BEFORE THE BOARD OF ENVIRONMENTAL REVIEW OF THE STATE OF MONTANA

In the matter of the Appeal )BER 2016-03SM Amendment AM4, Western Energy) Permit No.

Company Rosebud Strip Mine )C1984003B Area B )

TRANSCRIPT OF PROCEEDINGS - ORAL ARGUMENT

Heard at Room 111 of the Metcalf Building 1520 East Sixth Avenue

Helena, Montana
May 31, 2019 10:30 a.m.

BEFORE CHAIR CHRIS DEVENY,
BOARD MEMBERS JOHN DEARMENT,
CHRIS TWEETEN, DEXTER BUSBY, MELISSA HORNBEIN, DAVID LEHNHERR; and HILLARY HANSON (By phone)

PREPARED BY: LAURIE CRUTCHER, RPR
COURT REPORTER, NOTARY PUBLIC

A P P E A R A N C E
ATTORNEY APPEARING ON BEHALF OF MEIC:
MR. SHILOH HERNANDEZ, ESQ.
Attorney at Law Western Environmental Law Center 103 Reeders Alley Helena, MT 59601

ATTORNEY APPEARING ON BEHALF OF THE DEPARTMENT:
MR. MARK LUCAS, ESQ.
Special Assistant Attorney General Department of Environmental Quality P.O. Box 200901

Helena, MT 59620

ATTORNEY APPEARING ON BEHALF OF WESTERN ENERGY COMPANY:

MR. JOHN MARTIN, ESQ.
Attorney at Law
Holland \& Hart, LLP
P.O. Box 68

Jackson Hole, WY 83001

WHEREUPON, the following proceedings were had:

CHAIR DEVENY: I think we're ready to reconvene. Lindsay, could you take roll call, please.

MS . FORD: Yes.
CHAIR DEVENY: I believe we're all here.
Could you just for the record show that all the Board members are present. If you'd check with Hillary.

MS. FORD: Hillary Hanson.
BOARD MEMBER HANSON: Yes, I'm here. MS. FORD: All Board members are still present.

CHAIR DEVENY: Glad to hear from you, Hillary. Okay. I believe there have been some other folks that have joined the room since we first identified ourselves this morning, so if we could go around the room, and identify any new people here, and if you could speak up for our Court Reporter.

MR. COLEMAN: I'm Ed Coleman. I'm the Bureau Chief over the Coal and Opencut Mining Bureau here at DEQ.

CHAIR DEVENY: Any other folks?
UNKNOWN SPEAKER: Dan from the public.
I'm just an anonymous.
CHAIR DEVENY: Yes.

MR. GROSS: Steve Gross, I'm the
Business Manager for Operating Engineers Local 400 for the state of Montana.

CHAIR DEVENY: Anybody else?

MR. SMITH: I'm Bob Smith. I'm the permit coordinator for the coal program for Montana DEQ.

MR. STALDINE: I'm John Staldine, MPDES permit writer for the coal program.

CHAIR DEVENY: Any members of the public on the telephone?

MR. SULIIVAN: Yes. This is Roger Sullivan in Kalispell, Montana, and I'm also Counsel for MEIC and the conservation organizations in the Rosebud matter of the appeal Of AM4.

CHAIR DEVENY: Okay. Any other members of the public on the telephone?
(No response)
CHAIR DEVENY: All right. Hearing none.
Before we get started on this case, $I$ know Dexter
has to leave later this afternoon, probably before 5:00. Are there other members of the Board that are going to have to leave this afternoon?

BOARD MEMBER HORNBEIN: I have child care obligations at 5:00.

CHAIR DEVENY: So 5:00, and you have to leave before 5:00?

BOARD MEMBER HORNBEIN: 4:45.
CHAIR DEVENY: $4: 45$ appears to be latest that those two members could stay. We would still have a quorum if you left. I hope we don't go past 5:00, but $I$ guess now we know at what point folks have to leave. Thank you.

So the big case today is the matter of the appeal of Amendment AM4 Western Energy Company, Rosebud Strip Mine Area B. And the first order of business is to deal with the motion to disqualify myself and Board Member Dr. David Lehnherr.

And I guess I'll start with myself. I do not plan to recuse myself, but $I$ will leave it up to the Board to make a decision whether you want to disqualify me or not. And David, do you have thoughts on that?

BOARD MEMBER LEHNHERR: I feel the same
way.
CHAIR DEVENY: So with that, $I$ don't plan to allow any members of the public to speak on this. I don't think that's necessary. But I would like the Board to express their opinion, and if we could have a motion one way or the other, or -- I believe I'm correct -- with Robert's Rules of Order, we could not have any motion and the issue would go away; is that correct? Sarah, could I get your --

MS. CLERGET: It would fail for lack of a motion.

BOARD MEMBER DEARMENT: Madam Chair, I'm perfectly comfortable with both of you remaining as part of the case.

CHAIR DEVENY: Any other comments?
BOARD MEMBER BUSBY: I would make that same statement. I'm comfortable with your ability to be unbiased.

CHAIR DEVENY: Do Board members want to take any action?
(No response)
CHAIR DEVENY: Seeing none, I believe this issue fails for lack of a motion.

MS. CLERGET: I believe so.

CHAIR DEVENY: Does that settle everything and we move on?

MS. CLERGET: You still have the motion to strike to deal with.

MR. MARTIN: If it please the Board, we'll withdraw that motion in light of your resolution of the underlying issue.

CHAIR DEVENY: Please identify yourself.

MR. MARTIN: I apologize. John Martin for the Intervenors. And in light of the fact that the Board has made its decision on the underlying issue, we will withdraw that motion to strike.

CHAIR DEVENY: The motion to strike has been withdrawn. I believe we've resolved this particular issue in this case.

MS. CLERGET: Yes.

CHAIR DEVENY: Okay. So the next part of this case will be to hear oral argument from the parties. This will be from all three parties, MEIC, DEQ, and Western Energy, and all of their affiliated partners, etc.

And $I$ would like to limit oral argument to fifteen minutes each, and we will have some time for rebuttal, but in the interests of time
and the fact that we have a lot of written materials from you, $I$ think that's probably a fair amount of time. And I've asked Lindsay to time. She will give you a one minute notice, and then ask you to wrap up within that minute. And Sarah, you're looking at me like I've forgotten something.

MS. CLERGET: Did you want me to go through my motion you told me you wanted me to do?

CHAIR DEVENY: I do, and pardon me for forgetting that. Yes. Just to remind and inform the Board members of the procedure for today, Sarah has a memo that's in our packet, but I've asked her to go over that so that we're all clear on the decision process.

MS. CLERGET: So this memo lays out for you the things that you've received in the packet. The most operative part of it is under Montana Code Annotated 2-4-621(3), you have three options, and this is on the second page of the packet at the bottom, lays out the three options that you have as a result of today.

After you hear the oral arguments, you can accept the proposed findings of fact and conclusions of law in its entirety, and adopt it
as the Board's final agency action for final order. That's your first option.

Your second option is accept the findings of fact in the proposed FOFCOL, but modify the conclusions of law in the Board's final agency order.

And then your third option is to reject the findings of fact and conclusions of law because they are not based on substantial evidence, or there was violation of some substantive law in the procedure; and then you can review the entire record that was before the Hearing Examiner, and take the Board's final agency action, which can look like either a modified version of the FOFCOL that's before you, or you can write a new one.

And so those are your three options that you have. And this is also the time where $I$ usually say -- you guys, many of you have heard me say before -- but even though $I$ was the Hearing Examiner in this case, $I$ have no ego about this, and we need to just make sure we get it right.

So if $I$ got something wrong, nobody
needs to pull any punches about saying that. We just need to talk about it, and make sure we get
it right. So we don't need to have the "respectfully disagree" and all of that business. We can just go forward about this, and let's make sure it gets right.

So unless anybody has any other procedural questions, you can proceed.

BOARD MEMBER HORNBEIN: Madam Chair, I do have one procedural question for Counsel.

Sarah, if you could clarify sort of the email communication that you and $I$ had on this issue, that the Board presumably will take action on this in one way or another today, and may or may not be dispositive action as to the underlying issues of the case. Could you clarify that.

MS. CLERGET: Right. So you had just emailed me asking essentially that question, and my response was yes. For example, if you decide, if you take option three, and you decide that you need to review the entire case, then you don't have to take a dispositive action today. Obviously you can take the time you need to to go review the case, and then we can reconvene at another meeting, whether it be a special meeting or the next meeting, to decide how you want to proceed after you've reviewed those materials,
which are here. (Indicating)
CHAIR DEVENY: Any other questions from Board members about procedures today?
(No response)
CHAIR DEVENY: With that, we'll proceed with oral arguments. Mr. Hernandez, would you like to start.

MR. HERNANDEZ: I would. Thank you, Madam Chair. Shiloh Hernandez for Petitioners Montana Environmental Information Center and Sierra Club. I'd like to reserve five minutes of my time for rebuttal, please. And Ms. Ford, if you could give me the one minute warning at nine. MS. FORD: Absolutely.

MR. HERNANDEZ: I'll try and cut to the chase on this. From the get go, I'm probably going to use a few abbreviations that $I$ wanted to make sure everyone was comfortable with.

On Page Roman Numeral X of our objections, we have a list of acronyms and short forms that we've used in here. I apologize for so many. It's a technical case, and the brief would have been ninety pages if $I$ hadn't used these.

The most important ones are the word CHIA, which we use throughout. It means

Cumulative Hydrologic Impact Assessment. It's basically the review of the environmental hydrologic impacts from the mining operation, proposed operation that $D E Q$ does, and that's the document that's at issue in this case.

The other two acronyms I'd like to use are SMCRA, which sounds like a bad word, but it means the Surface Mining Control Reclamation Act, which is a federal law that governs surface mining throughout the United States.

The second acronym is MSUMRA, which is the Montana Strip and Underground Mine Reclamation Act, which is the Montana program under SMCRA. It's a cooperative federalism situation where the state program complies with the minimum federal standards, grant the state jurisdiction to regulate coal mining with some exceptions in Montana.

So with that, the other statute that comes into play in this is the Clean Water Act, which I may refer to as the CWA, but probably Clean Water Act because that's just as short.

There are five issues in our objections to be raised with the proposed findings, two are merits issues, and three are procedural issues.

I'm going to focus on the merits issues, but I'm happy to discuss the procedural issues if the Board wishes at some point.

First is the finding's erroneous legal conclusion with respect to salinity, namely the finding's conclusion that adding more salt to a creek that's already impaired and not meeting water quality standards due to excessive salinity is not a violation of water quality standards.

Under controlling Ninth Circuit -- Under Ninth Circuit law, it is clear that if a creek is beyond its carrying capacity for a pollutant, and not meeting water quality standards, if you add more of that pollution to the creek, you will violate water quality standards.

And there's no dispute here that this mining expansion and the cumulative impacts of mining are going to add more salt to East Fork Armells Creek, and $I$ think everyone will refer to it as EFAC, just because it's a mouthful. Adding more salt to a creek impaired for salt and not meeting water quality standards for salt will violate water quality standards. There is no question that that's the case here.

And given that fact, $D E Q$ 's only options

## 14

were either "A," to deny the permit; or "B," clean up the creek; and the way they would do that is with a remedial plan called a total maximum daily load. That would create assimilative capacity in the creek to accommodate further pollution.

Until they do that, the injunction in MSUMRA is that the state may not approve a mine expansion unless the application affirmatively demonstrates that the cumulative hydrologic impacts will not result in a violation of water quality standards would bar approval of this permit.

The second issue that I'll address -I'm not going to give a whole outline here, given the time constraints -- is the analysis of water quality standards for the growth and propagation of aquatic life, but I'll get to that in a couple of minutes.

The findings disagree with our analysis of MSUMRA and SMCRA on two legal grounds, and both of those grounds are flawed as we point out in our briefing.

The first is that findings impermissibly segment the AM4 expansion of the mine. Now as you can see on the screen behind you, there's a picture of the outline of all of the areas of the mine operation. And in Area $B$ there is an area that's in green. That's the mine expansion here, called AM4, the Amendment 4. It's a small segment of the overall mine.

The findings said that in assessing the cumulative hydrologic impact, and whether they will result in material damage, you don't consider all that mining from the mine, you only consider the little orange spot.

That position has been clearly rejected both by the Federal authorities that oversee implementation of SMCRA, the US Office of Surface Mining, which says in making the material damage determination, you have to consider the cumulative effects of everything.

And there we have a quote in our brief where they say it's first come, first serve. If the existing mining operations are going to violate water quality standards, here by adding undisputed increase in base flow salt levels to the creek of 13 percent, if the existing mining operations are going to do that, they can't add more. They can't extend it.

And that goes to the second legal error
the findings make, which is they discount the importance of long term water pollution. The Board was very clear in the In Re: Bull Mountains decision that long term water pollution is a serious problem, both addressed in SMCRA and is plain on the ground in Montana, looking no further than the Berkeley Pit. These impacts can go on for generations, and they have to be addressed at the time of permitting.

And so the hearing contended that, well, if you're not increasing the concentration of salt in the creek, you're just extending the period of time that salt will be high, that that's not a violation of water quality standards, and that's just not correct.

And the flaw there is that the creek is already beyond the water quality standards limit. It's past its carrying capacity for salt. And extending the duration of that violation of water quality standards will cause further violations of water quality standards.

Notably the Clean Water Act and SMCRA both say that each day of a violation is an additional violation. And here, the DEQ's own expert said this, just the little orange part, is
going to extend the time period that increased salt levels will be discharged -- and when $I$ say discharged, not in the Clean Water Act sense - but just salty, more salty water is going to go into the creek through base flow for tens to hundreds of years.

And there is some question about what was actually said on this score, and $I$ will just point to the record. This is DEQ's expert Dr. Hinz. She said, "We would expect that the duration would increase changes to water quality. It would probably be an increase of some tens or hundreds of years."

Now, the idea that extending the period of time that higher salt levels are going to go into a creek that's already past its carrying capacity for salt by tens to hundreds of years is legally irrelevant is contrary to the basic purposes of SMCRA and the Clean Water Act.

And I'd like to return to the purposes of these acts, which are environmental protection. They should guide the Board's analysis. And here I would direct the Court to the Ninth Circuit's analysis in the Friends of Pinto Creek case, which we cite in our brief.

There the Court addressed the same situation where a proposed mine was going to add more copper to a creek that was impaired for copper because of other prior mining operations. The Court said that will lead to a violation of water quality, and a contrary analysis would be contrary to the very purpose of the Clean Water Act, which is to restore and maintain the integrity of our nation's waters.

And the idea that they can continue to add more salt to a creek impaired for salt for tens to hundreds of years is contrary to the very purposes of the Clean Water Act and the surface mining law.

I'd now like to -- I assume there will be time for questions from the Board later, but now I'd just like to canvas our issues with respect to water quality standards for growth and propagation of aquatic life.

MS. FORD: One minute.
MR. HERNANDEZ: Basically, DEQ applied the standard of is anything alive in the creek. If they could find anything in the creek, then it meets water quality standards for growth and propagation of aquatic life. That is not the water quality standard for growth and propagation of aquatic life.

Moreover, DEQ's entire analysis of this water quality standard for growth and propagation of aquatic life was based on a metric, macroinvertebrates, that $D E Q$ also says is just not reliable. And for DEQ to say, "We relied on a metric, a study of water bugs, that we don't think is reliable" violates the basic requirement of reasoned decision making, which Justice Scalia pointed out most recently in Michigan versus EPA. And we don't have the citation in our brief, but there is only one case that's authored by Scalia called Michigan versus EPA.

Reasoned decision making is the basis of agency -- for lawful agency decisions. To rely on unreliable information is not reasoned decision making. Thank you.

CHAIR DEVENY: Thank you, Mr. Hernandez. I think I'd like to hear from all parties before we have questions. Do the Board members think that's the right way to go ahead?

BOARD MEMBER DEARMENT: That's fine.
CHAIR DEVENY: DEQ or Western Energy, whichever one of you wants to go next.

MR. LUCAS: Thank you, Madam Chair, and hello again, Board members. I'd like to welcome the new Board members, and thank you for volunteering to participate here, and on behalf of the Department, I'd like to say I'm glad that you're all here to make this decision.

We'd really like to thank the Hearing Examiner and the hearing assistant for managing a complex and rather contentious litigation. Eventually in these cases, you go on for four days, people aren't sleeping, we're all in the same room, breathing the same air, things can get a little chippy, as they say in hockey. If you're a hockey fan, $I$ hope you're rooting for the Boston Bruins in this year's Stanley Cup finals.

