisan Infrastructure Law signed by President Biden on November 15th of last year. And there's a tremendous amount of interest in this program as evidenced by the over 700 people that we currently have participating, and a tremendous amount of excitement throughout the Department of the Interior and the entire Biden-Harris administration for the incredible potential this program has to help clean up polluted sites, cut down on methane emissions and water contamination, reduce health impacts to tribes and overburdened communities, and put people back to work. There's certainly no shortages of opportunities here. As we noted yesterday, the states have reported roughly twice the amount of documented orphaned wells from just a couple of years ago, and that's not even including the countless numbers we don't know about. So that's why this program was a centerpiece of President Biden's American Jobs Plan from last March and why we are so grateful that Congress included it in the Bipartisan Infrastructure Law. And we're also very grateful that you have all joined us here today. Making this program a success is going to require input from a wide variety of perspectives, from the states and tribes, to the oil and gas industry and interested citizens. And this webinar is just the start of that process. In addition to hearing from the panelists today, BLM will be providing an email address shortly, where you can provide your feedback directly to us, and we look forward to reading your comments. So now I'd like to introduce the Director of the Bureau of Land Management, Tracy Stone-Manning.

- Thank you, Steve. And thank you everybody for joining us today. We've got currently over 800 folks on the line, so we're gonna jump right in. We're gonna give you a brief overview of the program that we are standing up, and then we're gonna turn to 19 panelists and have a conversation with them on what the potential that this program brings to them, their communities, their states. We're delighted that you have joined us. I am delighted to introduce the Deputy Director of Policy and Programs and my colleague Nada Culver who's gonna give us an overview of the program. Nada, thank you.

- Thanks Tracy. As mentioned, I'm just gonna give a brief overview of the program to provide some context as we talk through with our panelists to try to surface key issues and perspectives to discuss as we stand up and implement this really important federal orphaned wells program, and the program under the Bipartisan Infrastructure Law. This is an orphaned well and associated infrastructure outside Casper, Wyoming. The Bipartisan Infrastructure Law passed late last year and established a program for plugging remediation and restoration of orphaned well sites. The entire program is about \$4.7 billion, there's a federal program that the BLM will be coordinating, funded a \$250 million. There are also state and tribal programs that will be coordinated by the Department of the Interior's Office of Environmental Policy and Compliance, as well as authorizations to the Department of Energy and Interstate Oil and Gas Compact

Commission. The federal program itself is to be established by January 14th, so we're hard at work. As you can see by the many logos across the top here, this will be an impressive effort to coordinate among the agencies. We're establishing a working group that will allow us to coordinate identification of wells and how to prioritize them for funding. We have broad latitude to rank wells and the act also tells us to prioritize based on public health and safety, potential environmental harm, and other subsurface impacts and land use priorities. We are required to track the costs of plugging remediation and reclamation, methane and other gas emissions associated with orphaned wells, contamination of surface and groundwater associated with orphaned wells, and the disproportionate burden of adverse human health or environmental effects of orphaned wells and underserved communities. We'll be doing annual reporting on our progress and these many other actions that we're taking. This is a quick list of the different types of activities that can be funded. As you can see, it's everything from ranking wells to inventorying, plugging, restoring, and a small amount of administrative costs. I wanted to flag this inventory of both orphaned and idled wells, so the act directs the Bureau of Land Management to inventory and reduce idled wells across public lands as well because idled wells can ultimately become orphaned wells. Again, there are state and tribal grants that we'll be coordinating with across the federal government. States can apply for both regulatory improvement and matching grants for their programs and for activities. And there's a similar wide type of activities that can be funded through the tribal grants, all of which will be administered through the Interior Department's Office of Environmental Policy and Compliance. As you can see from our timeline here, we have a lot to do for fiscal year 2022, so that is our immediate focus. We are working now to identify wells across this cooperative group of land management agencies, to then review and recommend and approve which wells will receive the initial round of funding, to begin dispersing funds by the end of and to get down to business on contracting for plugging and remediation activities. However we wanted to highlight, as you can see from the timeline at the bottom of this slide, that the act envisions this program lasting through fiscal year 2030. So the input you give us now and the work we'll do together will continue and will enable us to have a really significant impact on orphaned wells across the country. Going forward we expect a lot of ongoing engagement and outreach. We have regular interaction with the Interstate Oil and Gas Compact Commission and States, tribal consultation which is kicking off at the department level, technical assistance from the Department of Energy on measurement and reporting, and then technical assistance that BLM will provide to the state and tribal grant programs. Again, we're looking to be cooperative, share information, look for consistency and be as effective as we can with this important work. We're also looking to continue to get input from all of you, from our panelists and experts and effected people across the country. So we are providing this email address, orphanedwells@blm.gov, and we would appreciate your written comments at any time. So with that, we're gonna end this brief PowerPoint and move into talking with our panelists. And we're gonna start by discussing existing state programs and how those can inform and partner with the federal program. So I'm gonna ask the three panelists that are on this topic, Dave Andrews, Tom Kropatsch and Sara Kendall, if you would please put your cameras on, and we're gonna start with Dave Andrews, who's the Orphanage Distressed Operator Program Lead from the Colorado Oil and Gas Conservation Commission. And Dave, as we make these investments across the country, obviously transparency is going to be critical, we'd love to hear from you

about Colorado's program in terms of how you identify and prioritize wells and the types of standards you use in monitoring, and how we can best coordinate with the federal program.

- So I believe the main ask for me was to discuss a little bit about how Colorado prioritizes wells. Our program has been an existence since about 1990, was the first legislative bill for orphaned wells. The funding for the program was less than about 200,000 per year up until, I would like to say the early 2000s. At that point, it was increased to about 445,000 per year, around 2012, and then there's a really big change in the program occurred in 2018 when the state legislature authorized up to 5 million per year. And that was also the time where we expanded from essentially a one-person shop to what we have now, which is six employees. I am the engineering manager and the orphaned well program is part of my work unit. Prior to becoming an engineering manager, that was essentially my full-time duty to work with the orphaned well program. So just to talk a little bit about the factories that we use for prioritization, going back to around 2013, the legislature introduced a bill requiring that the Oil and Gas Conservation Commission implement a risk-based inspections strategy to help focus our field inspectors on, you know, which operations that they should be focusing on. We ended up taking three different factors out of that query that our field inspection team uses, and those factors include, first, population density and urbanization. So we use our GIS system in addition to the locations of the orphan wells, to determine a factor on a scale of one to five. The next factor from that risk-based analysis is an environmental factor, and that is primarily looking at locations of surface water bodies, and any named groundwater relative to the working site. And then finally, we have another factor for years in service. So all three of those receive a score of one to five. The other factor that also receives a score of one to five is any reports of past spills or releases on the location. So those four components really have a large part of our score. Some of the other things that we review, and this is mostly through our field inspection reports and also any information, other information information we might have such as Google Earth, we use that quite a bit to take a look at obviously the visual characteristics of the site, but also access to the site. We look at a disturbance area, so we'll use that to calculate and approximate acres for the pad and the access road. With respect to the wells, basically we're again, looking through our available data for indications of venting or leaking, and that could be a gas leak or a water leak from the well. Bradenhead pressure, so that's the annular space between the surface casing and the production casing. So we're looking for information on any bradenhead tests, which would measure pressure and flow in that annular space, and also whether or not the original well design accounted for cement coverage across all groundwater zones. The next would be mechanical integrity. So the well is either compliant or it exceeds the rural-based requirement for a mechanical integrity test. So if it's been a long time, which is often the case, when the orphan wells come into our system, then it would receive a higher score, or if we have a known failure of an MIT, then that would receive the highest score. For surface equipment, we will give it a score based on, you know, whether or not there's any surface equipment on location, or if there is, we pay particular attention to any volume of fluids and tanks. Those are one of our stop gap measures that we looked for. Here in Colorado we have freezing conditions, so we're concerned about getting fluids out of those tanks early on. In addition to the disturbance area for the entire pad, we'll take a look at the disturbance area or surface print, so to speak, of any pits that might be on the location or near the location. Again,

