Episode 9 – Forever Chemicals: Insights on PFAS and Future Regulations

Jad Sobh (00:12)
Welcome back to Ground Breaking, where consulting meets innovation. My name is Jad Sobh

Peter Nabhan (00:18)
And I'm Peter Nabhan. And for those who are new here, Jad and I work for ECS Group of Companies, a nationwide engineering consulting firm.

Jad Sobh (00:27)
Today we're diving into the topic of PFAS, focusing on the regulatory challenges and legal implications businesses face. Joining us to share their expertise are Scott Worley and Stanford Baird.

Peter Nabhan (00:40)
Scott is an environmental principal at ECS. He's based out of Raleigh, NC, and has over 20 years of experience in the environmental field. Scott specializes in federal, state, and local regulatory negotiations, environmental liability assessment, and due diligence evaluations. Scott is also licensed

as a professional geologist in four states, and he leads our ECS PFAS team. He brings over to us his extensive knowledge of US EPA regulations and the evolving landscape of PFAS oversight. Scott's expertise help clients navigate complex regulatory challenges and environmental compliance requirements. Thank you, Scott. Judd, you want to intro Stanford?

Jad Sobh (01:30)
Yep, we have Stanford Baird joining us as well. Stanford is a partner at K&L Gates in Raleigh with over 20 years of experience in environmental law. He specializes in litigation, regulatory compliance, enforcement defense, and environmental aspects of real estate and business transactions. A lead accredited professional, lead AP, he advises clients in industries such as sustainability, land use, oil and gas, power, and renewables.

Recognized by Chambers USA, the Legal 500, and the best lawyers in America, he is also actively involved in professional and civic organizations, including the North Carolina Bar Association and North Carolina Oil and Gas Commission. Stanford, thanks for joining us.

Stanford Baird (02:14)
Thanks for having me.

Peter Nabhan (02:15)
Well, I'm happy we have such a strong crew here. And we're really going to dive in a deep, somewhat sensitive topic with PFAS being such a hot topic in this industry for many, many years. We did think of before we start diving into some of the complexities around this subject, I think our listeners would like to know the basics at a basic level. If you're able to explain what PFAS

Scott M. Werley, P.G. (02:17)
Thank

Peter Nabhan (02:40)
is and where it's commonly found. Like, I'm sitting in an office, do I have PFAS?

Stanford Baird (02:46)
I'll jump in and speak to that. Thanks for the introductions, guys. Appreciate it. So PFAS, or know, Per and polyfluoroalkyl substances, is a class of chemicals. It's not just one chemical. It's a whole family of chemicals commonly used in industry and consumer products worldwide, really, since the 1940s. Widely used in the United States, widely used globally.

They're synthetic chemicals, manmade chemicals. They're not naturally found in the environment. And there are literally thousands of them. Until recently, they've been largely unregulated. And it's really an instance where technology and science and chemistry sort of got ahead of regulation. And now, our society, our governments, regulatory agencies are kind of playing catch up to some degree.

The carbon fluorine bond at the chemistry level is the defining characteristic of PFAS chemicals. And I understand it's one of the strongest bonds in chemistry that we know of. And EPA has used different definitions of PFAS over time. But they estimate that we're talking about at least 15,000 PFAS chemicals, perhaps more.

And the claim is that PFAS is one of what they call a forever chemical because most PFAS do not break down naturally and can remain in the environment almost indefinitely. And PFAS are found universally. They are found in water, air, they're found in fish tissue, in soil, locations in the United States and around the globe and the US.

CDC has estimated that, you know, perhaps more than 97 % of Americans have PFAS in their blood to some degree. And as I mentioned, these chemicals have been widely used in industry and consumer products for decades. And you might find them in your office right there, Peter. And they're commonly found in things like food packaging, furniture, clothing, textiles, particularly stain-resistant fabrics.

Cleaning products, sealants, paints, nonstick cookware, shampoo, dental floss, oral hygiene products, etc. So really across the board. Historically, one of the areas where PFAS was known to be included was in AFFF or firefighting foam used to fight fires, particularly at

Defense Department of Defense sites and airports. this was PFAS related to AFFF or Aqueous Film Forming Foam was an area of initial litigation where exposure to humans, to workers and groundwater contamination was identified early on. And there have been thousands of lawsuits related to AFFF exposure.