It's a good example of how intense competition can become between adversaries over a repeated series of contests. It's not that hockey players or lawyers don't like each other. We all actually shake hands when it's all over. But when you do get placed in that grist mill of litigation, someone has to wear the stripes, someone has to call the fouls, someone has to blow the whistle.

The Hearing Examiner has done her job,
and you know what we think of that, and now Board members, it's your job to put on the striped shirt and call the whistle.

Petitioners don't like the Hearing Examiner's decision, and they toss around words like draconian, and Kafka-esque, and whatnot. Make no mistake. The outcome of this case is tough on Petitioners. That's not because the Department's tough or the Hearing Examiner was tough. It's because the law is tough, and the law has to be tough to be fair for all involved.

And the science is actually even tougher because lawyers can argue all day about what the words on a page and a piece of evidence says. Science alone produces the disinterested search for the truth.

Under the Rules of Evidence, only scientists and other experts can legally speak to the ultimate conclusion in the case. Advocacy on the other hand is antithetical to science. That's precisely why it's the obligation of this tribunal and all the attorneys involved in the system of justice to respect the scientific disciplines, and the practitioners thereof. Your role here today in part is to be the gatekeeper of both the law
and the science.
Petitioners had their day in court, four days in total, but the law required them to present a preponderance of evidence establishing facts essential to a determination that the Department's decision in this case violated the law.

None of us are here to crow over the decision in order to excoriate Petitioners' scientific professionals with respect to the science. It's important even when they're on the other side.

Science isn't conducted in the courtroom, so it's always strange to bring experts into the courtroom, but when scientific evidence misses the boat by failing to address the relevant regulatory construct as the proposed ruling here illustrates, the best science in the world can have no probative value whatever, and that's the case you have at bar here today.

Now, I'm not going to speculate as to the motives for the 54 pages of exceptions you received. It does to me look like an attempt to compensate for the self-inflicted predicament of not making their case at trial, and it makes
arguments which are plainly contradicted by the ruling itself.

By way of an example, and not of
limitation, I'll go over a few things Mr.
Hernandez said earlier with regard to this tens to hundreds of years issue. That's not what the proposed ruling says. You can read it for yourself.

On Page 73, I believe, Footnote 6, it's right up there. And it says, "Neither side presented convincing evidence about the extent and the duration of salt loading." It says right there.

So what Mr. Hernandez did to a Ph.D. scientist was to pull one statement of hers, throw it up there for you in isolation, when actually the record reflects the opposite. That is not respect for the science.

And again, going back to Dr. Hinz,
Petitioners attack her qualifications to opine on biological issues, but Petitioners' own aquatic ecology expert did not challenge Dr. Hinz's conclusions, did not conduct a material damage assessment, and in fact he even agreed that the data Dr. Hinz applied could be reliably used for
the purposes the Department had presented it. I'm not going to go into all of the distortions. They are in our reply brief. But the reason $I$ am spending my time on this is because there is an overarching problem of lawyers characterizing science. That's not only unlawful, inadmissible, and with no probative value, but that should be considered an anathema to rational policy and implementation, and we look to the Board to be the gatekeepers not only of the science but of the lawyer's characterizations thereof.

I'm honored to be joined here today by the Department's coal program hydrogeologists Dr. Emily Hinz and Martin Van Oort, along with the other dedicated professional public servants who truly are the shield that guards the realms of humanity from our own self-inflicted environmental predicaments.

I can prep the witnesses for trial, put them in the chair, ask questions, make objections, do redirect.

Only you can ensure that the integrity of the science will be respected, and we are looking for a resounding rejection of the type of
mischaracterization of scientific evidence that's at stake in this case. We think it's important to send a message. We're not here to crow. But by God, show these people the respect they deserve as professionals.

I can argue all day long, and $I$ hope we don't wind up doing that, but the duty of DEQ's expert witnesses has been discharged. They've done their duty, and now it's up to you.

We also ask that the law be followed in the permitting process. You have the issue of exhaustion in front of you. Petitioners decry the outcome. Once again, they didn't do what they were supposed to do under the law. The law is tough, and if you don't do that, there are consequences.

And Petitioners mischaracterize the ruling on the motion in limine because the motion in limine was based on the structure of the statute, the regulations, and the prior decisions of the Board.

I think it's very clear that Signal Peak, the first case, was about issue exhaustion, and we were hammered for not exhausting our issues in the permitting process. You have to apply the
law even-handedly. Otherwise you place us in a position where MEIC could hold back a comment on a CHIA, and then show up at hearing and say, "You should have addressed that."

And under Signal Peak it's basically a four corners of the case rule. So to not apply issue exhaustion is to set the Department up for failure every time.

Another thing that we have a huge problem with is the attempt to amalgamate inapplicable Clean Water Act regulatory requirements with this case. This is an MSUMRA case. Petitioners cited you to Pinto Creek. That is under Section 402 of the Clean Water Act. That is a so-called MPDES case.

And Mr. Hernandez used words like "adding pollution." A MPDES case is about a discharge of a pollutant from a point source to a water in the United States. That's not what you're dealing with here.

The issues in this case regard the base flow from groundwater flowing into East Fork Armells Creek, and what, if any, that effect has on the environment. So they went in, they did an MSUMRA case, it didn't go good for them, and on
the eve of trial in their prehearing brief, they suddenly started raising Clean Water Act arguments, and using this word "contribute" that just doesn't appear in MSUMRA.

You have our exceptions on the burden of proof. I really don't need to belabor that point. I think that's extremely clear. All $I$ would like to highlight for the Board is that the assessment is one of the probable hydrology consequences, as our brief explains.

There is a probability standard. And the demonstration that must take place in the permitting process, while it is an affirmative demonstration, an affirmative demonstration is not a guarantee. It's a demonstration based on the dictionary that speaks directly to the issue and shows basis for the contention.

We have that here. The Applicant's burden was to make an affirmative demonstration. The Department's burden was to confirm that affirmative demonstration. And MEIC's job coming in trying to contest the permit was to meet a burden of proof to show that we acted unlawfully, and that just didn't happen.
You're going to have some arguments,
you've heard some arguments about Area $F$ not being included. We include other areas of the mine -and I'm quoting ARM 17.24.301(32) -- only where the operation may interact with the impacts of all previous, existing, and anticipated mining.

54 pages of Petitioners' brief. They're saying we used the wrong definition. The word "interact" does not appear in that brief. That's the important point.

And there was an offer of proof permitted at the hearing, and in that offer of proof, Petitioners were allowed to cross-examine the Coal Program Supervisor, to explain that the reason Area $F$ is not included is because there is no hydrological connection between Area $F$ and AM4.

And when Petitioners' own witness attempted to testify about his theories that there was a connection -- and I'm citing Volume I, 167, Pages 1 through 5 of the transcript, all he could say was they could cumulatively impact Area $F$ and AM4.

Again, on 167 , at 17 to 25 , he said, "Yes, it's possible they could interact." Well, we're on our probability standard of probable hydrologic consequences. The proposed ruling
found that the CHIA included a cumulative impact analysis of all mining that would interact with AM4, finding No. 210. We believe that ruling should not be disturbed, and that it was correct.

The real thing you need to remember with these Area $F$ arguments is all they did was they put in their comments during the permitting process, and they attached to their comments NEPA comments -- the National Environmental Protection Agency comments -- that they filed with the Office of Surface Mining and Regulation.

So when the Department opened those comments, we saw a bunch of comments about how these are cumulative and connected actions under NEPA, citing to NEPA regulations. Again, it's the same story. They're arguing the law wrong. That did not put us on notice that they believed there was a hydrologic connection between Area $F$ and AM4.

They also make claims that the mine has dewatered East Fork Armells Creek. If you look at their comments, there was a section that talked about existing violations of MSUMRA. So when they put in their comments on AM4, they said East Fork Armells Creek has been dewatered; therefore,
that's existing material damage. And then they had another section on prospective material damage.

So you will be able to look at those comments for yourself. I'm not going to put them on the board for you.

The point is if you tell us to deny the permit because of existing material damage, and then you bring an appeal and say, "Oh, we were talking about prospective material damage from dewatering," again, we're left to wonder.

The permitting process is so that we can sort all these things out, and if MEIC wants to put comments in front of us, we're more than happy to respond to them, or at least determine if they need to be addressed.

They are also upset because chloride was excluded. The word "chloride" does not appear in their comments or their notice of appeal. What they're arguing is that, "Well, the CHIA mentioned chloride. Therefore it's a fair issue for litigation."

Dr. Hinz is attempting to put up Table 7.1 for the CHIA for you. That will show that DEQ analyzed perhaps two dozen different ionic
components. That doesn't mean that we've been notified that they're all issues for trial.

Chloride is on there. Am I supposed to walk into trial, and hear for the first time that someone has an issue with iron? How can we prepare for that? That's surprise, it's prejudicial, it shouldn't be allowed.

And with that, $I$ don't think $I$ have reserved any time for rebuttal, but $I$ thank you for your time, and $I$ will be available for what questions and assistance we can provide to the Board.

CHAIR DEVENY: Thank you, Mr. Lucas. Now we'll hear from Western Energy.

MR. MARTIN: Thank you, Madam Chair, members of the Board. Bear with us for just a moment. We're trying to get some slides up.

CHAIR DEVENY: Please identify yourself for the record.

MR. MARTIN: I apologize. John Martin on behalf of the Intervenors Local 400 of the International Union of Operating Engineers, the Cheyenne Miners Association, Great Northern Properties, and Western Energy.

If it please the Board, what I'd like to
do is I'd like to talk about some of the extraordinary effort that went into this litigation, and specifically on behalf of my clients, and $I$ actually think $I$ speak for all Counsel in this case.

We can't help but admire and thank Ms. Clerget and her able assistant Ms. Solem for all the work they put in on this case. It was an extraordinary effort, it was difficult, and we admire what they did, even if there are elements that we might disagree with. And I think that's true of all the lawyers in this case.

I'd like to as well introduce Steve Gross. I think you heard that he's the Business Manager for the International Union of Operating Engineers; and we have with us today Wade Steere who is the environmental engineer for the mine. Let me add that that local represents roughly 260 jobs for the Rosebud mine.

I'd like to, if $I$ can, walk through some of the findings of fact because this is what's important about this case. You heard Mr. Lucas talk about science. Well, the science is included in the findings of fact, and what we've had here is a characterization of those findings of fact
that are supposedly legal issues. They're not legal issues.

Many of these issues, notably the salinity issue is purely a finding of fact, and we'll go through this in a little bit of detail here. Let's go to the first slide.

Folks, I could walk you through the permitting timeline, but that's not been raised in the oral argument here, and frankly, $I$ think everyone on this Board has been inundated with it. My only point with this slide is that there were various elements, various points in time, when the public had the capacity to participate. Notably in the notice of application, we had a month of notice to the public, and we had thirty days of comment.

We also had a period of time in August of 2015, after the acceptability notice when we in fact did receive comments, more precisely DEQ received those comments. DEQ expended a great deal of time, and the CHIA that's so much at issue in this case comprises roughly 500 pages; we had a PHC that was a couple hundred pages; we had an addendum that was about 100 pages -- I'm not recalling it specifically. Perhaps more
importantly we had eight rounds of deficiency notices and responses from the mining company.

All of that was in the administrative record, and MEIC and their colleagues had the capacity to comment on everything leading up to the CHIA. We had roughly six years of an administrative record at that point in time that they could have reviewed and that they could have commented on. And in many instances, those issues that they're raising today were not commented on. Much to the credit of the Hearing Examiner, she winnowed down those issues so that issues that were the subject of the comment, that were the subject of the notice of appeal, were properly heard in the four days of trial.

Let's go the next slide. We did have a motion for summary judgment. I think Mr. Tweeten will remember this. This was heard in November of 2016, and then decided in December of 2016. Suffice it to say that many of the arguments that we're hearing again were effectively rejected in that motion for summary judgment when the Board said, "No. There are material issues of fact that remained to be resolved," and those issues now are resolved.

We had four days of hearing, 1200 pages of transcript, eight expert witnesses, five fact witnesses. It came down to three surface water claims. They said total dissolved solids were an issue, they said aquatic life was an issue, and then finally nitrogen was one of the issues that they argued.

Let me remind the Board that the Hearing
Examiner actually granted a motion for directed verdict, and for the non-lawyers here what means is if the Hearing Examiner were presented with only the evidence from the Petitioners, without hearing any of the evidence from the Respondents, that she would have decided this case in our favor. In other words, they didn't prove their case with their witnesses.

Let's go to the next slide. In the briefing that we get from the Petitioners in this case, there is a little confusion about the way this process works. What happens in this process under MSUMRA is that there must be an affirmative demonstration from the Applicant; that would be the PHC, that would be the deficiency notices or responses to those deficiency notices.
The second stage -- By the way, we as
the Applicant bear the burden of proof at that stage. DEQ then must confirm in writing that in fact, we meet the requirements of the statute, and that there is no material damage.

And then finally in the process, we go to the contested case hearing. At that point the burden shifts, and this is clear from MEIC v. DEQ, the burden shifts to those who are challenging the Department, and they must bear the burden of proof in the contested case. They couldn't shoulder the burden of proof in this particular case.

Let's go to the next slide. The only point of including this slide -- and you folks have seen this statutory provision before -- is just to underline the reality that there has to be some element of causation. The degradation that they're claiming causes material damage must have come from coal mining or reclamation operations in order for the Petitioners to prevail.

Next slide. Folks, again, the only reason we're including this particular slide is because there has been some confusion.

Petitioners have a tendency to class Upper East Fork with Lower East Fork. Upper East Fork is the ephemeral portion of the stream. It's upstream, if you're looking at a map, from the highway, and that's ephemeral, which is to say for the most part it's a dry stream bed. There are short stretches of intermittent flow, but for the most part it's dry most of the year.

Lower EFAC is that portion of the stream that begins at roughly where the highway goes through Colstrip, and then eventually makes its way to the confluence of the West Fork and on to the Yellowstone River.

What's important about this is that Lower East Fork is influenced by cattle grazing, agriculture, fertilizer from residential lawns, fertilizer from the golf course, and discharges from a municipal water treatment plant.

And you'll note -- and we'll talk about this in greater detail here in a moment -- that the Hearing Examiner concluded that the impairment of Lower East Fork Armells Creek was not caused by mining. That was what the evidence showed, that's what the science shows. And the same was true of Upper East Fork Armells Creek.

Let's go to the next slide. Let's talk about surface water because that's the argument that we're hearing from the Petitioners.

In terms of findings of fact, the Hearing Examiner noted that there were multiple lines of data, and then she concluded -- and by the way, this conclusion applies to salinity, which was the focus of Mr. Hernandez's argument -that the AM4 permit will cause no measurable change in the quality of the ephemeral runoff flowing over the surface of the land into East Fork Armells Creek, so there will be no effect in terms of the ephemeral runoff.

Beyond that, the conclusion -- and this is the factual conclusion after hearing from eight different experts -- is that the AM4 permit would not result in material damage to surface water. That's the ultimate conclusion that applies in this case, and that's after hearing all of the experts. Mining wouldn't affect the designated uses of the stream as well.

Now, we all understand that propagation of fur bearing animals in a dry stream bed is not such a big use, and that's one of the points that we had to deal with in this litigation was that we really don't have the $C 3$ uses -- that's the categorization for these dry stream beds -- that they will not be affected by the AM4 mining.

Next slide. Let's talk about salinity. That was the thrust of Mr. Hernandez's argument. The first thing that $I$ think we all have to bear in mind is that East Fork Armells Creek has extremely variable flow, that is to say there is a wide range of -- I'm going to call it salinity. More precisely it's total dissolved solids -- but it ranges widely, and this is a natural phenomenon. It's because we have the rain that falls in the spring, it brings dissolved solids into the stream, and it varies greatly.

Perhaps the most important point on this slide is the last point, that the magnitude of salt loading to East Fork Armells Creek will not increase as a result of the AM4 amendment, although the duration will increase.

You've heard from Mr. Hernandez that that's a serious issue, but the point is this is just an offshoot of what we've described as the one molecule theory. When you don't have a measurable increase from this element, but the fact that it's going to last for a longer period of time is frankly irrelevant.

And $I$ should say that the regulation at issue only speaks to magnitude. It doesn't speak
to duration. And the fact of the matter is that AM4 is not going to have an effect on the salt loading in that stream in the sense that it will not increase it.

Let's move to the next slide. I don't want to get into this in a lot of detail, but suffice it to say that the Petitioners in this case did not present evidence that actually calculated the salt loading from AM4 in East Fork Armells Creek. To the extent that they're making the argument now that that's their big issue, they never presented any calculations on that subject.