we look at the count of the number of spills that we may have in our system, and also the magnitude of those spills based on volume. If we know, or if there's indication on historic spills, we'll use that for the scoring. For stormwater, we're primarily looking for proximity of the site to water bodies and also any existing evidence of either run on or run off from the pads. For noxious weeds and other weeds, it scores highly for noxious weeds if they're present, and if any type of weeds are overrunning, the site that will also receive a higher score.

- So Dave, it sounds like you guys have quite a lot of different factors you've put in to score from the condition of the site to the risks.

- Absolutely.

- I know we didn't let you do your PowerPoint, but I'd love to see it. So if you wouldn't mind sharing it with us later, I think that would be really helpful for us as we're looking at how to rank and also track. And I assume these factors you're using also allow you to track how you're doing on the reclamation work itself.

- That's correct, you know, with the disturbance area, and then we've also got, if we have any evidence of wildlife or livestock impacts from our field inspections, we would count for those as well.

- Great. Okay, I'm gonna move on here just to keep us moving since we do have so many panelists. Thank you, Dave. We're gonna move on to Tom Kropatsch, who's an oil and gas supervisor with the Wyoming Oil and Gas Conservation Commission. And Tom, if you wanna, you know, compare and contrast, or even just focus on how best you think BLM can coordinate with states as we're implementing the federal program. 'Cause I know that in many states like New Mexico and Wyoming, we really coordinate closely already with state on how we do orphaned well identification and reclamation. So I'll just turn it to you for what you'd like to share to build on the great information we got from Dave Andrews.

- Thank you. Thanks also for the opportunity to provide information on the orphaned well plugging program from a state perspective. It might take just a minute to provide some background information on orphaned wells in our orphaned well program in Wyoming. The state of Wyoming, through the Wyoming Oil and Gas Conservation Commission has operated orphaned well plugging program for decades. Really, for many years, orphaned wells were identified and were plugged in a short period of time without many wells carrying over from year to year. But in about 2010, a downturn in Wyoming's coalbed methane industry created a significant increase in orphaned wells in the state. In 2010, we identify.... Or since 2010, we've identified approximately 6,020 orphaned wells, largely CBM wells within the State of Wyoming. And so in 2014, we began an accelerated orphaned well plugging program. And since then have plugged in reclaimed approximately 4,625 of those orphaned wells. For example, last year we plugged 662 wells, and in 2020 we plugged 1,072 wells. So our role similar to Mr. Andrews in Colorado require us to maintain a plugging schedule, which prioritized as well as for plugging through an assessment of the wells potential to adversely impact public health, public safety

surface, or groundwater, surface use, mineral resources and so on. And we routinely compare similar data as they do in Colorado to help create that list. So generally, as I mentioned, our orphaned wells are largely CBM wells, and so our prioritization typically indicates that we should plug we're focused on the conventional oil or gas wells before we plug any of the CBM wells on our list. So that's what we do is that each year, if we identify, or if we have identified any conventional oil or gas wells, we include those in a project, and then we evaluate our staff time and funding that we have remaining for that year to determine the additional number of CBM wells that can be plugged in. And as I mentioned, we do usually plug a significant number of those wells every year also. A couple of the main issues, and this kind of starts to focus in on your question about coordination with BLM and how can we better coordinate with the states and the BLM offices, is one of our big issues in our program early on was communication. And so we really had to work through how to enhance our communication, whether it was, you know, to places like the governor's office or the legislature, we're communication with land owners who had orphaned wells on their property, communication with contractors, the general public, we quickly learned we had to do more communication and we had to be better at communication. So that also came into play when we started our process with the BLM. A couple of years ago, we partnered with BLM in Wyoming to assist in plugging a federal wells, federal orphaned wells. And the way our program works is we receive grants from the BLM office here, state office in Wyoming, and also a list of their orphaned wells or sites that they have identified. We work with the BLM in the state office and the field offices to prioritize the list and issue of bid requests through the state bidding process contract with the selective better the state does. But then the BLM field staff will provide oversight of the projects in the field. And that's for us was a function of staff availability to provide oversight on those projects and still do it on our own. And so once we received notice from the BLM field staff that they've had successful completion of their project, we pay the contractors invoices, and then we are reimbursed that on the grants that were awarded to us. So when we set up our program with the state office here in Wyoming, we decided that the projects, the bids and the contracts should be separate from the work the Oil and Gas Commission was doing for several reasons, but we found it provided the most clarity through all phases of the project to keep them separate from the state on orphaned well work. I think the key for our successful coordination and execution of the state, BLM partnership with communication, the state, the BLM, the contractors, again, the land owners, they all need to have a clear understanding of what the expectations of each of those parties are from the onset of the discussion. That would include details such as who can approve changes in the field related to a plugging procedure, for example, who can approve a contract amendment, so on. You know, any of those issues need to have a good understanding of who has what authority as you go through the project. We included the BLM staff in our discussions from the state and the field offices. We thought that was essential we meet with landowners and we meet with contractors prior to project execution. And make sure that we know even minor details such as which route should we take to the well, in some cases, there are no longer roads to the wells, in some cases there are, but a land owner has a certain route that they want us to use. And so all of that communication for an understanding from the state office who may be assisting, and for the BLM is essential to have before the project begins. And so we found our partnership with the BLM to be successful. To date, we have plugged approximately 80 federal orphaned wells in Wyoming, we've also

completed site reclamation on several others. We've also closed several water reservoirs as part of the work with the BLM. And, you know, we understand the BLM has a different definition in Wyoming of an orphaned well that we do. So the state as minimal fee, and state orphaned wells in the federal orphaned wells that exists in the state. So even though the numbers are smaller, I think we've been pretty successful in taking care of those issues and the partnership with the BLM. And I would just maybe say the only other thing is, you know, we would say overall with this program, just please continue to be proactive on communication. Regarding the program and the funding, every state likely has, you know, their own budgetary process that we will need to utilize to either partner with the BLM or utilize the funding on the state fee wells. And so having that communication head of time, it's beneficial for us to keep those funds within our budgetary process. Thanks for the time.

- Thanks Tom. Sounds like we have a good model to follow as we're ramping up, and probably highlights one of the issues we're looking at is coordinating the federal program and the state program. So thank you so much. And Sarah, we're gonna hear from Sara Kendall, the Program Director at the Western Organization of Resource Councils. And I know you work a lot with landowners and in different states across the west. So we're hoping to just get a couple of minutes of your perspective on, you know, the BLM program and the state program, and how we can, you know, best coordinate, but also best improve what you've experienced across those programs.