And there's a large multi-district litigation, a huge litigation that's taking place in South Carolina as we speak. So that was one of the early areas where PFAS, people really started paying attention to PFAS and the potential problems with it. It's also been found in treated wastewater from certain industrial facilities. It's also been found in wastewater from publicly

Own treatment works that is wastewater treatment facilities from local governments and so forth and also in the sewage sludge or. Or bio solids that are generated by wastewater treatment that's become an area of particular sensitivity and interest by not only the folks that generate sewage sludge, but also by entities that receive that material as as fertilizers.

and by regulators as well. And it turns out one of the leading manufacturers of PFAS in the United States informed EPA as early as 2003 or so about potential issues related to PFAS in sewage sludge. And

then also that also ends up in, can end up in fertilizer products, even consumer fertilizer products for, you know, even for your garden, et cetera. So that's become an area of some particular sensitivity. So.

The truth of the matter is, is an issue. PFAS issues are, we're not exactly at the beginning of them, but we're a long way from the end.

Peter Nabhan (07:12)
It sounds like Stanford. I appreciate you sharing that with us. It sounds as if we produce this chemical way ahead of what actually needed to happen from a regulatory standpoint. And we almost made it like omnipresent. It's in everything around us now to an extent. that must, Scott, I was going to get your opinion on this one. When you do your practice as a PFAS environmental expert,

Scott M. Werley, P.G. (07:12)
Okay.

Peter Nabhan (07:38)
How do you weigh the effect of PFAS exposure on the human body or our general ecosystem? How does that translate to the human aspect of it?

Scott M. Werley, P.G. (07:50)
Well, in our industry, whenever we're doing assessments for environmental purposes, the end goal in site is typically to determine if there's impacts at the site that may have some kind of effect either on human health or the environment.

You know, we have standards that we look at when we do our assessments, you know, for different types of media, be it soil, air, water. And those standards are typically set in a manner to be protective of human health and the environment. So that's one thing we're typically doing when we're assessing a site. You know, obviously it's for risk management purposes as well.

if you're on the transactional side of the business where we're working on projects. If you're on some sort of regulated site, there's going to be programs within the regulatory agencies that may be requesting certain samples. For instance, one thing we commonly do at a redevelopment site is what we call final grade sampling.

Once the redevelopment is done, we go in on areas of the site where there is still pervious surface remaining, those surfaces that are not capped with some sort of asphalt or concrete. And we sample that soil in the upper two feet to see if occupants of that property in the future

that may be coming in contact to it could somehow be affected, right? We always hear about the stories of children playing in contaminated dirt. So that's one thing we do. We can go out and sample the site to try and put that to bed. But just to kind of get back to a little bit of what Stanford.

was talking about on what PFAS is and where it's found. Really good job on that, by the way, Stanford. You touched on a lot of things, but I just wanted to...

elaborate a little bit on why it's so ubiquitous, right, or omnipresent, like Peter said. And it's because of going back to that carbon fluorine bond that Stanford talked about. If you remember back to your high school chemistry days, fluorine is the most electronegative chemical on the periodic.

table of elements, right? So that's what gives it such a strong bond with carbon. And what that results in are some fairly unique properties that are beneficial in a lot of our just our common everyday household items, right? And these are properties that include like Stanford was talking about stain resistance, you know, I'll go one step further, you know, it gives properties such as resistance to oil.

resistance to water, resistance to heat, extreme heat, and existence to corrosion. So you can see why it's been added to so many things over the years. Yeah, it may have only been in certain things back when it was initially developed in 1940, but over the decades it's been worked into so many different products and now we find ourselves in the situation we're at today.

So I hope that helps answer some of your questions there. But back to the human health effects quick as well. You know, one reason why they're concerned about it.

are due to some potential health effects that have been associated with exposure or long-term exposure to PFAS, potentially lifetime exposure, right? We grow up from, you know, the day we're out of the womb or maybe not that soon, but, you know, drinking water that may have had it in it. I recall, you know, growing up, we didn't filter our water. We drank water out of the tap, right? And so even back in the early 80s when I was young, growing up, I was probably drinking that. So...

When the PFAS standards first came out, they weren't really standards. They were lifetime health advisories, right? And that quickly spun into standards that can potentially be regulated. But it was due to the potential health effects like cancer, decreased fertility, high cholesterol, thyroid disease, and liver damage, just to name a few that have been associated with long-term exposure to these chemicals.