And you've already heard about Dr. Hinz and Martin Van Oort's testimony in response. They point out that you really cannot distinguish between pre-mine and post-mine conditions in East Fork Armells Creek. And by the way, that's for all mining, not just AM4.

Let's move to the next slide. Let's talk about the aquatic life issue. One of the mainstays of the argument that we're hearing from Petitioners is, "But there is going to be a violation of the water quality standards because aquatic life is going to be harmed." And then you heard the argument, "Well, the only thing you
really determined was that there were critters in the stream. You never really assessed whether or not there was an impact."

That's simply not true. Without going into detail -- these are obviously quoted findings of fact -- suffice it to say that there were 38 separate findings of fact on aquatic life. This was not the sort of thing where we simply said, "There are critters there, so everything must be just hunky dory."

To the contrary, what we had from DEQ is they compared data from the 1970 s, which is to say pre-mining, to the data that were accumulated by an expert, and what's referred to as the Arcadis report, and concluded that the conditions, the aquatic life in that stream, was largely the same; the same diversity, not just the presence, the diversity of macroinvertebrates.

And we were told by Petitioners that in fact measuring macroinvertebrates was a good way to assess whether or not there was material damage.

Let's move through some of these slides and get to the last one. Here's the ultimate conclusion, and let me say up front that $I$ view
this as a fact law conclusion, largely factually based, but unquestionably it's something that's with the back drop of the statute and the regulations.

The ultimate conclusion -- and this is the conclusion from all of the evidence in a four day trial -- is that AM4 will not degrade the water quality of an offsite hydrologic unit in a manner or to an extent that uses are adversely affected or that the water quality standards of the unit are violated.

So with that, I'll conclude my remarks. Thank you.

CHAIR DEVENY: Thank you, Mr. Martin. Mr. Hernandez, would you like to use your five minutes for rebuttal?

MR. HERNANDEZ: Madam Chair, I would, please. And members of the Board, I really hope that you take a really hard look at the facts here in the record, because with respect to opposing Counsel, there are some serious misrepresentations of what was said, that from their presentation black is turning to white. I'm going to try and go over what $I$ can now, but their presentations were very misleading.

With respect, first, Mr. Lucas said, "Respect the science. Respect Dr. Hinz's assessment of the science."

Well, let's look at the science. The question of -- The big thing about the science is that Dr. Hinz is a hydrologist, not a biologist, and yet $D E Q$ relied on a hydrologist, who admitted to having no expertise, no scientific expertise in aquatic life, to determine whether or not aquatic life standards were being met.

This is her testimony, and Mr. Martin pointed -- this Ms. Hinz's testimony. "What I did is determine whether or not there was life in the stream." That's not a scientific assessment. She admitted she's not a scientist. The standard they applied is: Is there life or is there not life in the creek?

Later on -- and this is what they said in the CHIA. "The survey demonstrated that there is a diverse community of macroinvertebrates using the stream reach, and therefore it meets aquatic life standards." They said based on this survey, just the survey, which they used to state whether or not anything was alive in the creek, is that it meets the water quality standards. That's what
the record says.
I asked Dr. Hinz about the diversity on the stand, and this is what she said. This is the testimony. This isn't characterization, this is the testimony. All right. I asked, "This assessment -- it wasn't some kind of expert determination of aquatic biology?" "No. It wasn't about science. It was not science. And I do not mean to use the word diverse in any sort of impairment or biological determination." "Does it just mean plural?" "Yes. It means that we had multiple taxa in the stream. Two different types --" "There was more than one taxa?" "Yes, that's what that means."

This was not a scientific assessment. They looked at the creek and said, "Is anything alive? Have they sterilized the creek? If they haven't sterilized the creek, then it meets water quality standards."

That emphatically is not a scientific assessment, and it demeans the Clean Water Act to say just finding stuff alive in the creek is enough to show that water quality standards are met. By that standard, the Berkeley Pit is not an impaired water. It's not science, and it's not
legal.
The next point. Mr. Lucas raises Pinto Creek. This is an important case, and this should be the touchstone of the Court's assessment of water quality standards. What that case is about is what constitutes a violation of water quality standards. That's the standard under SMCRA, is there a violation of water quality standards.

And there the Court says, "Adding more of a pollutant to an impaired creek is a violation of water quality standards." Who cares what caused it? We don't have to ask who caused the impairment of Lower East Fork Armells Creek. It doesn't matter, and they're stuck with it.

If they're going to add more pollution to that creek, they're going cause a violation of water quality standards. The more pollution is -you worsen the water quality standards, a violation, that's a violation. And $I$ would submit to the Board that if you are admittedly going to worsen a violation of water quality standards, you have not affirmatively demonstrated that a violation of water quality standards will not result, and that's the legal standard.
Briefly, Mr. Martin made a big scene
about all the time we had to review this record before submitting administrative comments. Two important points. The public had 25 days to review this voluminous document that they mentioned, numerous documents that are over 1,000 pages long.

And importantly we never got to see the CHIA. We never got to see DEQ's actual analysis. And how were we to know in advance that $D E Q$ was going to use an unquestionably illegal definition of anticipated mining? We shouldn't have to -The public shouldn't have to submit in its comments a statement that says, "DEQ, follow all of the laws, and don't get them wrong." We don't have to go through every element of the law to do that.

Critically, it would be -- Our brief supports it. There is no basis for requiring administrative exhaustion here. DEQ's suggestion that In Re: Bull Mountain addressed that is simply wrong.

And yet Mr. Martin also spoke at some length about finding -- the most important point -- comparison of taxa in the creek in the 1970 s to 2014. They make that argument.

MS. FORD: Time.
MR. HERNANDEZ: But right here in the CHIA, Page 9-8, the CHIA rejected that argument. The CHIA said, "The methods used were different, so we can't make a valid comparison." It's a testament to the weakness of their argument.

CHAIR DEVENY: That's fine.
MR. HERNANDEZ: Their argument here is an argument that was expressly rejected in the CHIA. Thank you, Madam Chair.

CHAIR DEVENY: We've heard oral
arguments, and we will obviously have lots of opportunity for Board members to ask questions. I wanted to talk to the Board first.

I thought there were a couple of key issues that maybe we should settle before we actually get into more of the scientific discussions about this case, and one is the burden of proof; and the other is looking at the order on motions in limine.

And with regard to the burden of proof, we have differing opinions about who has the burden of proof, and $I$ think we really need to settle that.

And from looking at MEIC versus Montana

Department of Environmental Quality, the Supreme Court decision from 2005, this was an air quality case where there was a challenge on a permit. They talk about the initial burden of proof during the permitting process falling on the permittee; but once the case moves to being a contested case under MAPA, that burden of proof falls on the petitioners.

And $I$ believe that that is what we should be applying here, but I'd like the Board to discuss this and see if $I$ 'm on track or not. Any thoughts on this?

BOARD MEMBER TWEETEN: Madam Chair,
these are issues, the burden of proof issues are issues that the Montana Supreme Court has written about quite $a$ bit, because there is a tendency on the part of litigants to confuse the burden of proof as it applies at various stages of an administrative proceeding.

I don't think there is any dispute that initially at the application stage, the burden is on the applicant to convince the DEQ that its application meets the legal and factual standards for approval. I don't think anybody disputes that. I don't think -- The company certainly has
the same thing.
Once DEQ has made that determination, interested parties have the opportunity to object to the issuance of a permit as recommended by DEQ and to seek a contested case hearing, and that's what the Conservation Groups have done here. At that stage, $I$ think it's clear that the burden of persuasion with respect to whether any approval of the permit application was proper or not rests with the objector, in this case MEIC, at that stage.

And as will $I$ think become significant later today, once a contested case is concluded, the hearing has been had, findings of fact have been entered, conclusions of law have been made, and a proposed decision has been submitted to the Board, yet a third set of requirements applies in that according to MAPA, the findings of fact that have been made by the Hearing Examiner must be affirmed by the Board unless the Board finds, after a review of the entire record, that those findings of fact are not supported by substantial evidence.

And the conclusions of law, on the other hand, may be overturned by the Board simply
because the Board disagrees with the analysis that the Hearing Examiner has done. The standard for findings of fact is much more deferential to the Hearing Examiner's decisions than is the standard for conclusions of law.

And then in the event that this were to go to District Court -- which doesn't seem to be a hair brained idea at this point -- the Courts will apply yet a different set of standards to how they reviewed the Board's decision with respect to those facts and conclusions of law.

So $I$ think $I$ agree that at this stage, before the Board, the burden of persuasion with respect to the burden of proof with respect to factual issues falls on MEIC.

And I think the Hearing Examiner, although $I$ think $D E Q$ and the companies have quibbled $I$ think with the way that was expressed in the proposed findings and conclusions in various places, $I$ think it's clear that the Hearing Examiner applied the proper standard as far as burden of proof is concerned.

So I don't see any grounds for disturbing what the Hearing Examiner did based on any misallocation of proof.

CHAIR DEVENY: Any other comments from the Board? Are we in agreement on the burden of proof?
(No response)
CHAIR DEVENY: Next $I$ thought we should look at the order on motions in limine, which are Page 8 in the order $I$ have. It might be different. This has to do with what testimony will be allowed, and $I$ thought we wanted to get clarity on this among the Board before we proceed.

The Hearings Officer put a limit on the issues based on what was in the record, and MEIC has objected to that for a number of reasons. And I guess we need to talk about whether or not the Hearings Officer was correct in limiting that testimony, or limiting the issues that were allowed to be discussed.

MS. CLERGET: I just want to clarify
what you're looking at, because I think the conclusions of law on this start on Page 80 . You've got Conclusions of Law 13 through 17 that are the operative conclusions of law on the relevance motion in limine issue.

BOARD MEMBER BUSBY: What page?
MS. CLERGET: Page 80 of the Findings of

Fact and Conclusions of Law. I think it's Page 233 in your packet.

CHAIR DEVENY: So we're looking at -this is the relevance --

MS. CLERGET: Yes.
CHAIR DEVENY: The start of the relevance Section $C$ on Page 80 that moves on, and talks about the order on motions in limine incorporated by reference, relevant evidence limited to those issues contained in the administrative record.

And there has been some discussion that additional issues should have been allowed, including anticipated mining, dewatering, impacts to Rosebud Creek, dissolved oxygen, and chloride levels. And $I$ believe the Hearings Officer felt that there needed to be a limit on that based on what was in the administrative hearing record.

Any discussion by the Board members on this, whether do we think -- if she applied the correct standard in this, or should the administrative record -- should issues beyond the administrative record have been allowed?

BOARD MEMBER TWEETEN: Madam Chair, I have a question for Sarah. Sarah, are there any
findings of fact that are specific to the question of procedurally when these various issues were raised?

MS. CLERGET: No. I dealt with it as a conclusion of law, because they were raised during the motions in limine, and so the order on the motions in limine dealt with them.

BOARD MEMBER TWEETEN: And that was incorporated by reference in your proposed decision?

MS. CLERGET: Yes. So I guess to answer, $I$ think what your question is getting at is: When were the various things raised? BOARD MEMBER TWEETEN: That's right.

MS. CLERGET: It varies based on the issue when they were raised. So the different issues were raised at different times in the proceeding, but the ultimate decision came as a motion in limine, if that makes sense.

CHAIR DEVENY: I believe that one of the arguments that Petitioners made was that they did not see the CHIA document until after the administrative record was closed; is that stating that correctly?

MS. CLERGET: Yes, which is something
that the motion, the order on the motions in limine addressed.

BOARD MEMBER TWEETEN: Madam Chair. I'm looking at the order on the motions in limine at Page 6 where $I$ think Sarah discusses the question of the timing of the CHIA, what effect it had on the Conservation Groups' opportunity to make objections.

And what $S a r a h$ writes here is that, "There does not appear to be any argument that anything contained in the CHIA was manifestly new or different than any of the issues previously raised by the administrative record. In other words, the undersigned is not aware of any argument by Conservation Groups that anything in the CHIA was an entirely surprising issue unheard of in the previous six years, never mentioned by the PHC addendum, or any of the deficiency correspondence.
"Rather the Conservation Groups have argued that potential evidence in this case was not contained in the $C H I A, ~ n o t ~ t h a t ~ a n y t h i n g ~ i n ~$ the CHIA was a surprise."

And so that seems to be the factual basis for the conclusion of law that Sarah reached
there.
MS. CLERGET: And Chris, I guess I just go on to say, the next paragraph that you didn't read says if there was something new, that $I$ would allow it.

BOARD MEMBER DEARMENT: Which page is that on?

MS. CLERGET: So Chris was reading from Page 6, and then it goes on to Page 7 .

BOARD MEMBER DEARMENT: Of the packet which page?

BOARD MEMBER HORNBEIN: Page 250 to 251.
BOARD MEMBER TWEETEN: So Sarah, I
gather that what you were saying is that at the hearing, the Conservation Groups would have the opportunity to point to anything, any issue in the CHIA that was not foreshadowed by the administrative record, and that if they pointed to such an issue, you would allow them to explore it.

And implicit in that $I$ guess is your conclusion that at the hearing they did not do so; is that correct?

MS. CLERGET: Yes.
CHAIR DEVENY: Thank you for that. Any other thoughts or comments? Are you guys still
reviewing that?
BOARD MEMBER DEARMENT: Madam Chair, just a general concern that in fairness to MEIC, that we're trying to, $I$ guess, as one of the non-attorneys on the Board, evaluate the fairness with which they were able to review the case, that they hadn't yet seen the CHIA, making sure that the public and represented by MEIC has a full opportunity to review the case in a meaningful way, and have an opportunity to object.

I guess I'm still scratching my head a little bit about how they can do that without having seen the full analysis.

CHAIR DEVENY: I guess $I$ have a question of DEQ, if I could. Am I correct that the CHIA is sort of similar to an EIS in some way, even though it's under a different statute?

MR. LUCAS: I wouldn't say that, Madam Chair. I would compare it to any other permit that the Department issues, because eventually there has to be final agency action.

CHAIR DEVENY: Oftentimes, documents are put out in draft form to get some comments, whether people have issues to raise that might not have been explored completely, and I noted this
wasn't done in the case of the CHIA.
MR. LUCAS: It wasn't for a reason. The statutory framework does not provide for a draft CHIA. If we were issuing a MPDES permit under the Clean Water Act or a Clean Air Act permit, there we have a statutory structure for a draft permit. Here the statute is clear, and is really what drives the issue here.

And what the statute says is that we will determine acceptability, but we do that based on the applicant's Probable Hydrologic Consequences document, and Mr. Martin showed you that. I think it was an eight year process of back and forth. And the statute contemplates that we will take petitioner's comments and everything else into consideration, then issue a final decision. Then that's subject to a contested case review.

So $I$ understand the fairness concerns, Member Dearment. I believe the Hearing Examiner completely on her own, because I don't think anybody suggested it, provided a very important exception to the exhaustion rule, and $I$ believe that should be there. But once again, MEIC did not avail themselves of that.

But we are stuck with what the statute provides. If it is suboptimal in terms of public process, perhaps we can go hand in hand to the Legislature when they come back. We are a creature of State law, we are bound by State law, and State law does not provide for a draft CHIA like it does for a draft Clean Water Act or Clean Air Act permit.

However, if you look at this process and what it involves, to my knowledge -- and I've got some of the Clean Water Act folks in the room with me, but I've been a Clean Water Act lawyer most of my career -- a MPDES permit will have a fact sheet, but it won't be based on a 500 page Probable Hydrologic Consequences document, which is then the conclusions which are confirmed in a CHIA that's 100 pages long.

It's a different type of process. It's the process the Legislature has given us. We're bound by it, and MEIC was bound by it.

CHAIR DEVENY: Okay. Thank you.
BOARD MEMBER TWEETEN: Madam Chair,
question for Mr. Hernandez, please.
CHAIR DEVENY: Go ahead.
BOARD MEMBER TWEETEN: Can you -- Having
heard and discussed with the Hearing Examiner the opportunity that was laid before you to point in the CHIA to any issues that you feel were not adequately foreshadowed by the administrative record, can you point us to where in the transcript of the administrative hearing, or in what document that was following the issuance of order on the motion in limine MEIC identified in the CHIA issues that MEIC believed were not adequately foreshadowed by the administrative record?

MR. HERNANDEZ: Madam Chair, Board Member Tweeten. Rather than rifle through the transcript right now, $I$ can say dispositively here that the issue that we had with Area $F$ was the DEQ used an erroneous definition of anticipated mining. There was nowhere where this definition was defined in the record.

We just reviewed their CHIA, which we hadn't seen when we submitted our comments, and we saw that they had used a definition of anticipated mining, which informed a whole cumulative analysis, that cut out a huge portion of the mine. And we said -- we checked it with the statute, and we said, "They just used the wrong definition,"
that was it.
There was nowhere -- and $I$ challenge either Mr. Martin or Mr. Lucas to find any point in any of the documents that were available to us for 25 days, prior to -- during our comment period where any of them used that erroneous definition. It just isn't there. That's my response to that.