- Yeah, thanks Nada. I appreciate the opportunity to be here. As you mentioned, many of our members are family farmers and ranchers, as well as Native Americans and other Westerners who are pretty directly affected by oil and gas development. And this includes split-estate landowners, many of whom own surface above federal minerals and also Native American lands who rely on federal programs and rules. So that really informs our perspective. A lot of our organizational perspective on BLM program has been highly influenced by our members' experience around the coalbed methane development in the Powder River Basin of Montana and Wyoming in the late 90s and early 2000s that Mr. Kropatsch referred to. This was one of the very early unconventional gas plays, and it was one of the first to experience the downturn in which wells were shut in on a really wide scale. During that development BLM had projected 40 to 50,000 coalbed methane wells would be drilled of which 50 to 60% were projected to be federal. There were actually around 24,000 that were drilled and since production has dropped off, the most recent number I've seen is that Wyoming has documented approximately 5,700 orphaned wells on private and state lands. Many, but not all of these were CBM wells, and the state has been making what our members consider to be kind of slow, but steady progress, plugging and reclaiming these sites using funds that are generated by a mill levy on oil and gas production. I mentioned this because I think like our experience with the federal program has been really different. And I was asked to speak about like strengths and weaknesses of the federal program based on that experience, what we've seen is that, you know, BLM has identified very few federal wells as being orphaned comparatively, but there are many federal wells that have been inactive for a very long time. And there are I think, six aspects of BLM's program that I would love to just like highlight for you that we think are important to inform this program as you set it up. First one main strength that we would point to in BLM's approach

is that when a current lessee or operator fails to plug and reclaim a well, BLM does have the ability to go back to prior lessees and operators. And in Wyoming, they've had some success doing this, which not all states have the ability to do that. And so it is somewhat unique to BLM as a lessee, as well as the manager. And this is like, it's both good and bad in some ways. I think the data that BLM has provided to our members in Wyoming show that there are actually nearly 2,700 wells that are held by what BLM calls 19 non-compliant operators, and of these BLM has succeeded in getting 1700 plugged, but there are still over a thousand that remain unplugged. I think many of our members functional will consider these wells orphaned, but BLM has not yet because they're going back up that chain to the prior lessees and operators, to the extent that BLM is able to require companies that are liable under federal rules to plug and reclaim the sites, we see this as positive, but from a landowner perspective, the process is extremely slow. And the failure to address wells that are inactive for such long periods of time, infringes on their use and enjoyment of their land, and it can be really expensive, especially when it impedes ranching operations, and it can be dangerous. The other things, I'm realizing, oh my goodness, I should have planned this, but then I'll just touch on really quickly are, you know, there are issues around BLM's definition of idle wells that is determined in statute, it was improved under the infrastructure bill. So that's progress. We encourage BLM, and I think BLM does not always really wait until wells have been inactive seven and now five years before they take action, and we encourage you to really not do that in the future and to focus on inactive wells and those are owned and operated by non-compliant operators 'cause these are both helpful approaches. Data collection and transparency frankly, has been a major weakness for BLM, has been very difficult to get information and evaluate BLM's progress. And GAO has really documented the weaknesses in the tracking system. So we're very pleased to hear about the focus on transparency. I have to mention federal minimum bond amounts that are just decades out of date, and really lead into the problems and the delays in getting these longterm idled in inactive wells plugged and reclaimed. And so, you know, most state programs, we believe there's room for improvement in terms of how bonding is addressed, but, you know, with BLM, for sure, they're just decades behind. So we we're pleased that BLM is planning to update its bonding rules, and we urge you to require a full cost bonding. I do wanna mention that one thing BLM did, which I think BLM first innovated with coalbed methane was imposing separate reclamation bonds for water impoundments. And that was really important to getting those, you know, very high-impact surface impacts addressed. And so I think that's the sort of thing that BLM can do when they're looking to problem-solve that has been affected in the past. And then the last point that I'll just make is that we really appreciate the emphasis on emissions, health and climate environmental impacts, and also on water contamination. From our members' perspective, they have primarily experienced surface impacts from orphaned wells, and we'd really like to emphasize that site reclamation is as important as well plugging, including prioritizing private split-estate lands and for the tribal program, private land In addition to the wells themselves, these sites often include leaking tanks and pipelines unremediated spills and damage from produced water, damaged fencing, noxious weeds were mentioned already, erosion and other hazards that really pose pretty extreme risks to cattle and wildlife as well as people, and impede farming and ranching operations. So those are some of the things that we hope you'll consider as you set up this new program. And I will leave it at that.

- Thank you, Sarah. Thanks Tom and Dave and Sarah. We're gonna move on, and Steve Feldgus is gonna ask some questions on our next topic.

- Sure thing. Thank you everyone on the first panel for those of very important perspectives and great comments. And we're gonna switch gears a little bit and talk about the mechanics of the work of actually plugging these wells, and also about the workers who are going to do that. So I'd like to invite the folks on panel two to turn on their cameras. It's Larry Bilby from Continental Industries, Jeff Lytle from EOG, Jason Walsh from BlueGreen Alliance, and Randy Pacheco from A-plus Well Services. So my first question to Larry Bilby from Continental Industries Field Services. And let me ask what are the biggest factors that determine the plugging costs for particular wells? So, you know, age and so forth. Sorry, and then also, how can we best estimate and manage those costs?

- Well, the plugging costs vary from based mostly on depth. We do it at kind of a per foot basis. So the cost per foot gets cheaper as the well gets deeper, though, the price goes up. Things that can impact the cost is, David mentioned, you know, casing integrity, a lot of unknown variables that we weren't expecting, can certainly drive cost up. Usually for us, if we're out there and we specialize only in plugging and abandonment had been doing it for 30 plus years, if we're out there, there's usually a reason, it's not just that the well is no longer productive or economic, it has issues. It could be stuck subsurface equipment, it can be failed integrity of the casing integrity. All those things can drive the cost up. So what typically we would get a plugging procedure from the regulatory agency engineer or BLM or an oil and gas engineer. So we're gonna, you know, with the BIM follows the onshore oil and gas order number two is kind of the minimum standards for plugging a well, and we'll start with that. And then as things might change or the well conditions change, then we'll just, everybody gets together, we modify the plan to address those specific issues. I hope that answered your question.

- Thanks, I was wondering, are there any ways that we should be thinking about how to make this funding go further ways, best practices keeping costs down as we look at, you know, plugging a very large universe of wells.

- You know, sure, there's always ways to improve on our current way that we do things, but you know, like I said, we've been doing this for so long now. There's a pretty good plan, on shore oil and gas order number two is pretty specific. If we stay with that, those are really the minimum that we need to do to ensure that that well is plugged correctly. So obviously one of the things and communication has been mentioned before, and it's always a big topic, but some of the things I see drive cost up on P and As, especially BRM orphaned P and As is communication. And we have found many instances where we have a situation where we need to amend our plans, and, you know, that may come with more cost or change order. Just the plug from the PET in the field to the CO, to the engineer, to the COR can take time, okay? And express pipeline, if that can be streamlined, would help because you have a brig and a pretty sizable crew out there waiting on an answer or, you know, moving forward.