Jad Sobh (11:30)
So, I mean, it's very interesting. mean, it's, you we're constantly seeing these things come in nowadays. And this kind of leads me to, you know, and this either one of you feel free to answer, you know, what is the regulatory landscape look like at the moment for PFAS? And then kind of from there, you know, how do businesses stay compliant with that regulation and do those regulations as they change affect the big guys or do they affect like, you know, your little mom and pop shop down on the corner? What does that kind of look like?

Stanford Baird (11:59)
So let's kind of break that down into component parts. Let me first speak to the kind of the regulatory landscape and then we can get a little bit into kind of how those regulations interface with the regulated community, big or small, etc. But let me just speak for a few moments about kind of what were the current regulatory landscape and as an initial matter I would note that it's

It's evolving to a great degree. It's kind of going in fits and starts, it is to a large degree a patchwork of federal, state, and to some degree local regulations. And really depends on kind of where you sit, where your business is, where a facility is located, where your products are going, that kind of thing. Because there's been a lot of activity at the state level.

and to a lesser degree at the federal level, but I'll kind of get into a little bit of the details there. So, you know, even though we said PFAS had been around for quite some time, we really didn't start looking at them from a regulatory standpoint until sort of the late 1990s, early 2000s as some of the health risks and studies related to PFAS became clearer and personal injury lawsuits, as I mentioned,

began to kind of bubble up and in the regulated communities to start it. I'm sorry, the regulators, I should say, started taking just a much closer, a closer look at this. Regulations have taken a while to develop and EPA and state regulators really just became active in the last 10 or 15 years. In 2021, EPA developed and published what they called their PFAS action plan.

With the motto of restrict, remediate and research. And so there's been some things that have come out of that, but a lot left to do. And in the current regulatory environment, the current federal administration, to some degree, all bets are off and we'll kind of have to see where things go. But where EPA has made some progress in the last year or so, one related to the

regulations under the Safe Drinking Water Act. And so in April of last year, EPA established maximum contaminant levels for drinking water for six PFAS substances. And these were developed based on the health advisories that Scott mentioned a moment ago. But it was really kind of a groundbreaking development to have EPA establish these MCLs because they're federally enforceable drinking water standards.

that have to be met by public water supply systems across the United States over the next five years that kind of get phased in. And EPA estimates the cost of implementing these rules at over a billion and a half dollars on an annual basis. And my hunch is that's actually a very small, a very low estimates, probably quite a bit more than that. In addition, EPA also made progress by designating two

of the most well-researched and understood PFAS. PFOS, P-F-O-S and PFOA, P-F-O-A, designated those two substances as CERCLA hazardous substances. That's the federal Superfund law. So, and they also have proposed, so that rule was finalized last year. They also have proposed seven additional PFAS substances. But this hazardous substance designation is important because

that could require assessment, investigation, and remediation or cleanup for past releases of these two PFAS substances, and also will require reporting and notification of new releases of these substances, et cetera. And of course, with Superfund or Circle liability comes the threat of third-party lawsuits for property damage.

Joint or strict liability, joint and sever liability, which is fairly onerous, etc. So those were established in 2024. At the same time, EPA published what they called this enforcement discretion policy. And so what they said was that they wanted to focus any enforcement related to this hazardous substance designation on what, you know, the

true polluters if you want to use that term, that being the manufacturers of PFAS, federal facilities as well, and other industrial players that use PFAS in their manufacturing or discharging in their wastewater or what have you. And EPA was clear to say that they were not interested in enforcing as related to sort passive receivers of PFAS, such as

farmers or property owners that receive biosolids or sludge that might be impacted with PFAS. They were not interested in enforcing against local governments like local utilities, municipal landfills, municipal airports, other local governments, etc. So that was sort of a balance, I suppose, the designation, but then also this enforcement discretion. One thing that the regulated community should be aware of is that

for superfund sites that are going through a five year review process, there may be an opportunity to reopen those sites for additional or to look under the hood, if you will, for potential historic PFAS impacts, et cetera. So that's kind of on the hazardous substance side. With regard to regulation under the Clean Water Act and in particular wastewater permitting,

EPA published or I should say they started the process to establish effluent limitation guidelines. These would be technology-based PFAS guidelines or effluent limits for certain industries including landfills, facilities in the organic chemicals, plastics, synthetic fibers, textiles, metal finishing, etc. So those were in process until

The week after the new administration came into into Washington, and they promptly had the Office of Management and Budget OMB withdraw those that proposed plan. So that has essentially been frozen and is not is not going forward. There were some news reports recently that seemed to confuse EPA activities as it relates to wastewater discharges and confuse that with the MCL.