The second important point, Board Member Tweeten, is that $I$ can point in their response to comments where they addressed our issue of dewatering, and we put dewatering in our comments, they addressed it, and they said, "We can't tell whether or not this creek has been dewatered. We're not sure. So we can't make a material damage determination with respect to that."

And we said, "Wait a second. You responded to our question, but you responded with a legally erroneous interpretation of the statute." The statute says they can't permit the mine unless they make an affirmative material damage determination, and here they were saying, "We can't make a material damage determination." And we said, "Wait a second. That analysis is just incorrect."

It's a situation where we raised the
issue of dewatering, and they responded to it, and their response was such that it was illegal. So we responded to their response to our comment.

And of course, we couldn't have foreseen how they would respond to our comment by saying, "We can't make a material damage determination," and then we raised that in our appeal.

So I think that in the record it's clear, without having to go through the transcript, where this wasn't -- I don't think it's clear. You can look at the record and you can see that the erroneous definition appears in the CHIA the first time we saw it.

The question of dewatering, we raised it in our comments. DEQ responded to it, and their response was wrong. There was no way we could foresee their unique response. So even assuming that the issue of exhaustion applies -- and Board Member Dearment is right that in fairness, it doesn't apply, and the statute says that -- Mr. Lucas won't be able to point to any point in the statute that establishes issue exhaustion. He can't. Every body that's issued an opinion on this has said it doesn't apply.

Setting that entirely aside, assuming it
applies, there was no way that we can address these issues, and Courts that address the question of issue exhaustion in NEPA, where you have a draft document, unlike here, has said that if the agency actually addresses the issue, issue exhaustion doesn't apply because the whole point of issue exhaustion is giving the agency notice of the issue.

And here, no question the agency knew that it was using a wrong definition of anticipated mining, and there is no question the agency knew that we were raising issues about dewatering of East Fork Armells Creek because they responded to it in their response to comments. CHAIR DEVENY: Follow up question, Chris.

BOARD MEMBER TWEETEN: That wasn't my question. What $I$ want to know is after the Hearing Examiner extended this opportunity to you to bring to her attention any issues that were not adequately foreshadowed in the administrative record, whether it was in the CHIA or otherwise, did you take advantage of that opportunity? And if so, can you point us to the place in the record where you did it?

MR. HERNANDEZ: If you could give me a moment, Mr. Tweeten, $I$ will. I made the exact argument $I$ made right now. Ms. Clerget said, "Where did these -- were these issues entirely new?" I made the exact argument saying -- now they're day one. I'll dig them up.

And the answer, to cut to the chase, is they weren't. And this is the important part. We can't point to a point, a position in the record where they didn't raise an issue. We can't. We can point to every single page of the 10,000 pages of record and say it's not there, not there, not there. It's just not there.

Ms. Clerget asked, and our response was it's just not there. Nowhere did they say we're using the wrong definition of Area F. We can't prove a negative, but we can point to the entire record and say it's not there, and no one to this day has pointed where this erroneous definition of Area $F$ appears in the administrative record.

BOARD MEMBER TWEETEN: Madam Chair.
CHAIR DEVENY: Do you want to see the hearing record on this?

BOARD MEMBER TWEETEN: No. I would
suggest -- I'm assuming we're going to take a
lunch break at some point.
CHAIR DEVENY: Yes, $I$ was going to say this might be a place --

BOARD MEMBER TWEETEN: You might want to use part of that lunch break to humor me by finding that place in the record where you took advantage of this opportunity, because $I$ think my colleague, Mr. Dearment, is quite correct. It's about fairness. And $I$ think the offer that the Hearing Examiner made you in the order in limine was quite fair in giving you the chance to bring up any issue in which you feel you were unfairly denied the opportunity to raise it in a timely fashion.

I just want to see where it is in the record, so if you could humor me and find that during the lunch break, I'd appreciate it.

MR. HERNANDEZ: Madam Chair, Mr.
Tweeten, $I$ will.
CHAIR DEVENY: I think this would be a good place to break and have lunch. We'll reconvene here at 12:30.
(Lunch recess taken)
CHAIR DEVENY: I'm going to reconvene this meeting. I believe all the Board members
present in person are here. Lindsay, could you check with Hillary.

MS. FORD: Hillary Hanson.
BOARD MEMBER HANSON: Yes, I'm here.
CHAIR DEVENY: And let's see if there have been any additional people that have entered the room since we last checked in for the hearing record. Could you state your name, please.

MS. HEDGES: Ann Hedges with the Montana Environmental Information Center.

CHAIR DEVENY: Thank you. Anybody else?
(No response)
CHAIR DEVENY: Are there any other members of the public on the phone?

MR. SULLIVAN: Roger Sullivan still here in Kalispell, Montana, but $I$ was present this morning.

CHAIR DEVENY: Okay. Thank you. All right. Let's pick up where we left off, and that was Mr. Hernandez was going to answer Chris Tweeten's question.

MR. HERNANDEZ: Yes. Thank you, Madam Chair. Member Tweeten, I've looked back through the record and haven't found the ideal quotation where we said, "This wasn't raised there."

But there are two things $I$ want to point to. One, in our response to DEQ's and WECO's motions in limine, we made the argument that $I$ just made today, and that document was found on February 26 th, 2018 . I don't know the sequence number of the document.

But on Page 5 we made the argument that I just made, and I'll quote. We said, we argued that, "Administrative exhaustion shouldn't apply," said, "This is logical because the public doesn't have the opportunity to review the CHIA before filing administrative comments on the permit application."

And then $I$ said, "Thus here, the Conservation Groups could not have known during the comment period on $W E C O$ 's permit application that the Department's CHIA would formulate a legally erroneous definition of anticipated mining, which would reverse the burden of proof, and would ignore governing legal standards."

So we made the argument that we couldn't have known about this because it wasn't anywhere except the CHIA.

One point, and I'd like to have Ms. Clerget clarify this for me. After the order on
the motions in limine was issued, there was some uncertainty about it, and the Friday prior to hearing we had a conference call to discuss this. And the transcript for that conference call I understand has been lost because it wasn't properly recorded. And so the best place to find a more specific response to this argument would be there. Ms. Clerget, is that the case?

MS. CLERGET: Yes. We had an audio recording of the preliminary pretrial conference which apparently didn't audio record the way it was supposed to.

I would not agree, though, that there was anything relevant to Mr. Tweeten's question during that discussion on the preliminary pretrial conference.

MR. HERNANDEZ: Mr. Tweeten, I can't recall one way or another what the discussion was, but the point that you asked about whether we stated whether this was ever in the record, we made that point in our response to motions in limine.

CHAIR DEVENY: Mr. Tweeten, do you have a response to that?

BOARD MEMBER TWEETEN: Just --

CHAIR DEVENY: Formulating the process. BOARD MEMBER TWEETEN: Just that once the question of exhaustion became part of the case, and the order on the motions in limine was entered, there was a clear path for you to blow that exhaustion argument out of the water by following the process that Ms. Clerget outlined in her order on the motion in limine.

And I guess I'm -- There doesn't appear to be a place in the record where you clearly took advantage of that opportunity, so that's the only point $I$ was wanting to make.

MR. HERNANDEZ: Madam Chair, may I just offer one rejoinder?

CHAIR DEVENY: Very briefly. Thank you.
MR. HERNANDEZ: In our response to the motions in limine we clearly said we had no opportunity to address this in our comments because the erroneous definition appeared for the first time in the CHIA. Whether or not we reiterated that argument at a later point $I$ think is beside the point. We clearly raised it. CHAIR DEVENY: This kind of comes back to the issue of fairness that Mr. Dearment has raised, and this Board needs to decide whether
we're comfortable limiting the issues to what was in the administrative record, or -- I guess we would have some other options. Remanding it back to the Hearings Officer would be one thing that could be done.

BOARD MEMBER BUSBY: I'd like to hear from John on what his thoughts on that fairness issue are --

BOARD MEMBER DEARMENT: Sure. I guess --

BOARD MEMBER BUSBY: I just wanted to
hear from John on whether he felt the fairness argument has been answered in his --

BOARD MEMBER DEARMENT: I guess I'm still concerned then. In Ms. Clerget's order it says that there does not appear to be any argument, or appear to be any argument that anything contained in the CHIA was manifestly new or different than any of the issues previously raised by the administrative record.

I think Mr. Hernandez has just pointed out that in his view, that's not true.

MR. HERNANDEZ: Yes. That's right.
BOARD MEMBER DEARMENT: So if he's
correct, has fairness been served? CHAIR DEVENY: That's the question and --

BOARD MEMBER DEARMENT: I guess it's a little hard for me to get to yes at this point, based upon that assessment.

BOARD MEMBER HORNBEIN: I share that concern also.

BOARD MEMBER TWEETEN: Let me play devil's advocate at this point.

Certainly Mr. Hernandez's argument today disputes what the Hearing Examiner said in her order on the motion in limine, but the motion did leave open the opportunity to pursue that matter or other matters, any other matters, that were not adequately foreshadowed during the administrative hearing.

The Hearing Examiner gave the parties the opportunity to bring up and to argue about the novelty of any issue in the order on the motion in limine, and thus far at least MEIC has not been able to point out the place in the hearing record where that occurred.

And if in fact the motion in limine was erroneous on that point, and there was this issue hanging out that the MEIC had not had an
opportunity previously to raise, they had a golden opportunity to raise it in response to the offer that was made in the motion in limine, and they failed to do so.

So you can argue about whether, what your view of fairness is with respect to that state of facts; but $I$ think it's important to remember that the Hearing Examiner didn't slam the door in the order on the motion in limine, and the Hearing Examiner left the door ajar to perfect any issues like the one about the alleged erroneous standard in response to the motion in limine.

And that's why $I$ was sort of insistent about the idea that MEIC ought to bring our attention to the place in the hearing record where they took of advantage of that opportunity, and they've been unable at this stage at least to do so.

So I don't see anything unfair about that. I think the motion in limine order was manifestly fair in giving them the opportunity to cure any problems with respect to the exhaustion arguments that were being made, and it doesn't appear that they took advantage of that opportunity.

## 72

So in my mind that's not unfair, but others may draw different conclusions certainly. But the option, it seems to me, is that we would then have to adjourn this hearing, remand the case back to the Hearing Examiner, allow her to take up this issue and any other issues that MEIC decides they want to raise that the Hearing Examiner had previously held not to be exhausted; and then the Hearing Examiner makes a supplemental proposed disposition, which comes back to us, and one or two meetings down the road we get right back to where we are now. That seems to me that's the option.

BOARD MEMBER DEARMENT: Madam Chair, I guess just a procedural question. If not for this question, and we had moved on to other topics at hand, and at some point in the hearing found in MEIC's favor, if we were to do that later, this question would become irrelevant, would it not?

I guess $I$ ask that wondering if we could put this on hold for a bit, and see how the rest of the hearing unfolds, rather than -- if that's our other option, as Mr. Tweeten has said, and not derail the rest of conversation at this time with that.

BOARD MEMBER TWEETEN: Madam Chair, may I?

CHAIR DEVENY: Yes.
BOARD MEMBER TWEETEN: Certainly that's right. The lawyers would call the issue moot at that point if we found in favor of MEIC on one of these other grounds, that had clearly been exhausted, and it was clearly properly before us, and they got all of the relief from that decision that they felt they were entitled to, and then the motion in limine issue would be moot, and would no longer have any bearing on the outcome.

So I think that's right, and we certainly could, at your discretion, Madam Chair, go ahead and hear the rest of the case, and see where we are at that point, and defer a decision on this question, on the exhaustion question until --

MR. LUCAS: Madam Chair, may the Department be heard?

CHAIR DEVENY: Yes. Go ahead.
MR. LUCAS: I'm a little concerned with what I'm hearing because we're accepting what Mr. Hernandez said as fact, that there is an erroneous definition. He hasn't pointed to this definition,
it's not in his brief.
We did have a process where they had the opportunity to make an offer of proof, and I explained that. Even the offer of proof didn't rise to the level. The best their expert could say was, "There could be a connection."

But if we're going to start -- I think you're heading down a road where you're going to be questioning and changing findings of fact, and I don't think this Board can do that with respect -- without reviewing the whole factual record on this motion in limine issue.

And $I$ just wanted to state that, make my record, and reserve my objection to going down that path without actually taking the MAPA step of digging into the whole record, because it's a factual issue, you've taken his facts as true, we have a record here, and $I$ just want to preserve the Department's rights on appeal. Thank you.

CHAIR DEVENY: Thank you. Other -BOARD MEMBER HORNBEIN: I have an additional question. I would just also like to clarify. I don't think that we're taking this assertion as true. I think the question we're trying to get to the bottom of is whether it was
raised in a timely manner, so as to be properly before -- so as to properly have been before the Hearing Examiner, and now to be before the Board, whether it should be included. I don't think we're opining at all as to whether the allegation is true.

The question $I$ have for Mr. Hernandez is it sounded to me, and maybe $I$ heard this wrong, but after the order on the motions in limine, you said that you responded with objections. Where was that response contained?

MR. HERNANDEZ: There was an initial motion ruling on the motions in limine prior to the hearing. It wasn't entirely clear. We had a phone call, the transcript of which has been lost, in which Ms. Clerget clarified the scope of the motions in limine; and then there was further discussion in the transcript during the hearing where we did some further arguing about whether or not issues had been raised or not.

And the proposed findings states where some of those discussions occur. It seems that when $I$ look at the citation to where the anticipated mining was addressed in the record that's provided in the findings, there it seems to
be that it's already a decision, that this evidence has been excluded with respect to Area $F$. And $I$ could go back and find it, but it's kind of spread over a number of different places where it's discussed. I'm not sure if I'm answering what you're getting at.

BOARD MEMBER HORNBEIN: I don't know. I may be trying to rehash the question that Board Member Tweeten had asked, which is: Was there anywhere in the record that this concern about the definition that appeared first and only in the CHIA was raised such that it should properly have been before the Hearing Examiner when she made her decision, and then ultimately be before the Board now?

MR. HERNANDEZ: Yes. The facts are right, and I'm willing to be corrected if anywhere in the record prior to the CHIA this erroneous definition of anticipated mining appears. I never saw it. No one has pointed to anyplace where this was.

The question of what that meant, how we could litigate that, was we raised our arguments in our pretrial briefing and said this is our issue with respect to the erroneous definition.

That argument was deemed to be not have been exhausted, and was excluded from the hearing, so we never --

We made some offers of proof, but the matter was deemed, whatever, not raised sufficiently, and it was never addressed in the proposed findings beyond affirming the ruling in motions in limine. Does that --

BOARD MEMBER HORNBEIN: I think -- So there is a place, however, in the hearing transcript you're indicating where following the order on the motions in limine, you again raised this issue, and indicated that you disagreed with the position taken on the order on the motions in limine?

MR. HERNANDEZ: We've I think repeated our arguments on issue of exhaustion almost ad nauseam. We very strongly disagree that it applies there, and certainly with respect to anticipated mining multiple times.

MR. LUCAS: Madam Chair, if I may be heard briefly again?

CHAIR DEVENY: Just a moment, please.
Ms. Clerget, are you looking for something particular? Do you have a copy of the record on
the motions in limine?
MS. CLERGET: I was looking for
something to follow my own train. But yes. But I have the motions in limine. The thing $I$ was looking for, $I$ guess, was what $I$ heard in your question was about: Where was the argument that this appeared only in the CHIA? And that argument was raised in the motions in limine, which $I$ then ruled on. So that was what $I$ was looking for, to find that citation.

CHAIR DEVENY: Go ahead, Mr. Lucas.
MR. LUCAS: Thank you, Madam Chair. And I'll just note again, based on Member Hornbein's questions. The questions are going to what is or is not in the record. The Petitioner cannot point you to anything in the record. We are discussing a hypothetical which is not tethered to the record. This is a fact issue.

So again, $I$ would respectfully caution the Board that if you're going to be making or assuming facts in evidence or factual findings, to do that, a review of the entire record is required.

The sad fact is they failed to exhaust their administrative remedies with respect to an
order on an exception for exhaustion to administrative remedies, and that's what we're stuck with. And the reason we're going around and around here is precisely because they did not avail themselves of that opportunity, as Member Tweeten $I$ think has gone into and established.

So I'm sorry to keep weighing in here.
I just see us starting to skate down a very dangerous road, and again, $I$ have a client to represent, as does Mr. Hernandez. Thank you.