- Great. Well, thank you very much. We've got to move on to other panelists, but I would love to hear more about some of those communications issues and how we might be able to streamline those in the program. So my next question is for Jeff Lytle he's the Executive Vice President of Exploration and Production at EOG Resources. And Jeff, what is EOG's approach to the retirement of uneconomic wells, and how can industry assist in optimizing the orphaned well program?

- Well, first off, Steve, I'd like to thank you for the question. I thank the BLM for the opportunity to be part of the panel. So really well retirement is just a normal part of the operational life cycle for a well within EOG. Whenever, as you've heard, you know, well becomes uneconomic, unable to produce, or there's some other issue with a wellbore, we immediately put it on a retirement list. From that point shortly after the wheels start turning, where we reach out to the regulatory agencies for notification, and then we begin operations on our plugging and abandonment. And basically that'll start off with us arriving on location. We will basically pull any downhole equipment out tubulars, and even in some cases, a unsegmented casing strings and we'll begin the plugging operations. At that point, we use a high quality cement plug to basically isolate any productive or fluid bearing intervals in the well all the way back up to surface to make sure we've got really good integrity and we've isolated the wellbore. So at that point, we go ahead, we remove the wellhead, we'll cap it and we'll play it for identification purposes. And then as you've heard some of the other panels talk about, we begin our reclamation process, which is just as important as the plugging and abandonment of the well. At that point, basically we'll remove all surface equipment. So that's any kind of tanks, production equipment, fencing, and we'll restore the grounds to the original state. You know, obviously through some construction work or moving around dirt work from that aspect. And then we'll plant vegetation per the requirements order agency that we're working within in the area that we're within. And we don't just leave it there, we obviously revisit the location, you know, multiple times over the years to make sure that that visit vegetation is taken and there's no other additional issues with it. So over the last, I'd say a couple years, EOG has average plugging around 400 to 500 wells. So we've got a lot of experience in it, we've got a lot of expertise in it. One thing, obviously this is a very important topic with orphaned wells, and orphaned wells can be much more difficult than just a standard oil and gas well, the plug, because they've been out there for years and years, so you can have a you know, as we've talked about a stuck equipment downhole, you can have casing integrity issues, which can be very, very costly to be able to remediate. So, you know, with us EOG, we have a lot of technical staff on hand, a lot of consultants, and we were just really value the opportunity to be able to partner with the BLM and everybody on the call to be really be able to optimize that process and try to really minimize any major train wrecks or any issues that we have, and really optimize these funds to try to maximize the number of wells that we can go ahead and get plugged.

- Great, thanks. Do you have any specific ideas for how we might be able to optimize that?

- You know, I agree communication is gonna be one thing and actually reaching out to all the resources and stuff. I think Larry had touched on it, you know, they're very experienced, they've

got 30 years, you know, there's a lot of experience out there in just about every situation we've seen. So I think that's one thing is really just reaching out to all the resources and making sure when you run into very unique situations to utilize all those resources. And then from there, obviously with organization and understanding the number of orphaned wells, instead of doing them individually, if you can batch them together in large sets, you can actually bid them out in a large package and get much better pricing on those a lot of times out. So those are just a couple of things that we do internally, really to try to minimize the cost and, you know, maximize what we're able to do when we're plugging the wells.

- Thanks, and that is a major focus for us is trying to figure out the most efficient way to coordinate the activities on federal lands, private land, state, tribal, and try to do that badging like you say, and get the costs down as much as possible. So thank you.

- Thank you.

- Next question for Jason Walsh, the Executive Director of the BlueGreen Alliance. Jason, good to see you again. How can BLM best partner with labor unions to leverage funding and ensure the success of this program overall? And then how can we encourage states and tribes to also do the same?

- Thank you for the question. Thank you for inviting me to participate. Yeah, good to see you again, Steve. So for folks who don't know the BlueGreen Alliance is a coalition of labor unions and environmental organizations. Our founding instill guiding principle is that we shouldn't have to choose between good jobs and a clean environment, we can and must have both. And well remediation and reclamation is kind of a perfect embodiment of that principle. So we're really excited about this program. In terms of engaging our labor partners, I wanna start by underscoring something that Jeff suggested. I think aggregating bids is a really important step. What our labor partners hear from their contractors is that their contractors typically don't bid on these projects because they are often small that they often can't achieve economies of scale. So if you aggregate those bids, if you bundle them, I think you're gonna get a bigger contractors, union contractors to bid, and I think that is important for a number of reasons. I think you can also better engage labor if you are encouraging in your bids, projects that really emphasize the skills of the workers who are involved. And that can be done in a number of ways either by encouraging the use of registered apprenticeship programs or encouraging the use of skill standards, both of which are ways in which you can ensure that this program and this federal investment, as I think policy makers intend to create not just jobs, but high-quality family sustaining jobs. I think there's also speaks frankly, to the quality of work, right? I think the quality control part of this is enormously important on a number of different dimensions. I mean, I'm sure it's not lost on the bureau or you in particular, Steve, that the title of the infrastructure bill under which this program is authorized is called the, I believe methane reduction infrastructure. So if we actually want to achieve the methane reduction goal of this program, we need to make damn sure that the workers who are doing the work are skilled enough to actually cap these wells effectively, and that we're not seeing any leakages. So I think the quality control piece here is very, very directly linked to the job quality piece. On your

question with respect to tribes, I mean, I think this applies more broadly. I think engagement, engagement, engagement is critically important. I think this is, you know, a particularly important consideration as we think about these projects, not just as how important they are from a short-term job creation standpoint, but from a longer-term economic development standpoint. And I think to the extent that the bureau, you've got some latitude as was noted at the top about how you prioritize these projects, land use priorities is one of them, I think that can be interpreted a number of different ways. One of the ways I would encourage you to interpret it is looking at projects where the remediation and reclamation is actually an integral part of an economic development strategy for that community, whether it's a tribe or a state or a county or area, right? And this can play out in a number of different ways. But I think if you can achieve a nexus, right, between the cleanup project and economic diversification of these communities, that's your sweet spot. And as you know better than almost any human in the country, Steve OSMRE has already done some of this with the abandoned my land program, there's legislation, which I won't name here that provides some good models for how to do this. But I think that's really important and really exciting to think about how the bureau can approach it this way.

- Thanks Jason. And thank you for that comment about the OSMRE program, because certainly that is one of their major factors, is looking for coal mine reclamation projects that can lead to new economic development opportunities. And I just wanted to follow up a little on the workforce issue that you mentioned. Do you think that we have the workforce that we need to spend this money efficiently? Or is there gonna be need for more training programs or other ways to build that workforce?

- I think we're gonna need a bigger workforce and a skilled workforce. And the benefit of engaging registered apprenticeship programs is that you are tapping into an existing system that if it were a degree grant, a four-year degree granting institution would be the largest in the country, right? Which spends major private sector dollars to train workers on the job. So I think that has to be a strategic approach of BLM. Let's look for ways of leveraging workforce development programs that are already out there and go after the best ones that are gonna produce the most skilled workers who will do the best quality work.

- Thanks very much, Jason. And certainly for everyone, who's watching this, if you have additional ideas on this front, if you know some good programs that we should be looking at, or of course, any feedback that you'd like to give us, orphanedwells, one word, @blm.gov is our email address for submitting your comments on this program. Jason, thanks again. I'm gonna turn to Randy Pacheco, the President of A-plus Well Services now. And Randy, between the federal program and the state program the administration is investing over 4 billion to plug abandoned wells across the country. We're gonna need companies like yours to grow and potentially create new companies to meet this opportunity. So what does your company need to scale up? And do you expect this is gonna be a challenge?