Drinking water standards that I spoke about previously. be careful as you read any reports about some of the activities of the new administration, the may be overstated to some degree, but I can confirm that they did withdraw the potential progress on NPDES permitting as relates to PFAS for wastewater discharges.

Scott M. Werley, P.G. (18:28)
Thank

you

Stanford Baird (18:49)
Just mentioned a couple of the things at the federal level, I'll mention a couple of state regulatory developments as well. So as relates to hazardous waste management under RCRA, there's a proposed rule to designate PFAS as hazardous constituents, which would give EPA sort of corrective action authority. Under the Toxic Substances Control Act or TOSCA,

Scott M. Werley, P.G. (18:54)
Thank

Stanford Baird (19:11)
There are some new rules related to, or actually they may be proposed rules related to the manufacturing of new PFAS because that process goes forward as well. And then in particular, I would recommend that our viewers and folks in the regulated community take to heart a rule that's, I think, been a little bit overlooked. This is the TOSCA PFAS reporting rule. And this is a kind of a one-time rule, but it's

pretty onerous and burdensome if you're subject to it. And so it's a rule that basically says that any manufacturer of PFAS or importer of PFAS or importer of articles, basically any item that contains PFAS, will have to report, make a report to EPA in a very complicated procedural fashion, report to EPA.

on a by year and by chemical basis, all of their imports are manufacturers of PFAS going back to 2011. so quite a long time. query whether a business even has records going back that far that are reliable or what have you. Anyhow, these reports were supposed to be due in 2025. They've been.

pushed back the deadline to January of 2026 as things currently stand, they may get pushed back further. Who knows? may get frozen entirely for all I know. But that's one of those rules that I thought was being a little bit overlooked or hadn't really sunk in maybe for a lot of businesses in the United States that could have pretty significant implications. I apologize to drone on, but I'll say a few things about the

regulation at the state level. So at the state level, there's implementation of whatever the feds do as it relates to delegated programs. So to the extent that states are issuing MPDES permits and anything happens with regard to that at the federal level, that'll have to be implemented by the states to their folks that are seeking permits. A lot of the state activity has been related to groundwater standards. There have been a lot of states that have adopted groundwater standards.

for PFAS or are otherwise considering them. Also the definition of hazardous substance including now, including PFOA and PFOS. That will also trickle down to some degree to state implementation and enforcement as it relates to hazardous substances. And then quite a few states, around 15 states at last count have on the books either PFAS bans

or phase outs as it relates to certain consumer products. So some states, mostly on the West Coast and in the Northeast of the United States, have moved to either phase out and then ban the use of PFAS in new manufacturing of certain consumer products like food packaging, cosmetics, children's toys, cookware, cleaning products, etc. Things where I think they believe there might be a lot of human interaction or exposure.

Etc. So there are things on the books in about 15 states as of end of 2024. There were 80 bills in 20 different states along these lines. Only some of them took effect last last year and also at the state level you're seeing some litigation by state attorneys general and also by POTWs that may may have feel like they've received.

Receive PFAS and then they're seeking for seeking funds from contributors on an upstream basis from significant industrial users of POTWs. is folks that send their wastewater to POTWs that might have PFAS in it. We're seeing activity by POTWs and their attorneys to try to try to get some some funds to help them upgrade their system to comply with regulations, etc.

Scott M. Werley, P.G. (22:42)
page.

Stanford Baird (23:06)
And then also at the kind of federal level, but interacted or the interface with the states is that EPA developed some aquatic aquatic life water quality criteria for states to use in setting water quality standards for permits and otherwise. So there's a little bit of a trickle down a trickle down there. So you see some activity at the federal level, some activity at the at the state level as well. And

When we, if we get down the line of our discussion, we can talk a little bit about how the change in the federal administration might might impact everything that I just said.