BOARD MEMBER TWEETEN: May I ask Mr.
Lucas a question?
CHAIR DEVENY: Yes.
BOARD MEMBER TWEETEN: Not having the entire record in front of us physically, and I know that as matter of law the entire record is in front of us, but we don't all have a copy of it on the table.

Mr. Hernandez $I$ believe has suggested that after the CHIA issued, but before the motions in limine were filed -- and Mr. Hernandez, please correct me if $I$ 'm not correct -- but after the CHIA issued but before the motions in limine were filed, MEIC raised the question, that was presented for the first time apparently in the

CHIA, about the incorrect definition in regard to the Area $F$ argument.

Mr. Hernandez seems to be saying, I think, that sometime between the issuance of the CHIA and the motion in limine, that argument was raised in the record. Is that your recollection or do you dispute that?

MR. LUCAS: Frankly, Member Tweeten, I'm not even sure what the argument about the erroneous definition is, or what he's saying, because his argument, as far as the definition goes, if $I$ understand it -- and he's here to correct me -- is that we didn't include anticipated mining, which Area $F$ would be anticipated.

However, the definition of the cumulative impact area requires that other mining interact with the project at issue. That's in the definition. That's plain. So he might disagree with the definition, but the reality of the situation is it was not raised in their comments. We have a clear finding on that.

What was in front of them was a CHIA that quite clearly included Areas $A, B$, and maybe C, and Area $F$ wasn't there. So the notion that
they didn't know Area $F$ wasn't going to be in the CHIA is absolutely incorrect. You're being misled on that point. You can tell right from the PHC what areas were included in the mine. And we've hashed through all of this.

So I don't know what he's talking about on erroneous definition. Had it come to us -- and I think the record demonstrates this -- these two back here are quite happy to sit on the stand and answer any questions. We are happy to get to the bottom of anything. All we're asking for is a fair process where we don't get sandbagged.

MR. HERNANDEZ: Your Honor, if I may object to Mr. Lucas's suggestion that we're in any way sandbagging them by saying that they used an erroneous definition of anticipated mining.

Madam Chair, if $I$ may just respond to Mr. Lucas's point about where this erroneous definition appears. The Board is directed to the CHIA, it's easy to prepare, after we submitted our comments, Page 4-5-1. And Mr. Lucas is well aware of this page.

Here is the definition of anticipated mining. That definition is unlawfully narrow. The correct definition of anticipated mining
appears in the regulations ARM 17.24.301.(31), sub(31). There it says that anticipated mining, which must be included in this EIS-like analysis called a CHIA, includes -- must consider all cumulative mining, including anticipated mining, which means applications that have been submitted at least.

In the CHIA they say anticipated mining only includes permitted mining. The difference seems small, but it's important. Mining has been applied for or a mine was permitted. The difference here was at least one 6,500 acre expansion of the mine called Area $F$, which we discussed earlier today.

Discovery in this matter has turned up interagency documents and memos where they say "Exclude Area $F$ because it's not anticipated mining because it has not yet been approved." I could point the Board to the exhibit where that is said.

Since that time, DEQ has come up with a new argument. They say, "Well, we actually analyzed it. We did some technical stuff, and we determined that technically it doesn't apply."

This argument is entirely post hoc. If
you look at the record, nowhere is that discussed. The record shows that the DEQ excluded Area $F$, and there were a couple minor expansions of Area $A$ and B, on the basis of this erroneous definition.

CHAIR DEVENY: Okay. Thank you.
MR. MARTIN: Madam Chair, may I be
heard?
CHAIR DEVENY: Just a moment. We have a question from the Board Member Dr. Lehnherr.

BOARD MEMBER LEHNHERR: At some point I had a question for Mr. Lucas, and I can save it until after Mr. Martin speaks.

CHAIR DEVENY: Okay. Mr. Martin.
MR. MARTIN: Dr. Lehnherr, I'm happy to wait if that is your preference.

CHAIR DEVENY: Go ahead.
MR. MARTIN: If $I$ may, this is the issue that Mr. Tweeten will remember was something that we argued in the motion for summary judgment. And the fundamental argument that we made, and that the Department made, was "You knew. You had the PHC in front of you. You had the addendum to the PHC. You had a series of eight different deficiency notices. You knew exactly what the CHIA was," that is to say, the area that was being
considered for cumulative impacts.
"You had all of that before you. You made your comments, and you didn't say, 'But you need to consider Area F.'" And there is a reason why we have to have that sort of thing in this process and at that stage.

Let me digress for moment. I wouldn't expect Mr. Tweeten or others to know about what the maps, the hydrologic maps, and the details of hydrology demonstrate; but suffice it to say that we have groundwater divides between AM4 and Area F. There is no reason why anyone should be evaluating the impact on Area $F$ because the science demonstrates that there is no interaction between AM4 and Area F.

So what happens is we have -- and I hesitate to use the word because it does sound disparaging, and it sounds like a cheap shot -but it looks like sandbagging. What's going on is everyone had this detail in front of them.

They could have at that point in time said, "Gee, we really want you to evaluate the impact on Area $F, "$ and then we'd have in the record a response that said, "Oh, no. There is no reason for us to evaluate this beyond what the
groundwater science demonstrates, which is that there is no interaction between AM4 and Area F." It was their obligation to raise that issue in their comments.

Let me add just a couple of minor points about public participation. We hear that they had only 25 days; well, that's not quite right.

Actually the first notice was a notice that came out where they had four weeks of notice, public notice, in public newspapers, 28 days. It has to be done once a week, and then thirty days thereafter.

When it came time for them to comment, they did have 25 days. With due respect, they had at that point in time access to a public record, and they'd had that access for a very long time. So I think it's a little unfair to accuse the Department of somehow preventing them from having the public input that's appropriate on a project of this nature.

And then finally, at the risk of repetition, let me also point out that this is a process that's defined by statute and the regulations. It's not as if we have the ability to say, "Here is a draft CHIA. We'll give you
thirty days to look at that draft CHIA."
The CHIA is the decision document. It's based on a very detailed application, including hundreds of pages of analysis in the PHC and the addendum, hundreds of pages of analysis including various studies in response to deficiency notices.

That's the point at which they were on notice of the nature of the CHIA, the bounds of CHIA, and they should have been able to at that point in time say, "Go off and evaluate Area F," and then we'd have in the record that there is no reason to further evaluate Area $F$.

CHAIR DEVENY: Board Member Lehnherr.
BOARD MEMBER LEHNHERR: I assume that after my tenure on the Board I'll earn an honorary JD from someplace. But $I$ have a two part question for Mr. Lucas.

You said that the Board would be going down a dangerous path. That's probably, maybe a stronger word than you could have used. But I would appreciate just a summary of where you think we would be going when you say that dangerous path.

And the second part of my question, or second question, is regarding sandbagging -- it's
a fairly commonly used term -- but I'm just curious what you mean by sandbagging, and how that refers to what Mr. Hernandez was saying.

MR. LUCAS: Certainly, Member Lehnherr.
Thank you. The dangerous path $I$ see us going down is -- or $I$ see the Board heading down is you're here affirming, or denying, or modifying a proposed ruling, findings of fact, and conclusions of law. In connection with that, the motion in limine ruling is incorporated therein by reference.

Mr. Hernandez is asserting factual contentions, although he can't point to anywhere in the record where he supposedly preserved his rights pursuant to the motion in limine. That is a factual argument that "X" issue was raised at "Y" point in the brief, and therefore he met a legal standard of alerting the Hearing Examiner to the fact that he, in his view, had been sandbagged, that he didn't know Area $F$ was in the CHIA.

So that's the dangerous area $I$ see us going into here. You're getting away from, as we know, as this meeting opened with, and your Board attorney advised you, if it's a conclusion of law,
and you can do it here, that's fine.
But if you're going to start -- I guess I don't want to use a strong word -- you're going to start second guessing the facts that have been found including the facts in connection with the motion in limine, which is part of that ruling, you all would need go into the complete factual record.

And I'll go further and even submit to you that once again, it was Mr. Hernandez's responsibility to not ask you all to read 1200 pages to find where his argument is supported. If they had made the effort to qualify for the exception to exhaustion, it would be in the record, it would be very clear. We wouldn't be doing any of this.

So that's the danger that $I$ see is that you're making conclusions based on disputed facts, and to do that, you really have to get into the record. It's not just a conclusion of law issue.

And I do use strong words, and sandbagging is a strong word, but $I$ believe it's totally appropriate. As $I$ use sandbagging in reference, we both feel like we've been sandbagged, right?

As $I$ use sandbagging in reference to Mr. Hernandez, what I'm saying is you're sandbagged when someone doesn't raise an issue in the permitting process. And then under Signal Peak, everything needs to be in the record and the four corners of the CHIA. So if they don't raise the issue, as they didn't, and then they come in afterwards, and they're pointing to the record saying, "You never addressed this issue," well, we can't --

Again, it cuts both ways. We can't address the issue if you haven't raised it in front of us during the permitting process. We'll lose every time.

So that's what I'm getting at with the sandbagging, because now -- and he's pointing to a -- Once again, take something out of context, stick it up on the board or whatever. There is a statement in the CHIA, and yes, that might be a wrong statement, but did not affect the outcome.

Area $F$ was not excluded from the PHC because it hadn't been permitted. Area $F$ was excluded, and there is no dispute in the record about this, although Mr. Hernandez made --

> MR. HERNANDEZ: There is.

MR. LUCAS: Area $F$ was excluded because there is no hydrologic connection, there is no interaction between the groundwater, because there is a groundwater divide.

With respect to surface water -- can we get MEIC's Exhibit 23 up there? East Fork Armells Creek kind of hooks around this way and goes through the town of Colstrip. I actually have a demonstrative.

West Fork Armells Creek is in Area F, and that basically heads north.

There is a confluence of those two streams seventeen miles past Colstrip. So the hydrologist looked at that, and you've got a lot of information here on all of the confounding variables that you have between the mine and Colstrip.

And they determined that the surface water interaction of seventeen miles away with the town of Colstrip in between, especially with all of the data that we have right at the edge of the mine by the highway bridge, everything together showed that you really couldn't detect any signals or impacts. In other words there is no interaction.

But the fact that that wasn't raised in the comments is why we're here doing this. The fact that with the order on motions in limine with an exception, the Hearing Examiner painted a path for a way forward, and once again, they didn't do that. So it's --

And there it is up there. That's MEIC's Exhibit 23. And all of the way down at the far end above Area $C$ is Area $F$. And had we gotten a comment that there was, pursuant to the definition, an interaction between the Area $F$ and Area B AM5, we would have responded quite simply that there wasn't.

But that's not in front of you. Going back and trying to do this all post hoc, that's also dangerous in my opinion, Member Lehnherr. I mean $I$--

CHAIR DEVENY: That's enough. Thank you. Dr. Lehnherr, did that answer your question?

BOARD MEMBER LEHNHERR: Yes.
CHAIR DEVENY: I really hope we can move along and resolve this issue. Do Board members have any other thoughts on this, or feeling your concerns are being addressed?

BOARD MEMBER TWEETEN: Madam Chair, if
it takes a separate motion with respect to the order on the motions in limine, $I$ move that the Board affirm the Hearing Examiner's order on the motions in limine, and the importation of that order into the proposed findings of fact and conclusions of law that are before us for decision.

CHAIR DEVENY: There is a motion before the Board. Is there a second?

BOARD MEMBER BUSBY: I'll second that motion.

CHAIR DEVENY: Further discussion.
(No response)
CHAIR DEVENY: Further discussion.
(No response)
CHAIR DEVENY: We'll vote on the matter. All in favor of the motion -- would you repeat it again?

BOARD MEMBER TWEETEN: Madam Chair, I move that the Board affirm the Hearing Examiner's decision on the motion in limine, and the Hearing Examiner's proposed decision to the extent that it imports the decision on the motion in limine into the Hearing Examiner's proposed order.

CHAIR DEVENY: You've heard the motion.

All those in favor, please signify by saying aye.
(Response)
CHAIR DEVENY: Opposed.
(No response)
CHAIR DEVENY: Hillary, do we have a vote from you?

MS. HANSON: Yes. I said aye.
CHAIR DEVENY: Motion carries. All right.

MR. HERNANDEZ: Madam Chair, I don't want to prolong things. May I take a break?

CHAIR DEVENY: You bet.
(Recess taken)
CHAIR DEVENY: We can go ahead and get started again. Hillary, are you still with us?

MS. HANSON: Yes, I'm here.
CHAIR DEVENY: Be sure and speak up. I sometimes forget you're out there.

MS. HANSON: I will. Thanks.
CHAIR DEVENY: I think the next thing we
will do is take a look at the findings of fact, just go through there, and determine if we're in approval of them or not. At this point $I$ think that's the important next step to take.

So if those of you could turn, Board
members could turn to the findings of fact, which in my hard copy is on Page 10. You guys might have different page numberings if you got it off the website. Is everybody with me?
(No response)
CHAIR DEVENY: Findings of facts,
starting on -- The findings of fact are broken down into several sections, and $I$ hope we can take these sections at a time rather than each one.

The first one is just the general
background on the Rosebud --
MS. CLERGET: Sorry. It's in your Board packet at 163. And then yes, it's Page 10 of the FOFCOL.

CHAIR DEVENY: Thank you for clarifying. Everybody there? Okay. Findings of fact, Section A, general background on the Rosebud Mine. I can't imagine that we would have any issues with those, or with the standings. So that would take us through No. 17, permitting process; continues on through No. 33, description of the hydrologic impacts of strip mining generally.

MR. HERNANDEZ: Pardon me, Madam Chair.
Are Counsel going to be offered the opportunity to make any comments on any of this, or --

CHAIR DEVENY: Yes.
MR. HERNANDEZ: I just wanted to make one small point with respect to the Finding of Fact Paragraph 27 , is that in our comments we plainly addressed Area F. I'll leave it at that, and move on. But we want to make that point clear, that from our -- I don't want to belabor the point, but we raised the Area $F$ anticipated mining issue in our comments.

MR. LUCAS: Madam Chair, may the
Department be briefly heard?
CHAIR DEVENY: Yes.
MR. LUCAS: Petitioners had their opportunity to take exceptions to this proposed ruling. We would object to any process where now we go through them and Petitioner provides additional objections. Thank you.

BOARD MEMBER TWEETEN: Madam Chair.
CHAIR DEVENY: Board Member Tweeten.
BOARD MEMBER TWEETEN: Sure. As long as Mr. Hernandez has spoken up, I'd like to ask him a question $I$ guess.

> In your exceptions, is there anywhere where you object to any of these findings of fact on the grounds that they're not supported by
substantial evidence in the record or are otherwise contrary to law?

MR. HERNANDEZ: In our objections we note that any finding of fact that includes a conclusion of law is something that we object to. And just because it's denominated a finding of fact does not mean that it's a finding of fact. If there is a legal issue embedded within it, we have objected within the four or five points we raised in our brief, which included the exhaustion issue that $I$ raised.

BOARD MEMBER TWEETEN: But your objection is not based on the argument that these are not supported by substantial evidence in the record; am $I$ correct about that?

MR. HERNANDEZ: We have not expressly raised any substantial evidence. There are a few points where we said that some of the evidence included in the findings of fact was post hoc, based on post hoc information, and therefore legally improper. And there are a few points where we say that some findings were wrong. But we didn't identify individual ones as separate subheadings in our brief.

For example, the question of diversity,
it's stated in the findings, that it was a finding of diversity of macroinvertebrates. We cite in our exhibits that the statements about diversity in the findings are misleading to the degree that suggested some kind of biological conclusion, rather than what $D E Q$ testified to, which is that it meant two different kinds of bugs were found in the water.

And $I$ understand that this -- I don't want to prolong this process. I have family obligations this afternoon as well. I just want to make sure that as MAPA requires, that each of our findings of fact have a specific ruling on it -- that is 6-23-4 -- that that not be lost in the shuffle.

MR. MARTIN: Madam Chair, may I be heard just very briefly?

CHAIR DEVENY: Yes.
MR. MARTIN: And it's only to assure that the record is clear on this point.

We dispute MEIC's perspective that they in fact made a comment in their comments about how Area $F$ should have been included. In fact what happened, and you can see it in the motion in limine, is that there was a footnote that
incorporated a separate document that never addressed anything even approaching the interaction between AM4 and Area F. I'll leave it at that.

CHAIR DEVENY: I would like to ask DEQ and Western Energy, Mr. Martin, Mr. Lucas. Do either of you have any objections to the findings of fact that were before you in the Hearing Officer's document?

MR. LUCAS: Thank you, Madam Chair. No.
As our brief on exceptions indicates, we had what Member Tweeten correctly characterized as a quibble with the articulation of the burden of proof, but there was nothing in our exceptions regarding these findings of fact, or that they weren't supported by substantial evidence.