- Well, thank you. And, you know, the BLM, what an opportunity for me and for my company to present our ideas, we have a thousand ideas, but basically to answer your question, one, it is

gonna be workforce, we're gonna need more workforce, as you can tell from some of your panelists, you know, we're not spring chickens, and, you know, we're gonna be retiring soon and you're gonna have to have to replace us. I think there's a tremendous opportunity given that we now have some folks here from Afghanistan, and they're part of our American family now, and I think if we bring them in, there's a real opportunity to do some training. I have a little bit of background in education, so building those programs would be fairly easy and simple and providing them that skillset. It's a great way to enter into the oil and gas industry, and it's gonna be around for quite some time. But given that we have this funding, there's a tremendous opportunity to do that. We're also gonna have to really consider the size of the industry, the plugging and abandonment industry. So A-plus Well Service, we're all inclusive, which by the way, being an all-inclusive company will reduce the cost. So we operate the wire line, the rig and the cement, so that will make it very efficient. So we wanna focus on those kinds of companies that can do that. So I think that, you know, scaling up equipment, bringing companies in, providing that education, delivering all this will help the industry grow because you're still gonna have companies like EOG that are gonna be requiring plugging services, so it's gonna be very, very difficult, these are going to be very interesting times. And just given what we currently face as a country with the pandemic and trying to figure out a supply chain, we're also running into issues with supply chain, you know, you have to order pickups, it takes a long time now. So we have a lot to work on together collectively. And one idea I would like to offer the BLM, you have some phenomenal folks working for you. I've worked for them, I've worked with them, I can tell you that I would like to see the BLM create an organization, a small mini department within the BLM that could work with the states, that could work with the contractors, bringing the contractors in. I recently completed a project with a phenomenal company, Hunt for Energy, she's phenomenal. It was a state project, she started the project the 20th of December. She had til the end of the year, she plugged two wells and we did it in 10 days. We need to bring people like that together, along with us, along with government agencies to create this efficiency to spend the money wisely. Because I think the greatest thing we can do with this money is offer a return on that investment for all the taxpayers. Thank you.

- Thanks very much, Randy. And we certainly agree, and we also appreciate your words about the BLM employees, we're very proud of the BLM career workforce, and we're excited about the opportunity that they have and we have to, you know, do this tremendous service for so many people across the country. So we will definitely take your words to heart. Thank you. So I'm gonna hand it back over to Nada. I'd like to thank the members of our second panel for joining us. And Nada, take it away.

- Steve, so we're gonna now turn to addressing the impacts of orphaned wells on our landscapes and communities and how this program can help to assist with that. So I'm gonna ask America Fitzpatrick and Catherine Garoupa White, Kayley Shoup and Joan Brown to please turn on your cameras. We're gonna ask you each to respond to just a general topic and I'll remind you each as we call on you. But generally, you know, we're looking to understand how orphaned or idled wells have affected you or your community or the public lands that you enjoy or use or advocate for, and how this program can assist in addressing those impacts. So let's

start with America Fitzpatrick, the Senior Program Lead at National Parks Conservation Association.

- Thanks Nada. Hi everyone. America Fitzpatrick here, I'm a Senior Program Manager for Energy and Landscape Conservation at the National Parks Conservation Association. Thank you for this opportunity to participate in the round table. NPCA is the voice of America's national parks working to protect and preserve our most iconic and inspirational places for present and future generations. Last summer NPCA conducted analysis with FracTracker Alliance using state-level data from the Interstate Oil and Gas Compact Commission to determine how many orphan wells there were within 30 miles of a national park site. And our analysis found that there are more than 214,000 orphaned wells around the country, and of course we know that that's a best guess based on the best data available, and more than 31,000 of those are within 30 miles of a national park site. Some states with the most orphaned wells near park sites include California, Missouri, Illinois, West Virginia, North Dakota, New Mexico. Topping the list is the Santa Monica National Recreation Area with more than 5,700 orphaned wells, and Channel Islands National Park with 1,920 orphaned wells within 30 miles, and both of which are in California. There are also more than 1500 orphaned wells near Theodore Roosevelt National Park, and 430 orphaned wells within 30 miles of national park sites in New Mexico with hundreds of them threatening the public health and environment and the landscapes that connect Chaco Culture National Historical Park and Aztec Ruins National Monument. Imminent threat of new oil and gas development, and the legacy that orphaned wells pose threatened iconic park systems or ecosystems and exasperate the climate crisis. Climate change is the greatest threat that national parks face with parks warming at over twice the rate of the rest of the country. The National Park Service Study found that 88% of visitors found our clean air to be extremely important, and visitation drops by 8% when air pollution is high in national parks. We're also concerned about the impacts leaking methane and other air pollutants from orphaned wells have on park adjacent tribal and rural communities. For example, in California, our analysis shows that of the more than 38,000 orphaned wells in California, more than 25,000 of them are in Kern County alone. And that's about almost two thirds of all of the orphaned wells in California in that one county. This is worth noting, given nearly a million people live in Kern County, which has some of the worst air quality in the country. And this is also part of the reason why nearby Sequoia and Kings Canyon National Parks have the worst air quality of any park unit. While not all of these orphaned wells in Kern County are within the 30 mile radius that we use in our analysis, we believe prioritizing remediation in places like Kern County, the Santa Monica Mountains and greater Chaco region, mutually benefits, parks people in public health, as well as the economic opportunities that Jason mentioned. We also believe as a sister agency and good neighbors, the national parks BLM should feel responsible for helping to protect national parks as ensuring natural cultural and historic resources are maintained generations as part of BLM multiple use mission. Lastly, we also need to both clean up orphaned wells and increase bonding requirements to ensure that we don't continue to have more orphaned wells into the future. I'll be happy to share resources for the analysis I mentioned. And thank you for the opportunity to participate.

- Thanks America. And yes, we'd love to see the resources. Since I think you just traveled into her landscape, let's turn it over to Dr. Catherine Garoupa White from the Central Valley Air Quality Coalition. And we'd love to hear from you about some of the work that you guys are doing with orphaned wells, and how this program can assist in that area as well.