Jad Sobh (23:44)

there's gonna be nuance at the different levels, right, of what are the goals at the state level and what are the goals at the federal level, maybe. And maybe there was some marriage there of what their intentions were. I mean, with that, I mean with the what's going on at the state level and what's going on at the federal level, how does that affect...

businesses that may be affected by PFAS regulation.

Stanford Baird (24:07)
I think it's going come up. PFAS regulations are going to come up in several different contexts. One relates to sort of a business's operations. If they manufacture PFAS, if they use PFAS in their manufacturing operations or otherwise use PFAS products, et cetera, that's where they may bump up against regulations they have to comply with, including that TOSCA PFAS reporting rule that I mentioned a moment ago.

Scott M. Werley, P.G. (24:07)
Thank

Stanford Baird (24:33)
In addition, as relates to permits and permitting with a lot of industries, discharge a significant amount of wastewater may generate their own sewage sludge, et cetera. And that's where they may have PFAS in their wastewater. They may have PFAS in their sewage sludge. If not now, they may have had it historically. And understanding where some of that material may have gone to historically would be of interest.

Find themselves just for example, let's say that a a city was a city or township was generated sewage sludge for for decades and sending it to to be land applied in the in the community or on farm fields outside of town. If that later now that we have some of these substances, designators hazardous substances, if that area is later determined to be, you know, contaminated under.

Scott M. Werley, P.G. (25:03)
So, you for patience.

Stanford Baird (25:22)
under Superfund or otherwise, then folks that own that property or that are being tasked to clean that up or investigate, et cetera, might go then back up the stream or down the stream as you might view it and try to bring in to contribute to the costs of that kind of thing, investigation, remediation, bring in those folks to contribute.

to those costs and expenses, folks that may have sent PFAS through generated biosolids, et cetera. As it relates to permitting the terms and conditions of a permit itself, then I think you're gonna see lots of states asking for reporting, sampling of wastewater and potentially air emissions.

monitoring and may set limits for any kind of PFAS discharges. I sort of mentioned already, you know, potential liability related to property contamination, et cetera. And then kind of at a macro level, PFAS risks, potential liability risks, will have to be evaluated in any kind of mergers or acquisition transaction, buying and selling companies or buying and selling property where there might have been

PFAS contamination or PFAS risk, etc. And, Scott, this might be a good time for you to mention kind of the PFAS due diligence in the transactional context, because that's, again, something that folks are dealing with now that we didn't really talk about 12 years ago.

Scott M. Werley, P.G. (26:50)
Right, yeah. Good point, Stanford. You know, you talk a lot about the hazardous substance designation of PFOA and PFOS. That was kind of a game changer on the due diligence property transactional front. Because essentially when those were designated as circle hazardous substances, they effectively became a recognized environmental condition in any sort of phase one environmental site assessment report that was being conducted. Leading up to that,

It was just being called out as a business environmental risk, right? It was this emerging contaminant. Everybody was starting to hear more about some people. Some clients are more risk averse than others. They'd still have you test for it. There's been lots of developments since then, including on the analytical laboratory front and just the sensitivity they can analyze down to.

as well as the EPA analytical methodology, you know, and the different types of methods to analyze PFAS by. That's developed quite a bit too, just over the past few recent years. But this is certainly an issue, right? It's always an issue when there's any sort of recognized environmental condition that is identified in your phase 1 ESA.

if PFAS is identified as one, it could be somewhat more of an issue. And I say that because

Even though the laboratory analytical methods have evolved, like I just said, quite a bit over the past few years, the turnaround time where you can get your laboratory analytical data may still be somewhat delayed or take longer than a sample result would take if you were sampling for other sort of contaminants of concern, like volatiles or semi-volatiles or metals, right? We know pretty clearly when we're going to get that data back.

sample it. The PFAS stuff is still a little hit or miss. Sometimes you can get your results if you rush them in as quick as five days. If you're using certain laboratories and communicating with your laboratory upfront ahead of the project. Other times you can think you're going to get your data in 15 days and not see it till 30. So there's some issues on the timing front as it relates to due diligence transactional projects.

And then when you find it, what do do? There is some uncertainty in the business world right now with PFAS, especially given the recent administration change which Stanford touched on. But we're kind of steaming full ahead as if there's still hazardous substances right now.