CHAIR DEVENY: Mr. Martin, would you answer that same question.

MR. MARTIN: Yes, Madam Chair. We would echo what the Department has said. We did not have any issues with findings of fact, but we quibbled.

CHAIR DEVENY: Mr. Hernandez, if I heard you correctly, you didn't have any either based on the substantial --

BOARD MEMBER TWEETEN: Supported by substantial evidence.

CHAIR DEVENY: -- not supported by substantial evidence?

MR. HERNANDEZ: As we go through some of this, Madam Chair -- I don't want to prolong this process at all -- but there are individual findings of fact that we will have issues with, and we'd like to say to the degree that they're contrary to our proposed findings of fact and conclusions of law, we are entitled to a statement that our findings are not accurate. I cited the section already.

I think what our position is -- and maybe this would make the matter easier -- is that given the limited time constraints we were given to object to this 100 page proposed findings and conclusion, we focused on what we perceived as key legal errors.

MS. HANSON: Sorry to interrupt, but $I$ can't hear who's speaking. I don't know if the microphone is not working.

MR. HERNANDEZ: Chair, Member Hanson, this is Shiloh Hernandez from the Conservation Groups.

And what $I$ would propose to the Board, and maybe this could limit the suffering, if we could just address the legal issues that we raised with respect to whether or not adding more pollution to a creek that's violating water quality standards is a violation of water quality standards.

Most of our objections were addressed in -- addressed the discussion section of the proposed findings, and $I$ think if we can get clarity on that, we might not have to go through every proposed findings of fact. I don't want to try to usurp your authority. I just am careful because $I$ want to preserve our record; but $I$ also want to move this along.

CHAIR DEVENY: I want to move it along, too, which is why $I$ asked, because if all three of you were in agreement, we were just going to go ahead and approve all of the findings of fact.

So Mr. Hernandez, if you could point to the specific findings of facts, and give us the numbers, perhaps we could just go to those, have brief discussion, and then the Board could make a decision, if that's an appropriate way to proceed. Mr. Tweeten.

BOARD MEMBER TWEETEN: Madam Chair, the time for any of the parties to bring to our attention findings of fact that they believe are either not supported by substantial evidence or are contrary to the law is in their exceptions, and the Petitioners' exceptions point us to no findings of fact that they claim, as far as 1 can tell -- and please correct me if I'm wrong -- but I don't see anywhere in your exceptions where you suggest that any finding of fact is not supported by substantial evidence on the record as a whole.

You do make some arguments with respect to findings of fact that you believe may be built on an incorrect legal foundation, but those are subsumed within your arguments with respect to the conclusions of law.

So I don't believe that -- unless anybody on the Board has a particular problem with a finding of fact, and it's in the factual support for it in the record, $I$ would suggest that we adopt the finding that the findings of fact are supported by substantial evidence in the record, and that any arguments with respect to the legal basis of a finding of fact be dealt with as they are incorporated in the challenges that are raised
in the conclusions of law.
CHAIR DEVENY: Other Board members thoughts on this?

BOARD MEMBER BUSBY: If they haven't raised them in their exceptions, then $I$ would make a motion that we accept the findings of fact. I don't know if that's properly worded, but --

MS. CLERGET: Is it a motion?
BOARD MEMBER BUSBY: Yes, that we accept the findings of fact.

BOARD MEMBER TWEETEN: I'll second the motion.

CHAIR DEVENY: There is a motion before the Board. Is there further discussion about accepting the findings of fact? If the Board members object to any of the findings of fact, would you like to hear from any of the parties on any of those?
(No response)
CHAIR DEVENY: Hearing none --
MR. HERNANDEZ: May I motion before we vote on this?

BOARD MEMBER TWEETEN: No. Only Board members can --

MR. HERNANDEZ: I'm sorry. May I leave
an objection -- I just want to preserve an issue which is our entitlement to a finding of each of our proposed findings of fact that is a safe legal basis, and then we can move on. It's 4-4-623 sub (6), and with that, $I$ just want to preserve our -CHAIR DEVENY: Chris, $I$ would like to ask the advice of our Board attorney on the procedure.

MS. CLERGET: I believe there's a Supreme Court case on point -- I can't cite it right now, but $I$ can find it quickly at a break -that you don't need to individually go through as long as the reasons are sufficiently made in the record for what you're doing, which $I$ believe they are. We don't need to go through each individual one.

BOARD MEMBER TWEETEN: Madam Chair.
CHAIR DEVENY: Board Member Tweeten.
BOARD MEMBER TWEETEN: A question for
Mr. Hernandez. With respect to the application of the statute on findings on individual proposed findings of fact, is that raised in your exceptions?

MR. HERNANDEZ: I don't think that that -- It's not. I don't think that we have to raise
it then, but it's not.
BOARD MEMBER TWEETEN: Why would you not have to? If it's an objection to the proposed decision, why would you not have to raise it in your exceptions?

MR. HERNANDEZ: We cite to the statutory provision in our exceptions, but we're raising it now, and whether or not that is appropriate is a question for someone else.

MR. LUCAS: Madam Chair, if the
Department could be heard. I would reiterate our objection. Member Tweeten, once again, this was not raised in their exceptions, and now with the exceptions, and as you're deliberating on a final agency action, he's continuing to raise new arguments. He's continuing to fail to exhaust his administrative remedies to the detriment of this entire proceeding. We object. Thank you.

CHAIR DEVENY: Thank you, Mr. Lucas. BOARD MEMBER TWEETEN: Madam Chair, I don't see any reason why that argument could not have been raised in the exceptions, but beyond that, the only thing he's entitled to under the statute is a determination by this Board with respect to those findings of fact that we don't
accept, and there is boiler plate language, and we've seen it before in final agency orders, that is to the effect that the findings of fact are adopted. Any contrary findings of fact that have been offered by the parties are rejected as being contrary to the facts as found by the Hearing Examiner.

We can include that in our final
decision, in a motion on our final decision, and Mr. Hernandez will have the ruling on his findings of fact that he seeks; and if he chooses to seek judicial review and challenge the adequacy of that, he can do so.

MR. HERNANDEZ: We're amenable to that, Madam Chair, Mr. Tweeten.

CHAIR DEVENY: Will you remember to do that?

BOARD MEMBER TWEETEN: I'm hoping our attorney will remember to do that. Yes, $I$ will remember to do that.

CHAIR DEVENY: Thank you.
MS. CLERGET: Yes.
CHAIR DEVENY: There is a motion before the Board to accept the findings of facts in this case and there has been a second. And I don't
believe there is any more discussion, so we will have a vote on that. All those in favor of approving the findings of facts in this case, please signify by saying aye.
(Response)
CHAIR DEVENY: Any opposed?
(No response)
CHAIR DEVENY: Motion carries. That moves us on to the conclusions of law.

MS. CLERGET: Madam Chair, $I$ want to clarify, because $I$ know you guys need a specific motion on the relevant conclusions of law, and $I$ think you agreed on the burden of proof, but we didn't get a motion on it, so we might need a motion on the burden of proof.

CHAIR DEVENY: I will so move that the burden of proof lies with the Petitioners in this case.

MS. CLERGET: Are you adopting the conclusion of law?

CHAIR DEVENY: Adopting the conclusion of law that deals with the burden of proof.

BOARD MEMBER TWEETEN: I'll second that motion.

CHAIR DEVENY: Is there any discussion?

We had a discussion earlier on burden of proof without putting it in the form of a motion.

BOARD MEMBER HORNBEIN: Madam Chair, I don't have anything to add to -- I don't have any disagreement where the burden lies. I do believe, and $I$ think all of the parties before us in this matter have pointed out, that there were some inconsistencies with how the actual burden was articulated.

And so $I$ want to make sure that if we're voting on that, we're all agreeing on the same wording.

CHAIR DEVENY: That's probably a really good point, and $I$ need to get to the findings of fact where we are.

MS. CLERGET: You're on conclusions of law, and you're going to look at Paragraphs 5 through 13. And just to shortcut this a little bit, $I$ think most of the disagreement comes from the discussion section, with the exception of Paragraph 5.

So that might just put a parameter on what you're discussing. I don't know what you're going to do with the discussion section, but whatever you do with the discussion section, if
you're looking about whether or not you're going to adopt the conclusions of law as they're written, Paragraph 5 is the one that everybody has raised their objections to. It's on Page 78 of the findings of fact and conclusions of law.

CHAIR DEVENY: So Melissa, do you have any problems with No. 5 as it's written in the conclusions of law? That is the conclusion of law that the motion right now is --

BOARD MEMBER HORNBEIN: NO, I don't.
CHAIR DEVENY: So point of order, Sarah. With respect to the differences in discussions about burden of proof, if we go ahead and approve Conclusion of Law No. 5, do we still discuss those issues that were in your discussion regarding burden of proof?

MS. CLERGET: It's up to you whether or not you want to hear from the parties on this. But MEIC and Intervenors have objected to the language in No. 5 specifically. And then again, correct me if I'm wrong, but the Department has objected to the language that's in the discussion section, is my understanding.

CHAIR DEVENY: Maybe we should open this up.

MR. LUCAS: Madam Chair, if I may. The Department specifically objected to the proposed rulings Conclusion of Law No. 12, and offered a strike through for that, but that is where the language about that something could happen appears in the conclusions of law outside of the discussion section.

CHAIR DEVENY: That would be --
MR. LUCAS: Conclusion of Law No. 12 is -- let me see if $I$ can track it down for you.

MS. CLERGET: It's on Page 80, 233 in the Board packet I'm told. And yes. I apologize. That's correct. DEQ raised the objection to No. 12; and MEIC and Intervenors raised objections to No. 5 .

CHAIR DEVENY: Perhaps we can take those two together, and hear from the parties.

MR. MARTIN: Madam Chair, just a quick correction. I don't think we objected to No. 5. But the issue that we objected to in Paragraph 12 was repeated again in Paragraph 18 , and we did object to that.

MS. CLERGET: Yes. Sorry. No. 18 I have under material damage, though. Yes, it may also become an issue there.

But for the purposes of the burden of proof section of the conclusions of law, it's No. 5 and No. 12 that are the objections.

CHAIR DEVENY: So we're going to talk about No. 5 and No. 12 , and have the parties talk about it, and have a discussion among ourselves.

And $I$ just wanted to point out, just for people's -- it's interesting. The law and the rule are a little bit different when it comes to talking about the hydrologic consequences.

The law, for example, says, "The Department may not approve an application for strip or underground coal mining permit or major revision unless the application affirmatively demonstrates that the assessment of the probable cumulative impact of all anticipated mining in the area on the hydrologic balance has been made by the Department, and the proposed operation of the mining operation has been designed to prevent material damage to the hydrologic balance outside of the permit area."

Now the rule says a little bit differently when it is talking about, "The Department may not approve an application," blah, blah, blah, unless -- it comes into "an
application compiled by the Department that shows that the hydrologic consequences and cumulative hydrologic impacts will not result in material damage to the hydrologic balance outside the permit area."

There's a little bit of distinction between the two, and we may need to keep that in mind as we're deliberating this issue.

MS. CLERGET: Can you just give them the ARMs, that section?

CHAIR DEVENY: Yes. This would be 82.4.227.

MS. CLERGET: And Chris, can we just put them up here.

CHAIR DEVENY: Okay. Great. 17-24-405.
MS. CLERGET: Subsection (6).
CHAIR DEVENY: So the difference there is one says "will not result in material damage," the other one says, "designed to prevent material damage." The law is designed to prevent, the rule is "will not result in material damage."

Those are just some distinctions that -I don't know whether those two conflict with each other or not, or if they're complementary, but we need to -- it's probably something that's going to
enter into this deliberation that we have on the this particular burden of proof.

So with that, I'd like to hear from the parties. Mr. Hernandez, would you like to start. MR. HERNANDEZ: I will try to be brief. CHAIR DEVENY: I'm going to limit this to five minutes.

MR. HERNANDEZ: Yes. Our big -- The issue that needs to be clarified by the Board is the difference in the inconsistency between Paragraphs 12, Conclusion 12 and Conclusion 18. And they basically say that -- One says the burden is on the Conservation Groups to show that the permit could result in violation of water quality standards, and No. 18 says that we have to show that it will result in material damage, which includes water quality standards.

And I think "could" is clearer, and I would just offer the Board for its entertainment a hypothetical. Imagine that Western presented no evidence about groundwater in their application. DEQ approved it with no evidence about impacts to groundwater. They clearly didn't meet the burden. Whatever burden their original burden was, they didn't meet that. No evidence.

Then it goes to an appeal, and the Conservation Group says, "You didn't meet your burden of proof --" or "You didn't show that the mine was designed to prevent material damage to groundwater because you never addressed it."

Now, in that case, does the Conservation Groups lose unless they can present evidence that there is going to be impacted groundwater and the groundwater is going to violate water quality standards; or is it enough just to say they've not presented any evidence?

And I think how the Board resolves that hypothetical will inform how they address this question as to the burden of proof. If they present no evidence on an issue, at appeal, on appeal does the public have to show that harm will occur, or is it enough just to say, "They didn't actually present any evidence showing that harm will not occur."

And with that, $I$ think it has been adequately briefed.

CHAIR DEVENY: All right. DEQ or Western Energy.

MR. LUCAS: Thank you, Madam Chair. You will notice that there is an apparent discrepancy
between the statutory language and the regulatory language which says that "hydrologic impacts will not result in material damage."

First of all, to the extent there is any perceived conflict, the language of the statute controls. We just got that ruling in the MFSA case, a recent ruling from the Examiner, and that's pretty much boiler plate black letter law.

But $I$ think what's important when you read this regulation, the Board's regulation, is that you have to take it in the context of everything else that's going on in the statute. So we can't -- I'm on Subsection (6) of 17-24-405. We can't approve an application unless it affirmatively demonstrates and our written findings confirm on the basis of information in the application.

The information in that application, as I think we all know by now, mostly consists of what's called a Probable Hydrologic Consequences document. And throughout our brief on exceptions, I refer the Board to all the places in MSUMRA where it's very clear that what we're assessing is the probable outcome.

So if you read it with that in mind, and
understanding what the rest of the statute says, I don't read 17-24-405 to require an absolute guarantee against material damage. Science can't give you absolute guarantees. Things can be designed to prevent material damage. My pickup truck is designed with anti-lock brakes. We have product liability lawsuits all the time. Things don't always the work the way they're designed.

So we think the statute is very clear on this, that what we're doing is we're assessing probable hydrologic consequences.

And if $I$ could get our brief on
exceptions with respect to Paragraph 12 , we proposed a strike-through -- I don't know if that's going to come up over there --

But basically the strike-through that we proposed, and it appears on Page 14 of our brief, is just to get the word "could" out of there, because scientists will also tell you that in terms of projecting impacts going forward, conceivably anything could happen. The issue is what other probable hydrologic consequences here.

And that is why we took issue with Paragraph 12 of the proposed ruling. And I don't know if my strike-through is ever going to pop up
over there.
CHAIR DEVENY: So just to clarify, you want to take the word "could" out of No. 12?

MR. LUCAS: Yes, and I proposed an actual complete rewriting of it, because once you pull the "could" out. But basically what I proposed is that Paragraph 12 would say, "The Conservation Groups have the burden to show by a preponderance of the evidence that DEQ had information available to it --" and it's up there behind you now -- "at the time of issuing the permit that indicated --" strike-through -- "that the project at issue is not designed to prevent land uses or beneficial uses of water from being adversely affected, water quality standards from being violated, or water rights from being impacted."

We think that's consistent with the ultimate conclusion in the case, and the burden of proof as it has elsewhere been articulated in the rule. You don't necessarily have to go with that language. The real take home point we want you to have is once you throw the word "could" in there, preponderance of the evidence is no longer an issue, probable hydrologic consequences are not an
issue.

And any scientist will tell you that Yetis could exist. We just can't prove that they don't. Thank you.

MR. MARTIN: Madam Chair, following on the Yeti discussion, this will be a moment in time where Mr. Hernandez and $I$ actually agree. Mr. Hernandez makes the point in the hypothetical that he described that they can't be in the position of proving an absolute.

In the hypothetical that he described, I happen to agree with him. They shouldn't have to demonstrate that there is a certainty that material damage will occur. And in fact, in the discussion, Hearing Examiner addresses that very issue and says it's a more probable than not standard. It's the one taken from MAPA. That's their burden of proof.

We're not taking the position that they have to prove material damage, and we'd ask the same consideration on our side of the issue. We can't definitively say, as Mr. Lucas pointed out, that there will be no material damage. What we can say is that a project is designed to prevent material damage.