- Yeah, hello everyone. And thank you for having us some thank you America for teeing that up so well. National Parks Conservation Association has been a partner to the Central Valley Air Quality Coalition since we started about 20 years ago. So my name is Dr. Catherine Garoupa White, I'm the Executive Director for the Central Valley Air Quality Coalition, or CVAQ for short. We are working to restore clean air to California San Joaquin Valley, which is the most polluted air basin in the nation for fine particles, and one of the most polluted for ozone and that oil and gas industry is absolutely a major contributor. Roughly half of California is also federal lands, and so the federal government writ large plays a really important role in helping us to manage our natural and working landscapes. And as America already touched on, we have a concentration of wells in the San Joaquin Valley, and particularly in our Southern most county in Kern County. So 40,000 wells total in the valley, and many of them roughly half are eight years or older of the idled wells. So recognizing that we have aging infrastructure, that's not always adequately maintained, and the impacts that that has particularly to our low income communities and communities of color. So in terms of concerns, health impacts is absolutely at the forefront. We struggle with our regional air pollutants, but also the oil industry is responsible for 30 to 60% of the toxic air contaminants that the breathing public in the San Joaquin Valley is exposed to. And of course, the closer you are to that source, the higher the dose you're getting exposed to. So, you know, really thinking about land use planning, right, and making sure that we are separating sensitive receptors from where this extraction is happening, as we're phasing out fossil fuels, because for the climate, it absolutely has to happen. The energy transition is already underway, and it's a question of whether it will be just, or not for workers and for the economy, as others have already spoken to, Kern County gets a lot of its tax receipts from the oil industry, so what are we gonna do as that phase out happens? We also are seeing because of some of the proposals from the federal government, a proliferation of proposals for carbon capture and sequestration projects throughout our region, without properly addressing the potential for idle and abandoned wells in close proximity to those projects to actually be leaky infrastructure that allows the carbon to escape, and have really disastrous consequences for our local communities. So really wanted to flag and underscore what people have already said about the necessity of cross agency and cross jurisdictional coordination, consultation, and communication, to ensure that we're not putting in infrastructure that is deepening the environmental injustices that we have in places like the San Joaquin Valley. America also teed up really well the fact that we have a lot of beautiful natural landscapes, in our federal lands that we wanna protect where there are also proposals to do drilling, right? Like the Carrizo National Monument is the only remaining fragment of that type of landscape left in California. We need to protect and prioritize those areas. And a lot of our potable drinking water in California is also where oil and gas extraction is happening. So how are those resources being accounted for? Engagement of community-based organizations like this, I think is a really important opportunity. Our local leaders live in these communities, they know the sites that are problematic, they know the wells that they've been having

challenges with, and they really need to be consulted, listened to and respected as a part of this process. And particularly wanna close by underscoring again, what others have spoken to the necessity to foreground equity, because as we're doing this transition, frontline communities need immediate protections and remediation first. So thank you again for having me, and looking forward to continued conversations about this important topic.

- Thanks so much. And it sounds like we do have some consistent themes across the panels on communications and sharing information. And like your group would also be able to provide some input as we're looking at places to prioritize. So again, when others are also giving us information, we are looking to set up our prioritization approach, but specific places and areas are also a lot of interest to us. So switching landscapes a little bit here, let's hear from Sister Joan Brown, who's with New Mexico and El Paso Interfaith Oil and Gas.

- Thank you, Nada. And the whole BLM family and, and panelists and everyone. I'm Joan Brown, and I'm the Director of New Mexico Interfaith Power and Light. We in general work on climate justice, climate concerns and care of creation and health of our communities in our region. And I just wanna say that we're very pleased that BLM is moving in this direction. And it seems like maybe it's a beginning of a paradigm shift that really has to happen in how we address our lands, water, and our community concerns. And what comes to my mind is just a few lines from a UN environmental Sabbath prayer that says, "We join with the earth and with each other to bring new life to the land, to restore the waters and to refresh the air." And it seems like that is what is being stated in this program. And I sort of appreciate our panelists, all of them who've been on, who brought such good points. So I'd like to mention just some concerns that we have in this regard, and that really is for inclusion of communities because they really know what the concerns are on the ground, where some of these sites are, again, emphasized the communication. Also climate change really needs to be a priority in how the sites are looked at, also, you know, in water, water flow, where water might cause erosion. The health implications as well. We've worked a lot on methane issues and the points that were made about really plugging the wells and doing this in a manner that would address methane pollution is vital. And with those jobs, I think that for justice, it really needs to be taken into consideration local people who are doing these jobs, who are trained and doing this as part of a just transition. One area that I don't think that this covers, that is a concern because myself and faith leaders and others have been to a number of these areas in our state, are the miles and miles of pipes that are lying there. And the concern about how do you really restore desert areas, which is a lot of our state where some of this oil and gas extraction is. And if it's disturbed land, what is the future with climate change of dust storms? Again, that would implicate even more health concerns for the people that are there. In this paradigm shift, the one thing that we're concerned about, the folks that I work with with faith communities, people of conscience is the future. And we need to be holding companies more accountable, not held liable with more and more money needed to take care of these abandoned wells, because there will be more and more of them into the future. And with that, there's a concern about what happens if federal priorities shift, and there's not the funding to do this kind of work in the future? What will happen to this working concern? And in our state, we have many sacrifices zones already from uranium mining, from other mining, from the oil and gas, and we don't wanna keep creating

sacrificed zones that are sacrificing God's creation, future generations' ability to enjoy this area and the land, and to even gain spiritual nourishment, and also the health of people in those communities involved. So we feel it's really important to act quickly on this, especially given the methane pollution problems, the climate change problems, the health implications, because some of these sites of benzene, nitrogen oxides, carbon dioxide that are affecting health, and that we move more and more to see that these concerns must take into consideration kind of an integral ecology that's the economy, as many people have mentioned, but also the ecology itself as social and spiritual concerns. So just grateful for all of this work. And, you know, we work with a lot of ordinary people that it's very surprising, but they're quite concerned about this, and we do weigh in on these issues. So thank you so much.

- Thanks so much. And again, interesting to hear the parallels across these panels. So let's round this out with Kayley Shoup, from Citizens Caring for the Future also in New Mexico.

- Hello, my name is Kayley Shoup with Citizens Caring for the Future. We are a small grassroots group out of Southeast New Mexico. I live in Carlsbad, New Mexico was born and raised here, so I am in the heart of the Permian basin. And orphaned and idle wells have really had a direct impact on my community. So just a few miles north of me is Loco Hills. And that is the place that really pops into mind when I think of orphaned and idle wells, because it is a lot of older infrastructure up that direction. And when you drive into it, it is truly awe inspiring in a bad way, it is a city of pump jacks. And I have a very real world understanding because I do live here in the Permian, and I see how vast it is, and I see the rate at which we are cleaning up these wells and then also enacting new oil and gas sides. And so I really have an understanding of just how broad this job is and how long it's going to take. And I understand that in my lifetime, we are likely not going to reclaim all of this land that has been taken from my community because a lot of the land that this production is taking place on in New Mexico is public lands. I understand that we're not going to get to that place in my lifetime, but hopefully if we do our jobs in the present, the generations of the future will get to enjoy the land around us and use it, you know, for housing, for recreation. Because right now there's so much of our land in this area that we really cannot use because of it's just overflowing with production. My community is also very, very impacted by the pollution that spews from these orphaned oil and gas sites. I, of course, as a young person I'm very concerned about the methane emissions coming from these sites that are exacerbating global warming, you know, that really keeps me up at night because as I grow old, I want a livable planet. But as a frontline community member, I am much more concerned about the BOCs that are emitted along with the methane, and then also about the contamination of water. When I think of contaminated water, when I think of the polluted air, I don't really just think of that in the literal sense, I think of it as I think of having to take my mom to chemo. I think of friends in their 20s that are battling rare and aggressive cancers. I think of fundraisers for a little girl with leukemia. I think of all the people I know that are suffering from major medical ailments that are having to travel three hours to get medical care twice a week or so, because we don't have adequate health care here. So we are really affected by the pollution that are spewed by these oil and gas wells. And I don't have all of these stories of ill people because I'm just a girl that's particularly unlucky, no, that's because I am from a sacrifice zone and the environmental surrounding us, you know, really is killing us. And

something I would like to see with this new program, is I would like to see a digital database that is keeping track and easily accessible to the public, that is showing these orphaned oil and gas sites, their location, and then at what phase of reclamation they are at. And I'm saying this because in a really practical sense, this is something that is needed in frontline communities. So say a young family wants to go camping. In this area, they could be camping right next to an abandoned oil and gas site and have no idea that they're being showered in poisonous gas or something like that. So a digital database would really be something that is very useful to frontline communities. I understand that's a tall order. If that is something that gets done, we need to make sure that there's paid advertising so that people know this resource exists. You know, whether that's radio, newspaper, social media is such a huge tool that you can use, especially in places like the Permian Basin, Facebook, things like that. And so that's something that I would like to really see prioritized. And then something else that does concern me about the program is that the radioactivity, the radioactive components of these oil and gas sites are not really being taken into account in the process, and so I would like to see more of a focus on the radiation that is present. I understand that that will, you know, up the costs of the plugging these wells, but I do think that is something that we need to make sure that we do correctly in order to protect frontline communities. So thank you for your time today and for the opportunity to share with you.