Certainly discussing with our clients, making them aware, allowing them to make their own decision if they want to, but providing certain recommendations as their environmental consultant. Another issue we see for business entities on the PFAS front is just any projects that may involve earth moving or dewatering can potentially be problematic if there's a PFAS source or historical PFAS source on your site or nearby.

Lots of landfills don't want to take the dirt if they think there may be PFAS in it. That could result in you having to sample your soil for PFAS, waiting on those results to get it exported off your site. Similarly, you're going to want to maybe sample your proposed import, right? Who's to say that the borrow pit

you're getting that soil from isn't more contaminated with PFAS than the concentrations that you already have on your site?

One other just overarching issue I would say is the levels that we're looking down to when we're talking about PFAS. We haven't mentioned that yet today on the podcast, but...

We're looking down to comparison criteria that are in the part per trillion range. For other sorts of contaminants we typically monitor for, we're looking in the part per million range or part per billion range. So going down to part per trillion range, these are really, really small numbers. And sometimes issues that we have may be interpreting our data.

we may need to recommend additional assessment in an effort to interpret the first set of data. That can cause issues with business, right? Whenever you're having to do another phase of work, it slows things down. It may result in somebody having to extend their closing date. A lot of times that can result in additional fees, you know?

to extend the closing date. these are these are other issues we're dealing with on a day-to-day basis with active projects.

Yeah, part per trillion range. I've heard a number of different analogies to try and put that into perspective for you. I think I've heard it's about one drop of water in an Olympic-sized swimming pool. And there's even been things proposed more recently that are trying to set standards down into the part per quadrillion range. So like a 0.001 part per trillion.

put that into perspective for you, one part per quadrillion is roughly two and a half minutes out of the Earth's four and a half billion year geologic time scale. these are tiny numbers that we're looking down to and I think it's going to cause, it just causes issues for anybody to try and understand why something in such small concentrations should be such a concern.

Stanford Baird (31:46)
particularly frustrating as well for the regulated community because these potential cleanup standards and so forth is also a moving target at this point on a jurisdiction by jurisdiction basis, etc. So EPA has set some, it's in soil cleanup. I'm sorry, it has not established soil cleanup standards, but it has established what they call, you know, screening levels and these, but the screening levels

I mean EPA is very clear that the screening levels are not cleanup standards and they're not really should not be used to set cleanup standards and yet certain states have looked to those screening levels as indicators of where you know what a you know preliminary soil remediation goal should be etc. And that may vary state to state as well. And so you know as Scott said you know the

the science gets pretty, the air gets pretty thin when you're talking about parts per quadrillion or what have you. And the sampling methodology, you know, can't really keep up with that level of accuracy. one of the other things that, Scott, I don't know if you have any anecdotes on this and maybe we may not want to digress, but just for folks collecting samples,

The possibility of teeny tiny cross contamination can call into question the validity of a sample. example, Scott, you verify this or not, but my understanding is that folks that are going out collecting

soil or groundwater samples, for example, are not supposed to have touched, let's say, a McDonald's food wrapper or any kind of

You know, may not may not be permitted to use certain shampoo or soap the day that they go to work to go collect those samples because any tiny little bit of cross contamination could throw the really the throw out the validity of those of those samples. But again, this is mostly anecdotal. Scott, what do you what do you understand about that?

Scott M. Werley, P.G. (33:46)
Yeah, no, you're exactly right, Stanford. When we're doing field assessments for PFAS, we take heightened quality assurance, quality control items into account. We try to follow an SOP that we have in place, and that touches on lists of prohibited and acceptable items on your PFAS assessment site. So yeah, you're right. They are instructed not to stop at McDonald's.

on the way to the job site for breakfast. They're supposed to wear PFAS-free clothing or cotton clothing is preferred. Those garments that have been laundered at least six times. So there's a number of different things. And it becomes problematic, especially in the summertime. If you're working out in the field, you may want to commonly apply sunscreen or bug spray.

You can't just apply any sunscreen or bug spray. has to be on the acceptable list of sunscreens and bug sprays. So you've to be careful. You've got to fill out checklists in the field to make sure those items and those rules are being followed. It helps us interpret our data on the back end. We'll typically sample more, too. We'll do more field duplicates.

to make sure that the equipment we're using for sampling isn't cross-contaminating the sample. like it's in a lot of everyday household items, it's in a lot of everyday classical environmental sample collection items too. And so we got to make sure we're using the right types of equipment. When we make a sample cooler request from a laboratory we're going to use, any PFAS

containers that we're supposed to fill in the field, come to us in a completely separate cooler, so they're not intermixed with the other types of sample containers. I hope that helps speak to the degree of above and beyond that's involved in a PFAS assessment.