Now, there is some language in Paragraph 12, Paragraph 18, and to a degree in the discussion beginning on Page 65 extending through 66 , another passage on 71 , and the language that's used -- and this is where we're quibbling, I have to concede -- is the Hearing Examiner is saying that the only thing that a petitioner needs to prove is the possibility of material damage. The possibility of material damage $I$ think always exists, or at least for some people it arguably always exists.

I think that language was probably
frankly not intended to be read the way I'm reading it. I suspect what the Hearing Examiner meant was a probability.

So in the discussion, in fact $I$ think that if we replace the word "possibility" with "probability" on those pages, that that would go a long way toward making sure that we need only demonstrate the probability that there will not be material damage. We need to demonstrate that the project is designed to prevent, use the term of the statute. Thank you.

CHAIR DEVENY: Do Board members have questions of any of the parties at this time?

BOARD MEMBER HORNBEIN: I have a question for Mr. Lucas. Could you just address a little bit more -- I'm familiar with the concept that if an agency's regulation conflicts with the enabling statute, or has the potential to conflict, we have to go back to the statutory language.

I don't necessarily read these two provisions as being conflicting. I'm seeing the regulation is carrying out the purpose of the statute, which is the point of agencies enacting regulations.

But the explanation you just gave seems to me that it would try to read out a portion of the regulation that's there. So I'd just like you to address that a little bit more specifically, if you could.

MR. LUCAS: Yes, of course, but could you tell me. Do you believe that it reads the word "will" out of the regulation? "Will not result."

BOARD MEMBER HORNBEIN: Let me just pull the regulation back up.

MS. CLERGET: It's up here.
BOARD MEMBER HORNBEIN: It's a little
easier for me to get it right here. I think the language $I$ 'm referring to in the regulation is the provision that says "will not."

MR. LUCAS: "Will not"?
BOARD MEMBER HORNBEIN: Yes.
MR. LUCAS: And that is the area where it could be argued that there is a conflict between the two.

And what $I$ was getting at is one of the other provisions from reading regulations and statutes is that you're supposed to read them so they can be harmonized, not in conflict.

So when you look at the rest of MSUMRA -- and I'm trying to find where $I$ address this in my exceptions -- it's always talking about probability. It's about probable hydrologic consequences.

So what I'm saying there is that you don't have to read these two in conflict, even though the Department says "will not." If you read the part of the regulation up above, right in sub (6) before you get to the subsections, we can't approve an application unless it affirmatively demonstrates -- the written findings confirm on the basis of the information as set
forth in the application or otherwise available. And all of that information, including the title of the Probable Hydrologic Consequences document, is about what the reasonably anticipated outcome would be, which is also really what in my understanding science addresses; the most likely outcome from a particular set of facts.

So I guess I still might not be articulating it very well, but $I$ don't necessarily see a conflict here, because once we determine that the project is designed to prevent material damage, we reach a conclusion that it will not result in material damage. And $I$ know that's kind of qualified. But there was a decision made where my truck rolled off the pickup line, and we got past $Q A$ and $Q C$, that that truck was ready.

And my brakes haven't failed -- don't get me wrong -- but there has to be an acknowledgment that things don't always work as they're designed, which the statute clearly acknowledges all over the place.

In fact, if the statute required that material damage wouldn't occur, there would be no requirement for bonding for material damage, there wouldn't be that section at the back of MSUMRA
which provides a right for an impacted water supply.

If you impact a water supply, that's material damage, yet MSUMRA contemplates that material damage could still occur; and in that sense, it's a very good statute because it doesn't just have all these precautionary and preventative things in it, but it recognizes that humans are fallible, things don't always operate as they're designed, and material damage could occur.

So the whole statute contemplates the possibility. We don't want it to occur obviously. We're using reliable science to make sure that the project is designed to prevent that from occurring.

So when $I$ read this regulation with the words "will not" in the context of all that, $I$ don't necessarily see a conflict; but someone could argue that there is one, and if there is, the answer is real easy there, too. The statute does control.

And that's certainly how the Signal Peak ruling went. There was nothing in there that we had to guarantee that material damage would not occur. We needed to show a more likely than not
probability that material damage would occur. Signal Peak clearly states that may or may not doesn't put the bunny in the hat, so to speak.

So I think it's clear from the Board precedent, as well as the structure of the statute and the surrounding regulations, that even though we've expressed it as a finding that it will not happen, that finding itself is still subject to the limits of reliable science, and the directive throughout the statute that what we are assesing are the probable hydrologic consequences.

CHAIR DEVENY: Melissa, does that answer your question?

BOARD MEMBER HORNBEIN: I don't disagree with anything you've said. I do think that the language in the rule has to play a role in determining what the burden of proof is, that you can't just read out "will not" just because the statute contemplates that things may not always work out. I mean that's why we have any sort of regulatory provisions for dealing with situations where things don't work out.

But $I$ don't think that that necessarily answers the question of what determines what the burden is in this case. The language is in the
agency's rule. I agree with Mr. Lucas. I don't think that they're necessarily conflicting. So I think we have to take that language into account when we're determining what the burden is. That's all I'm saying.

MR. LUCAS: Madam Chair, if I could just clarify for Member Hornbein. I'm sorry if I wasn't clear there.

If we can pull up the language of 82.4.227(a)(3). It's not just that it's from the structure of the statute. The statute itself requires that the project be designed to prevent material damage. So to the extent "will not" conflicts with the language of the statute -- let me pull that up.

MS. CLERGET: I think 227 is up.
MR. LUCAS: 227 is up there. So (a) (3) is on the left, right?

MS. CLERGET: (a) (3) Yes. Material damage.

MR. LUCAS: "The assessment of probable cumulative impact of all anticipated mining has been made, and the Department determines that the project has been designed to prevent material damage to the hydrologic balance outside of the
permit area."
That is the standard that controls, notwithstanding any potentially conflicting "will not" that you see in there. We can't take statutory language and through our reg change it from "designed to prevent" to "will not happen." That's my point.

So the statute is clear. It's not just from the structure of the statute. I made those arguments about the structure and the other places in the statute to kind of put finer points on that, but this is a plain language issue, Member Hornbein. Thank you.

MR. HERNANDEZ: Madam Chair, I'm sorry. It's been a long afternoon. I just wanted to offer for the Board's consideration the MEIC case that you guys addressed as far as being, establishing the standard of proof.

I think that in Paragraph 38 of that case, the Court addresses this. I'm not sure I have a clear answer. Our position $I$ think has been rejected, so we're doing damage control at this point.

I think that Paragraph 38 provides some insight into how the Montana Supreme Court sees
such a -- how such provisions should be interpreted. I'll just read for the Board, if the Board wishes, or else you can just refer to it on your own. I'll leave that to you.

CHAIR DEVENY: Is it pretty brief?
MR. HERNANDEZ: It's quite brief.
CHAIR DEVENY: Yes. Go ahead.
MR. HERNANDEZ: There the Board said that -- It was an air pollution permit that was appealed. The Court made a statement about the burden, and Court said on remand -- this was the second to the last paragraph of the opinion, Paragraph 38.

It says, "Thus on remand, the Board shall enter findings and conclusions of law determining whether, based on all of the evidence presented, Bull Mountain --" that was the permit applicant -- "established that emissions from its proposed project will not cause or contribute to adverse impact on visibility in the Class 1 areas at issue."

So there the Court seemed to say that allocating the burden how it was, on remand the Board had to look at the evidence presented in the permit application, and see whether it stood up to
the statutory language, and whether or not the plaintiffs had shown that it didn't.

I'm not sure exactly how that worked.
It might be able to be harmonized with Mark Lucas's proposal. I think Ms. Clerget mentioned it before. It's a bit entangled as far as how this works.

Our position is clear that controls and they have the burden, but to the degree that you're following MEIC, $I$ think Paragraph 38 provides the best explanation, the MEIC case, about how this burden should apply.

CHAIR DEVENY: David.
BOARD MEMBER LEHNHERR: I just wanted to be clear about the two statutes that are up here. Is someone proposing that there is conflict between the two when it comes to material damage? I wasn't clear about that.

CHAIR DEVENY: I just brought it up because the rule and the law were a little bit different.

MS. CLERGET: The law is the one on the right that says -- the law says, "designed to prevent material damage" in (a) (3); and then the rule is on the left.

BOARD MEMBER LEHNHERR: But on the left the law says, (b), you sort of have to read No. 2 with (b) preceding it, which says, "The proposed strip or underground coal mining operation would not materially damage." It seems like that's saying pretty much the same thing that the rule is saying on the right.

MR. LUCAS: Madam Chair, if I may. The Member has read down to a different provision in the statute which talks about material damage to the quality or quantity of water in surface or underground systems and alluvial valley floors.

That is not an issue in this case. The citation that we've been focusing on is the material damage analysis at issue in this case. Thank you.

CHAIR DEVENY: Did you catch that?
BOARD MEMBER LEHNHERR: I'm sorry. If you can clarify that further just briefly.

CHAIR DEVENY: Sarah, could you just go up there and point out the ones that we're talking about.

MS. CLERGET: Sure. So you've got what applies here is subsection (6). "Hydrologic consequences and cumulative impacts will not
result in" versus over here in (a), you've got "material damage and quantity of water."

MR. HERNANDEZ: (3) (a).
MS. CLERGET: (3) (a). It says "designed to prevent" right here.

BOARD MEMBER LEHNHERR: The (b) section says, "The proposed strip and underground coal mining would not." I guess I'm comparing "would not" versus --

CHAIR DEVENY: That's not applying to this case. That's talking about surface water and underground systems.

BOARD MEMBER LEHNHERR: Thank you.
CHAIR DEVENY: Chris, you've been quiet.
MR. MARTIN: Madam Chair, if $I$ may weigh in very briefly. First $I$ think this has been a thoughtful discussion, and you were wise to bring up the distinction between the regulation and the statute. I won't repeat what the Department has said, but frankly we agree.

To the extent that there is a conflict, the "design to prevent" language obviously should prevail. If somehow or another Mr. Lucas can read those two provisions together, and still allow science to operate the way it should, so that we
only have to demonstrate more probable than not the probability that something like that will not happen, then it makes sense.

Either of those two readings will
achieve what $I$ think is the proper result when you read both the regulation and the statute. To the extent that there is a conflict, again, obviously the statute prevails. Thank you.

MR. HERNANDEZ: Madam Chair, may I offer a thirty second rejoinder?

CHAIR DEVENY: Yes.
MR. HERNANDEZ: The statute says " is designed to prevent." "Prevent" the Board said in In Re: Bull Mountains means will not happen. The regulation, as Board Member Hornbein suggested, really just complements the statute by saying "is designed to prevent," not minimize -- the Board said In Re: Bull Mountains -- "designed to prevent material damage, then material damage will not result."

I think that they read together without any conflict. I think anybody interpreting a statute and regulation to harmonize them and not jettison one or the other.

MR. LUCAS: Madam Chair, if the

$$
131
$$

Department could very briefly respond to that. CHAIR DEVENY: Okay.

MR. LUCAS: That proposed reading reads the word "designed" out of the statute. It doesn't say, "We need to find the project will prevent." It says, "The project must be designed to prevent." Thank you.

CHAIR DEVENY: Board member comments, questions? Talk about whether or not we agree with burden of proof issues in No. 5, 12, and 18. Chris.

BOARD MEMBER TWEETEN: Madam Chair, I think Conclusions of Law 5 is unobjectionable. It uses the term "violates the law," so that's fine.

As far as No. 12 is concerned, $I$ would move that we reconfigure Conclusion of Law 12 to conform to Mr. Lucas's proposed strike-out and insert that's found in his brief at the place he indicated.

As to No. 18, I would move that we modify Conclusion of Law 18 by striking everything after the word "a" in first line of 18 , including and after "a" through the word "damage," and insert the language that conforms 18 to the amendment that Mr . Lucas proposed that referred
back to the "designed to prevent" language in the statute.

CHAIR DEVENY: Could you put that language up there? Is it still up there, Mr. Lucas? And did I hear -- Mr. Martin, you said you were okay with that?

MR. MARTIN: The language in 12 and 18 as proposed meets our concern, and the only request that $I$ would have is that the discussion be conformed to these changes in 12 and 18 . There is some language in the discussion that refers to "possibility" rather than "probability." And we could provide that language after this hearing if that's useful.

CHAIR DEVENY: Mr. Hernandez, are you amenable to that language?

MR. HERNANDEZ: Madam Chair, we maintain our initial position. I don't think we need to argue this anymore. I think this is probably the least bad definition that the Board could use.

CHAIR DEVENY: Just a point of
clarification question for the Board attorney. Does the discussion in your findings of fact and conclusions of law necessarily have to be included in our final decision?

MS. CLERGET: Not at all. You can adopt the findings of fact and conclusions of law. You don't have to adopt anything else. You have to make a decision specifically on findings of fact and conclusions of law, but you don't even have to make a decision on the rest of it.

CHAIR DEVENY: Forgive me for not knowing this procedure because we haven't gone through it very much, but is there always a discussion?

MS. CLERGET: No, not always. I provide it when $I$ feel like it might assist you in getting to the conclusions of law from the findings of fact, but if there are things specifically in the discussion that are not in the conclusions of law to make your lives easier when it comes to the conclusions of law.

CHAIR DEVENY: If we didn't include the discussion in our adoption of the conclusions of law when we get to that, would there be gaps between making the leap from findings of fact and conclusions of law?

MS. CLERGET: I don't think you need to worry about that. I think you need to adopt findings of fact and conclusions of law. That's
what you have to do. If you want to adopt discussion, you certainly can, but you don't have to.

CHAIR DEVENY: If I'm hearing this right, Board members, we would have an option of not including the discussion that's in the findings of fact and conclusions of law document if we so choose.

BOARD MEMBER TWEETEN: In that case, my motion is waiting for a second.

BOARD MEMBER BUSBY: Can you repeat your motion?

MS. CLERGET: I think Aleisha has got it, if that would be --

MS. SOLEM: I have you down for two motions. The first is to reconfigure Conclusion of Law No. 12, and to make that in compliance with DEQ's proposed language in their brief that was on Page 14, that was displayed on the screen.

And then the second was to modify Conclusion of Law No. 18, strike everything after "a" in the first line through "damage," and then insert the language that conforms with the language on 14.

BOARD MEMBER TWEETEN: That's it.

CHAIR DEVENY: It's been moved and seconded. Is there further discussion by Board members?
(No response)
CHAIR DEVENY: Hearing none, could we have a vote on --

MS. CLERGET: There wasn't a second.
CHAIR DEVENY: I thought Dexter did.
BOARD MEMBER BUSBY: I did, Yes. I said
I'd second it if $I$ could get the motion for sure.
CHAIR DEVENY: It's been moved and seconded. All those in favor, signify by saying aye.
(Response)

CHAIR DEVENY: AnY opposed?
BOARD MEMBER HORNBEIN: Nay.
CHAIR DEVENY: Motion carries. Hillary, did we get your vote?

MS. HANSON: Yes. I said aye.
CHAIR DEVENY: Okay. Thank you.
MS. CLERGET: So $I$ think you have dealt with 18 under material damage. That's where you leftoff.

CHAIR DEVENY: We dealt with 18 , and didn't we deal with 12 , too?

MS. CLERGET: You dealt with 12.
CHAIR DEVENY: 18 and 12.
MS. CLERGET: Yes. So you've left off with 18 , the material damage.

CHAIR DEVENY: Have we done one through -- we haven't voted on anything up to 12.

MS. CLERGET: No, we haven't done burden -- Yes, we just did the burden of proof. I guess you did it with --

CHAIR DEVENY: We haven't. We need to.
BOARD MEMBER TWEETEN: Madam Chair, I
move we accept Conclusions of Law 1 through 4 dealing with standing.

CHAIR DEVENY: Could we add No. 5, burden of proof, on to that?

BOARD MEMBER HORNBEIN: I'll second that.

CHAIR DEVENY: Could you add that?
BOARD MEMBER TWEETEN: Why don't we take the burden of proof section as a separate section.

CHAIR DEVENY: The motion before the Board, and it has been seconded, is for adopting Conclusions of Law 1 through 4. All those in favor, signify by saying aye.
(Response)

CHAIR DEVENY: All those opposed.
MS. HANSON: Aye.
BOARD MEMBER LEHNHERR: Madam Chair, could we get a printout of the revised wording for $12 ?$

MS. CLERGET: Yes. Can we at a break?
BOARD MEMBER LEHNHERR: Sure.
CHAIR DEVENY: Let's move on to No. 5.
I would move that we -- Let's look at the burden of proof Section 5 through 12. We've already voted on 12 , so it's actually 5 through 11. Are there any objections or suggested changes to any of the Conclusions of Law 5 through 11?
(No response)
CHAIR DEVENY: I would move that we adopt Conclusions of Law 5 through 11.