- Thanks Kayley. And thanks to all the panelists for giving us the on-the-ground perspective of how much there is to do, but also how much we can do across the country for this program. And really briefly the idea of the database, I think we are focused as Steve said at the beginning on transparency, and also we keep learning more and more about the scope of this issue. So thank you so much to the panel. I'm gonna turn it over to Director Tracy Stone-Manning to introduce our last panel.

- Thank you, Nada. And thank you everybody who has spent time with us. To close out the panel, we're gonna dig in a little on how best to prioritize the cleanup of these wells and to monitor our progress as we go. So Shannon, Adam and Don, if you could please turn on your cameras. Shannon Anderson is a staff attorney at the Powder River Basin Resource Council. Shannon, how can BLM best prioritize wells for reclamation? Noting that we have priorities in the law for health and safety, environmental impacts and other uses. And what kind of reporting and sharing with the public and other opportunities for input along the way do you think would be the most helpful?

- Yeah, so thank you so much, Director Stone-Manning, and thanks so much to the BLM staff for putting this together. So I work here in Wyoming, and I work primarily with landowners who are impacted by a federal oil and gas development. And so from our perspective here in Wyoming, there's an urgent need for this program. And we thank Congress and the department of the interior for the funding and getting it off the ground in such a timely manner. But we don't believe speech should compromise effective public engagement and stakeholder participation. So we really encourage BLM to robustly engage the public, including soliciting public comments, to assist in setting local priorities. Priorities need to be set at that local level. Landowners, hunters, recreationists, as well as local BLM field office staff have the best

information on where orphaned wells exist and should be prioritized under the statutory criteria you just mentioned. We believe creating a plan for each BLM field office where at least a plan done at the state level will be important to ensure wells are prioritized at that local level. Again, it's just really important to focus locally because priorities are different in different parts of the country. Additionally, as Supervisor Kropatsch explained, we know from experience here in Wyoming, that it's critical to coordinate with the states as there's often an opportunity for BLM to facilitate plugging of federal wells in areas where the state is actively plugging fee and state wells. Coordination saves costs and ensures that all wells within an orphan field get reclaimed at the same time. Coordination is especially important in areas of split-estate where reclamation of wells will assist in turning lands back to ranching and facilitate other uses such as hunting and wildlife habitat. And finally, we want to stress that it's not just the well that needs to be reclaimed, the oil and gas industry has a lot of infrastructure. In our neck of the woods it's too cold for above ground pipelines, but in some parts of the country, pipelines require reclaiming. And additionally pits, reservoirs tanks and access roads can be difficult and expensive to reclaim, but it's critical they are considered as part of ecosystem restoration. And split-estate lands, we emphasize coordination with the landowner is necessary, and in some cases, the landowner may be interested in repurposing infrastructure or turning shallow coalbed wells into water wells, but in all cases, BLM should defer to the surface landowner and the surface use agreement the landowner has in place. As far as public transparency goes about how the dollars are being prioritized and spent, we echo the recommendation that BLM create a dedicated webpage with access to a searchable database that's updated as regularly as you possibly can, hopefully monthly or at least quarterly. That includes key characteristics such as well location, the last known operator, previous lessees related to that well, the bond amount, whether bond forfeiture has occurred, the date reclaimed, and other information. While BLM's automated fluid, mineral support system reports database is helpful, as you know, the public portal is very limited in the information available, and searching it can be a challenge, so we encourage the creation of something more public facing and user-friendly. We also encourage regular written reports on expenditures and progress. We understand you have an annual report to Congress, but more regular reports, I think are important. At the state level here in Wyoming, the oil and gas commission supervisor reports publicly on a monthly basis on orphaned well clean up and bonding, and information is available on the agency's website. We encourage BLM to prepare and release similar reports for the federal wells covered in this funding, if not monthly, at least quarterly. And finally, we encourage a quality assurance review with a site visit if possible, post plugging and reclamation. As you know, this is critically important given the multi-year growing season, we have here in the Western U.S, it takes multiple years to reclaim our difficult arid landscapes. So we really, really encourage BLM to get back out on the ground, check in with landowners and make sure after reclamation and plugging has occurred, that has been successful, and that we're back to where we should be in terms of having good wildlife habitat, landscapes for ranching and all of the other multiple uses of our public lands, and areas where there's public minerals. So thank you so much again for this great panel discussion. And we look forward to the program getting off the ground.

- Shannon, thank you so much. And Adam, let's build on that a little bit as we go. Adam Peltz is the Senior Attorney for the Environmental Defense Fund. Adam, what are the benefits of

reporting on the impacts to ground water and methane emissions? And Shannon teased out some of this, but what do you think is other information that would be important for us all to report on?

- So first of all, thank you, Director Stone-Manning, I very much appreciate the opportunity. And I would say to answer your question about why is it important to understand what kind of methane emission reductions in groundwater protections are achieved through this work, is because we're really at the tip of the iceberg here, and the documented orphaned wells that are covered by this funding are only a fraction of the existing orphaned wells that are out there, and there's a large population, currently active wells that might become orphaned. And so by highlighting the benefits, the importance of, and the benefits of doing this reclamation work, hopefully it will move the policy needle so that wells are orphaned less often, and that there's more money, private money in the system to plug the wells. So thinking a little bit about this, the prioritization issue that's come up a lot, I find that really closely connected to cost containment, 'cause there's prioritization along a few accents. So you can imagine, do we plug this well in year two versus year five of this program? Is one type of prioritization question. Another is, what if there are more wells to plug than the money available? Which is true and has been underlined by this new 130,000 well count, which is more than double the numbers that we were all talking about a year or two ago. \$4 billion goes far, but it doesn't go as far as you think, given how expensive all this work is. And then another dimension is considering plugging versus reclamation, these things, of course, shouldn't be in competition, but reclamation is very expensive, and sometimes it will be as expensive as the plug jobs, sometimes it will be twice as expensive as the plug job. And so thinking through how much money to spend on plugging, how much we need to spend on reclamation, is going to be really tough types of decisions, but really important to make. And by containing costs you for each of these plugged jobs or reclamation jobs, you can cover more wells. And I think that'll be essential to do. We've talked about some of the ways to do that. Alberta used area-based closures and found that their costs, reclamation costs dropped 40%. This would basically be like, you know, assign a whole county to someone, do multi-year planning so that you have someone who's has three or four or five years of a plugging work to do so if they can hire up and get economies of scale, and coordinating with the states so that there is a competition between BLM and the states for contractors, and IOGCC has a good venue for that. On data transparency, I'll add something very specific, which is that most oil and gas states use the risk-based data management system to run their programs. This is something that the states have created themselves through the groundwater protection council. It's available at cost to governments. BLM should consider using this software because for one thing, it's already there and it's already been done, and they're developing an orphaned well specific module. And then there's really easy transfer of data between states and if BLM joints between states and BLM, which would facilitate all of the reporting that needs to happen, especially the annual congressional report, and then all the data would be available for people to look at in real time. On the quality assurance issue, I would echo what Shannon said, and would even recommend that BLM send it an inspector to witness each plug job as the plug job is occurring. This is something that the Texas orphan well program does, they plug 1400 wells a year, they're the largest working well plugging program in the country. And they have an inspector at every