Peter Nabhan (35:24)
It absolutely does, Scott. And I appreciate that takeaway Stanford and giving us some framework as well. Like when you are looking for a drop in a pool, any cross contamination will affect it. And also it sounds like that this nasancy, it's so new, we don't have the process that's very well established to capture these things. And we're also getting super granular. Like we're going to go to the parts per quadrillion. I've never heard that before, the way, Scott, parts per quadrillion. So that's a new thing for me.

So you have, you're trying to get a deal through from a real estate standpoint and you believe that there's a potential for PFAS contamination. And we may be touched on this before. How do you make sure that you check, you do the right check to make sure that that actually gets taken care of?

Scott M. Werley, P.G. (36:07)
I would suggest anybody looking to make a real estate transaction or deal that they have a phase one environmental site assessment done,

That's typically the first thing you'll do when you're looking at a piece of property you're maybe interested in buying. You want to look at the site itself, but also the property surrounding that site. Maybe within, you know, there's certain critical search radiuses that are looked at for different types of sites.

that will identify any historic use of PFAS due to land use on the target property or that property you're looking to buy itself. It'll also indicate if there's potential PFAS users, manufacturers.

polluters around the property that you're looking to purchase. So if that's identified, you know, it be called out as an REC, a recognized environmental condition, like I mentioned earlier in your phase one report. When that happens, there's typically a recommendation for further assessment. That's where we would spin into like a phase two assessment where we actually get, you know, maybe drill rigs out on the site to install some monitoring wells, conduct some soil borings.

and then collect those samples, send them off to a laboratory to have them analyzed for PFAS and for any other...

chemicals that may be a concern, right? So a lot of times when we're assessing for PFAS, that's not the only thing we're assessing for. There's typically other recognized environmental conditions that are also identified. You know, that may be an underground storage tank or it could be an adjacent industrial facility or gas station or dry cleaner. And so you collect the samples, you send them to a lab, you get the data.

Your environmental professionals will interpret that data, write a report, and should provide you conclusions and recommendations. A lot of times, if we identify things that are over certain promulgated standards, sometimes even if there's just regional screening levels exceeded, which aren't really promulgated, like Stanford just said.

But if there are those that are exceeded, we'll typically have a recommendation for them to share the report with the current property owner, for them to consult with an environmental attorney regarding their potential reporting obligations. And so that's why I think it's one good reason to always have a consultant and an attorney on your project team.

Peter Nabhan (38:27)
if you're coming in from the outside, that's a great way to understand what to do with PFAS. And I think, I mean, this information has been very valuable. And one of the things that we talked about before the episode is where do you see the future for this PFAS is still super new. There's a lot of legislation going back and forth, new administration.

But let's say it's 10 years from now, where do you see this progressing?

And this is for the both of you, please.

Stanford Baird (38:56)
Yeah, sure, sure. I as I mentioned earlier in our discussion, the new administration has changed, totally changed the approach, at least for the next few years, right? So quickly, the new administration put a freeze on all federal rulemaking, including EPA rulemaking.

Scott M. Werley, P.G. (38:56)
Stanford, you want to take a stab at that one first?

Stanford Baird (39:18)
And they're going to evaluate everything. I would think that there'll be very little what one might call progress as far as increased regulation in the short term. And in fact, there may be some efforts, I think credible efforts, to roll back even the hazardous waste, sorry, hazardous substance designation and potentially the MCLs.

much higher burden because those are both actual rules and we have to be difficulty in rolling those back. But the point being I think they'll be little as far as stricter regulation that's not already on the books in the in the near term. Similarly I don't think there'll be much in the in the at least in the next two years in the current Congress a lot of federal legislation.

that would impose greater or more liability, et cetera. There may be some exceptions to liability for certain players like municipal airports and certain industries, agriculture, et cetera. Kind of pet industries perhaps might get some liability protection, but I wouldn't expect a lot in the short term as far as increased or stringent regulation at the federal level. The states are, you know,

That's entirely, it's a whole different story, right? I think the states that are, that have been more interested in stricter and tighter regulation, notification, reporting obligations, et cetera, I think that will continue and then that may spread to other states as well. Early on in sort of the PFAS regulatory story in the United States, there was a lot of thought that

that the feds were moving just too slow. And a lot of states sort of stepped into that vacuum and began to regulate groundwater and so forth. They weren't waiting for the feds. that may be what we see over the next few years. But at the end of the day, my sense is that sooner or later, the larger family of PFAS chemicals

uh, will be regulated as hazardous substances to the extent that there is, you know, scientific data indicating that they are problematic from a human health and the environment sort of exposure type standpoint. I think, I think that's where this will, will go eventually. And as far as kind of, uh, and then, and then potentially, potentially some phase out on, certain substances, uh, you know, kind of like,

with PCBs, those were took a long time to phase all that out, but currently there's not a whole lot being made with PCBs any longer. And similarly with much decreased use of asbestos in products, et cetera. So I think those may follow a similar path. may take quite some time to get there, but that's sort of what I foresee long-term, short-term is,

is anybody's guess.

Scott M. Werley, P.G. (42:08)
Yeah, I would think maybe in the short term Stanford there may be more deregulation than additional regulation to occur. long term, I think most people in the industry are of the opinion that the horse is already out of the gate. There's no way they can already roll it back. I know you and I have discussed about potential, if they make attempts at potentially trying to roll back the MCLs.

why that's going to be so difficult due to the backslide provisions that are written into the Clean Water Act. But we have heard just recently, right, from the U.S. Chamber of Commerce that deregulating the hazardous substance designation of PFOA and PFOS is on the new administration's priority list.

So we'll see how far they can get on that and where it takes us. But I think everybody in the industry is kind of just watching and trying to keep our clients up to date so we know what to do.

Jad Sobh (43:01)
Cool. But gentlemen, this has been very enlightening because it's one of those things that, know, being here at ECS, we hear about the PFAS all the time, like all these things that are coming out. I had a very broad, broad.

broad picture of what it was, you know, having worked with Scott on some pieces, you know, in the past about getting the word out about these things. But Stanford, thank you so much for coming on today because, like I said, I've worked with Scott on some of this stuff and our team has worked with Scott on some of this stuff. So I had, you know, minimal ideas about it. And then hearing all the extra that you added to the conversation, you know, it's very much appreciated. So we got one more question for both of you. And this one is, it can be either personal or professional.

and it kind of plays into the name of the podcast. So, gentlemen, what has been something that has been groundbreaking in your life? Personal or professional?

Stanford Baird (43:51)
Totally unrelated to anything we've talked about today. Probably being a father, to be honest with you, that's been the most rewarding task of my life has been my family.

Jad Sobh (43:53)
Yeah.

Awesome. Scott, what about you? You're up next.

Scott M. Werley, P.G. (44:11)
Yeah,

you kind of beat me to the punch Stanford, but there's nothing that's ever broken ground more in my life than the birth of my daughter who's now 15 years old and just got her driver's ed permit.

Stanford Baird (44:23)
Congratulations.

Jad Sobh (44:24)
Yeah. I've got a little ways to go. Mine's only three months at the moment. So I've got a little bit before we start getting to that point.

Scott M. Werley, P.G. (44:24)
I hope that's all that's breaking.

Peter Nabhan (44:25)

Congratulations.

Stanford Baird (44:33)
Well,

great. Well, both of you will blink and your daughter is going to get married like mine in about three months. So, you know, she turns 25 and then gets married a couple of weeks after that. it's time goes by quickly, guys. It sure does.

Jad Sobh (44:39)
You

Peter Nabhan (44:40)
Wow.

Jad Sobh (44:48)
Yeah, even those three months that we've kind of, it's like that. We've blinked

and it's like, whoa, we got a three month old now, what happened here?

Stanford Baird (44:54)
Exactly, exactly. Well, I appreciate you having me on today and I hope that it's been helpful. Hope that there's enough from our discussion that you can use for a good final product here.

Jad Sobh (45:07)
This has been an absolutely awesome conversation, gentlemen. We appreciate it. Don't forget to subscribe to us if you aren't already. Wherever you listen to your podcasts, either on Apple Podcasts, Spotify, or many other places, including YouTube. Thanks for listening to Ground Breaking, Where Consulting Meets Innovation.