orphaned well plug job that they do, not private well plugging, which they should, Ohio actually does, I believe 100% of all plug jobs, but at least at least the orphaned well plugging ones. It's good to have an inspector, and you'll need to hire more inspectors to do that as will every state. I've also been thinking about how to best use GOE's research funds, which are designed to find undocumented orphaned wells. BLM of course, has its handful documenting orphaned wells, that it already knows where at least where they are, but surely there are lots of wells that don't have locations. DOE has magnetometers and similar drone mounted equipment LIDAR to help find these things. If only there was more than 30 million, it could scan the whole country. So that money, there's gonna be a lot of competition for it, so BLM should get in line as soon as possible. Similar on that front is also thinking about alternative uses for these wells and sites, you know, productive uses that are in accordance with local community wishes, but also that could potentially take advantage of some of this existing infrastructure and save some money and potentially, you know, for renewable energy and other other uses. One thought about going back to the prior operators to fund the plugging of these wells, which is sort of special to BLM, most of the states don't have that. But one thought is that that can take a long time and be expensive to do. And from an environmental standpoint, there may be a benefit to plugging first and then going to get compensation later so that these wells don't sit around for years as these things drag through the courts and people run around hiding behind LLCs and stuff like that. Now there will be time after the wells plug to go collect. And then finally I'll echo many of my colleagues speak of the necessity of programmatic reform so that our currently active well fleet doesn't become orphaned, and then we're back to where we started. There are all sorts of creative and plausible things that BLM and and states could do, especially watching the transfer of low flow wells. Ideally such wells would get full cost bonding. Some states have adopted that rule, and it's been successful and the us has as a plausibility. So I'll stop there. Thank you so much.

- And that is a lot and really good things to chew on. Thank you, Adam. Rounding us out, we're going to literally, and figuratively get grounded. Don Schreiber is a landowner in Northwest New Mexico who lives and works with these issues. Don, what do you think are the biggest risks facing the orphaned well program and how can we try to mitigate and avoid those risks to make sure that we're successful?

- Director Stone-Manning and to so many friends here and folks I haven't met yet, thanks so much for putting your heart into this. And that's what we're trying to do here at Devil's Springs Ranch, we're in the heart of the San Juan Basin. And my heart goes out to Kayley and Sister Joan in the Permian talking about a sacrifice zone. So we have a long familiarity with the interface between ranchers landowners in this peoples and the BLM and their responsibility. So in terms of threat to get things done, we have the threat of our ongoing momentum of one of the largest institutions in the country. So just the momentum to carry us through, keep doing things the same way we've been doing things. I see the big, big threat is that we fail to take advantage of new and creative ways to do things even where there's a roadmap to do things differently. So capture by the pervasive oil and gas industry that we've had here for a hundred years, creating the orphaned wells that we have now, many of the problems we have now, if they capture this process, put it into the usual gears that they have so well manipulated over

the years, then we lose this opportunity to really break out and change things. So business, as usual, even under this new funding, I think we have to step out and fight that threat back. And there's actually road model for us. And that is in the savings and loan crisis where billions of dollars of federal funds were at risk, we had many individuals affected, of course, we had an institutionalized process, and a federal oversight. And by moving to something unique, and it was touched on earlier by one of the speakers that it may have been Randy, I'm not sure, but to use a group of a special team and what the savings and loan crisis called for what they did was established a trust of experts that took it out of the for-profit process. And, you know, that was a \$500 billion price tag estimated to resolve that savings and loan crisis. And they actually finished it a year early, and the overall cost to taxpayers was between 120 and \$140 billion. So there's new thinking out there, I think the big danger is being captive in old thinking. So that's the first thing. Do I get to keep going or do you have other questions I need to listen to?

- You can keep going and you can also tell us what's over your left shoulder. 'Cause I'm curious, so I imagine everyone else's.

- Okay, you're on the Devil's Springs Ranch. This is a 1980s model, natural gas well that you see behind me. It's a classic split-estate, so that's a federal mineral private surface, and one of the 122 wells that are on and around our ranch. We're a federal grazing a lot here as well. So we ever actually get operations here, competing on the same purpose. Excuse me. I'm experiencing a little nature out here, you guys. So this is a typical well set up. This is not an orphaned well or idle, but we have lived in proximity to these wells. This one is about a quarter mile from our house, we have 33 wells within a mile of our house, our home, and that's not untypical in the San Juan Basin or in the Permian. So we live, the frontline communities, landowners, we live right up with it. And you know, I'm gonna say this, let me make this statement, while, you know, I stand here on these lands that I own, and there's a federal mineral under me, I think it's so important to recognize that this ranch this well here, they were all owned by or a part of the indigenous lands first. And that's true here on this ranch, that's true throughout the 30,000 wells of the San Juan Basin. So I hope what we're talking about, and what we're working on, and everyone seems to have such an earnest purpose here today, I hope that what we're going to do is to restore some of what's been lost over the years and that we can all help pull together with the BLM and the Biden administration to finally achieve some accountability in mineral development, on public lands, and speak up for those that can't be here today. Now with that, would you like me to continue, or how are we doing on time?

- I'm looking at the clock, we've got one minute to go, and I cannot imagine a better way to end it than you just did, reminding us of our past and our obligation to the future grounded in place. We're really grateful for your time and grateful for the rest of the panelists who have joined us today. We have a lot to think about and to chew on as a result of everything that was shared today. Folks who have been watching the 800 people, if you also wanna contribute your thoughts, please email orphanedwells@blm.gov, that is orphanedwells@blm.gov. Nada and Steve, if you are still on, would you like to pop on say some parting words. And from me, thank you everybody so much for your time and attention, and helping us get this remarkable opportunity right?

- I will just say, thank you again to everyone who signed on.

- Same here, the BLM is really excited to be part of this solution, and we need all of you. And I'm so encouraged by everything we heard today from the panelists. I hope we can continue this conversation and hear from some of the other folks who joined us in sat for this panel with us on somewhat short notice. So thank you again so much. And thanks to all our tech folks who made this happen seamlessly today. Thank you.

- Yeah, thank you everybody so much. Let's have that last slide so people can see the orphanedwells@blm.gov. Write it down and let us know.

- Thank you BLM and let us know.

- [Nada] Thank you.

- [Tracy] Thanks everybody.

- [Nada] Thank you.