BOARD MEMBER TWEETEN: Second.
CHAIR DEVENY: It's been moved and
seconded. Is there any discussion?
(No response)
CHAIR DEVENY: Hearing none, all those in favor, signify by saying aye.
(Response)
CHAIR DEVENY: Any opposed?
(No response)

CHAIR DEVENY: Motion passes. We've done 12. Let's move on to relevance.

MS. CLERGET: I think you did that already.

CHAIR DEVENY: We didn't have a motion on the section of relevance. We did talk about those issues that were on the orders of motion in limine, so let's see, 15 might have been covered. No. 14 .

BOARD MEMBER TWEETEN: Madam Chair, I thought that we adopted a motion approving the Hearing Examiner's incorporation by reference of the order on the motion in limine.

CHAIR DEVENY: We did.

BOARD MEMBER TWEETEN: In that case, I think that all of the Conclusions of Law under "C" have been covered, so $I$ would move the adoption of Conclusions of Law 13 through 17 .

CHAIR DEVENY: I'll second that. Any discussion on the relevance issues?
(No response)

CHAIR DEVENY: Hearing none, all those in favor, please signify by saying aye.
(Response)
CHAIR DEVENY: All opposed.
(No response)
CHAIR DEVENY: Hearing none, the motion passes. We'll move on now to the material damage section that starts at 18 . We just did 18 , so - -

MS. CIERGET: If $I$ can interject here.
I think $I$ didn't -- and the parties may correct me if I'm wrong -- but $I$ don't have any other objections to specific conclusions of law until Paragraph 39.

MR. HERNANDEZ: Madam Chair, our objections to the material damage determination addressed the analysis in the discussion portion, but it fundamentally informs all of the findings with respect to material damage.

The question before the Board is whether or not adding more pollution to an impaired creek violates water quality standards, and depending on how the Board addresses and responds to that question, then we don't believe that the findings of fact - or sorry -- conclusions of law after Paragraph 18 on the material damage assessment can be affirmed, and that goes all the way to Paragraph 39 .

We didn't address nitrogen in our exceptions, but then beginning with Paragraph 42,
that goes to our arguments about whether or not the "anything is alive" standard for assessing aquatic life water quality standards is appropriate.

So even though we didn't enumerate every one of them, our objections to the discussion analysis addresses this conclusion. They're not compatible.

CHAIR DEVENY: So we heard oral argument this morning on some of these issues, and $I$ guess it would be time to open up the Board to questions to the parties about material damage issues.

BOARD MEMBER DEARMENT: Madam Chair. So I think as Mr. Hernandez has said, when he opened his comments today and his objections brief by stating factually that East Fork of Armells Creek is impaired for salinity related pollutants, and arguing that any contribution from any mining activity in the watershed to that stream is already impaired would prohibit DEQ from issuing this amended permit, correct?

MR. HERNANDEZ: Until they prepare a TMDL to remedy the impairment, yes.

BOARD MEMBER DEARMENT: Thank you. And so it seems to me $I$ think that is the question
that we need to address here, is that accurate or not.

If he's correct -- and $I$ think as he just said most of these conclusions of law that remain are erroneous. I think if he's wrong, I guess we need to hear why and make that determination.

CHAIR DEVENY: Go ahead.
BOARD MEMBER DEARMENT: I'm not sure where $I$ was going to go from that. I guess I would like to hear from the attorneys some additional discussion.

Mr. Hernandez has made it pretty clear that he thinks that is the case. I'm not sure in the comments and rebuttals $I$ heard earlier today, or in the testimony from the other attorneys that we heard today, that that point was clearly rebutted, at least not in my mind.

CHAIR DEVENY: I thought $I$ kind of heard it was from the point of the Clean Water Act and the MPDES permit being the ones that triggered water quality standards, but it would probably behoove us to maybe have the attorneys talk about those issues very briefly, if you could. Mr. Lucas.

MR. LUCAS: Thank you, Madam Chair, Member Dearment. I'm happy to address this. Mr. Hernandez is sitting there and he says this project is going to add more salt. The record, the undisputed record, demonstrates the contrary. It's not going to increase concentrations of salinity in the primary receiving water of the East Fork Armells Creek, Upper East Fork Armells Creek, or the secondary receiving water of Lower East Fork Armells Creek. So first of all, adding more pollution, wrong. We're not adding anything. There is a 13 percent change in TDS in alluvial water quality that comes from previously approved mining permits in the mine. And obviously the statute of limitations ran on the challenge to those a long time ago. So number one, no pollution is being added.

What will happen is when you do AM4, you will increase the duration. Now, we've had some discussion about the duration. Here's the key thing on that. Material damage is a threshold issue. If you don't violate a water quality standard today, it doesn't matter that 100 years down the road you're not to going to violate a
water quality standard. The only thing the record shows is that the Rosebud mine meets regulatory standards and will continue to do so for 100 years.

I'd like to talk a little bit about -and this is in our response to their exceptions.

CHAIR DEVENY: I'm going to ask that you limit it to five minutes, please.

MR. LUCAS: Sure.
CHAIR DEVENY: Lindsay, if you could maybe take a minute off that and give him four. MR. LUCAS: And I'll try and be very succinct.

But one of the other key things about the Department's finding here was that this 13 percent change in alluvial TDS was well within the range of natural variation, well within the range of the natural variability of that ionic component, both in the alluvium and in the East Fork Armells stream. So they determined material damage.

Now, the CHIA assesses both groundwater and surface water impacts. When it comes to surface water impacts that are regulated under the MPDES program, the CHIA says, and appropriately so
-- and this is in my brief -- those discharges - we're not talking about discharges here. Mr. Hernandez incessantly refers to them as such - those discharges are covered by MPDES permits, which means they have to meet all water quality standards.

If we were on appeal of that MPDES permit, Mr. Hernandez would at least be in the right ballpark in arguing Pinto Creek. Pinto Creek applies to point source surface water discharges governed by a MPDES permit. We're not here on that.

In fact, they've challenged the mine's MPDES permit, and $I$ believe you guys got an update from Ms. Bowers this morning on where that stands in the Supreme Court. So he's importing a standard that does not belong here.

MSUMRA is clear. The language I've cited to you, again going back to 227 (3) (a) - hopefully $I$ have it right now -- it is a causation standard. The definition of material damage is degradation by mining.

If you look at Signal Peak, which I cite repeated in our brief, there the Board applied a causation standard. It doesn't mean we don't look
at everything else. We are looking at the impacts of mining, and that was done here.

And to argue contribution is to try and bring in a standard that doesn't exist in the statute. He might think it's bad policy, he might think it's a bad outcome. There are avenues to pursue that. If he thinks -- and I'm not going to invite him to sue the Department on other grounds -- but it's pretty clear there is avenues to pursue that.

I guess the last thing $I$ want to say about Pinto Creek is to the extent you folks look at it, you'll see it does not stand for the proposition which Mr. Hernandez contends. Pinto Creek does not say you can't have another discharge of a pollutant of concern to an impaired water body until the entire water body is remediated. Anyone who has worked with TMDL's know they take decades.

What Pinto Creek actually says is you can't authorize a new discharge of a pollutant of concern to an impaired water for which a TMDL has not yet been issued unless all the other dischargers are on schedules of compliance, and that those schedules of compliance include
so-called waste load allocations.
I appreciate that Mr. Hernandez and the Petitioners are trying to protect East Fork Armells Creek, but you have to use the law that applies in a particular case, and those laws don't apply here. The material damage finding was 100 percent on point. You have a ruling, an undisputed ruling that tells you that.

And in response, the only evidence they could present -- we've been over their evidence -their TDS expert didn't even calculate any change in concentration, didn't even take a qualitative approach, couldn't even tell us if the change in concentration of $T D S$ would be sufficient.

What Mr. Hernandez is doing is trying to link the mine to the pollution in the stream, when the whole record before you, including our water quality assessments that we do, found that it was an unconfirmed source. So such impairments as are exists in that stream are not attributable to mining. That is undisputed. There was no dispute of that.

And the proposed ruling clearly states that Petitioners' arguments with respect to existing water quality violations were based on
nothing but the Department's so-called assessment records, which the Water Quality Division does.

And if $I$ can just finish on that point, the ruling also found that that's a different program, and those assessment records do not equate material damage or a violation of water quality standards. Thank you.

CHAIR DEVENY: Thank you, Mr. Lucas.
MR. HERNANDEZ: Madam Chair, Member
Dearment, may I respond to your question? Mr. Lucas's response before, it kind of becomes diluted by Mr. Martin's response.

BOARD MEMBER DEARMENT: With the Chair's permission, I'd like to hear it, yes.

CHAIR DEVENY: Yes.
MR. HERNANDEZ: All right. The first important thing is that material damage is a violation of water quality standards -- that's the statute -- and that's what $D E Q$ is trying to read out of MSUMRA. MSUMRA in 82.4.203(31) says, "Material damage includes a violation of a water quality standard."

So if there is a violation of water quality standards, that's material damage. And DEQ has already determined that water quality
standards in East Fork Armells Creek are not being met. That's undisputed here.

The findings Page 70 says that if the water is already exceeding the water quality standards, as is the case with EFAC, already not meeting water quality standards. The question is water quality standards, they're already past the limit. What do you do in that situation? How do you assess water quality standards when a creek is already past the limit?

That's what Friends of Pinto Creek said.
We're not arguing that they need a discharge permit. The salt here is coming from base flow -as a hydrologist, you know this -- groundwater contribution, and you know this more than $I$ do, the creek.

And Ms. Solem, if you could put our slides up there. Again, briefly DEQ's CHIA says on Page 9-9, "Base flow in EFAC by surface water 55," this is Slide 3. "Base flow in EFAC is predicted to increase by 13 percent." So all mining is going to add 13 percent more salt. So they're going to worsen that violation of water quality standards.

$$
\text { Pinto Creek says adding more. And } 13
$$

percent isn't immeasurable. They measured it, 13 percent. That will worsen the water quality standard, and that under Pinto Creek is a violation. We're not talking about a discharge permit, we're just talking about how you assess water quality standards. And worsening water quality standards and impairment is a violation of water quality standards.

They dispute that, and they don't like that idea. They would like to ignore the fact that East Fork Armells Creek is being trashed. But the statute says they can't. The hard limit is water quality standards.

So what they say -- and this might be where you're going -- but AM4 isn't doing it. That 13 percent is the result of all the other cumulative mining operations there. That's true. They're right. The 13 percent is from the cumulative other mining impacts that will go into the creek.

So what do you do in that situation? Don't trust me. I'm an environmental lawyer. Who knows? But $I$ can tell you what, $I$ can research the law, and in our brief, $I$ point to where -- and this is at Page 15 , 16 , Page 16 of our exceptions.

The Office of Surface Mining, the Federal regulators of surface mining, they answer this question. They say that when you're making your material damage assessment, it has to be with respect to all previous mining. They say mining is first come, first serve. If the existing mining is already going to take you past that threshold, which the 13 percent will do, then you may not add any more. That's what OSM has said.

We cite on the next Page on Page 17 , where the Alaska Supreme Court says the same thing, and the Alaska Supreme Court explained that this is mandated by the intent and language of the purpose -- the language, the purpose of the statute, which is to assess cumulative impacts.

If they could do, as Mr. Lucas is proposing, and say, "Sorry. That's material damage, but that was all the earlier mining." This stuff is just going to extend that material damage for 100 years. That completely undermines the purpose of the statute if they can say, "We're causing material damage, but we already did that before. We can just go on forever to expand mining."

And they quibble about whether or not
the -- how long this will take. Here is Dr. Hinz again saying, "This is going to extend that duration for hundreds of years."

So I think that we need to anchor our discussion of this to authorities and law, and I think that is clearly on our side. They cited none to the contrary.

BOARD MEMBER DEARMENT: Madam Chair, Mr.
Hernandez. Some of your argument made hydrologic and some common sense to me. In your brief you mention sort of the rule of holes. If you find yourself in one, stop digging. And if you find yourself with an impaired stream, stop adding to the source of impairment.

I think Mr. Lucas has said despite any hydrologic or common sense $I$ might see in it, there is not much legal basis for this argument, although we might both want there to be one, and that Pinto Creek does not apply, and that's your only legal hook, and it's not valid. I'm trying to make sense, $I$ guess, of is there really a basis in law for that stop digging premise of your argument?

MR. HERNANDEZ: I think that the basis -- Madam Chair, Mr. Dearment. I think this is a
little bit of a unique question, and the reason there is not an abundance of State case law on this is because material damage is only defined to include water quality standards in Montana. This is unique, kind of the first issue here.

But what is absolutely clear in the law that $I$ point to is that when you're assessing material damage, you have to look at the whole picture. That is undisputed. Mr. Lucas, despite his pleas for law on it, has cited no law to the contrary suggesting that taking piecemeal this analysis.

Page 16 and 17 I extended the brief by putting extensive quotes in there, because I don't want you to take my word for it. I want you to take the word of the Office of Surface Mining and the word of the Alaska Supreme Court. You have to look at the whole picture.

And then next question is they have to, as we saw in $405(6)$, they have to affirmatively determine that the cumulative hydrologic impacts will not result in a violation of the water quality standards. Well, where do we find information as to what causes a water quality standards violation?

We look to case law that's interpreted. The case law that's interpreted what causes a violation of water quality standards is Pinto Creek. And you say, "Well, that's the Clean Water Act," but as the proposed findings recognize, the fact that Montana chose to define material damage in a very protective way by including a violation of any water quality standard in it incorporates the Clean Water Act concept of water quality standards into MSUMRA.

And what under the Clean Water Act causes a violation of water quality standards? Adding more pollution to a creek that's already impaired, and that's what Pinto Creek says.

BOARD MEMBER DEARMENT: Madam Chair. I
notice you focus on the water quality standards as the definition of material damage, but as $I$ read it here in the findings of fact and conclusions of law, the definition also seems to include -- it says, "Beneficial uses of water are adversely affected."

Does it not also incorporate specifically these types of TMDL level considerations that benefit aquatic life beneficial use support? It seems broader than
just water quality standards.
MR. HERNANDEZ: It is. I think the clear intent of the legislation there was to be broadly protective, as protective as possible, not just beneficial uses, all designated uses, and specifically water quality standards. And the Board, the other authority that's important that's already addressed this issue is In Re: Bull Mountain decision by this Board.

And the Board said material damage is the suite of water quality standards that Montana has. And the CHIA, DEQ in fact in its CHIA, they do a good job of saying material damage criteria, criteria by which we assess material damage assessment are water quality standards. They say that in the CHIA. It's Page 2-2, 2-3, 2-4.

And we're not inventing -- This is a standard they set. It's a high standard. It's a standard the Legislature set. Unquestionably it's a high standard. They can't ignore it, and that's what they're doing here.

And like the Florida Court said about the rule of holes. They can't ignore -- they can't just say, because of the language of the water quality standards, they can't just say, "So
what? It's just a small creek in eastern Montana."

The standard applies everywhere, even if it's a big mine with important corporations that own it, even if there is a big power plant, the standard's the same. Violation of water quality standards. And if --

What happens if you accept their argument? Basically they can piecemeal destroy all of the creeks in Montana, take one step at a time. "This only extends the violation. This was only a little bit. The pollution was caused by our other mining operations."

And this point $I$ think is startling. In the world of civil law, there is a common defense argument called the empty chair defense, where you point to someone else and say, "It wasn't us." That's what they're doing. "It wasn't us, it was them," and you point to the empty chair. "That's the person you should be getting after." And it saves --

But here what they're doing incredibly is pointing at themselves. They're saying, "It's not us. The 13 percent is our other mining operation," and that's just mind boggling that
they can say that, "Sorry. We're not getting, causing material damage here because our other mining operations are causing that." And $I$ feel that --

CHAIR DEVENY: I'd ask you to cut it short.

MR. HERNANDEZ: I feel that the Board should be guided both by its prior decisions, the case law that we've cited, and the very purpose of the statute, which is what In Re: Friends of Pinto Creek was about, interpreting a statute in a way that ensures its goals of environmental protection. If they can go piecemeal destruction of creeks, well, the statute means nothing.

CHAIR DEVENY: Thank you.
MR. MARTIN: Madam Chair, may $I$ be
heard?
CHAIR DEVENY: John, do you have further questions of Mr. Hernandez at this point, or do you --

BOARD MEMBER DEARMENT: Not right now. I would appreciate hearing from Mr. Martin if he has follow-up.

CHAIR DEVENY: Mr. Martin.
MR. MARTIN: Thank you very much, Madam

Chair, Mr. Dearment. Let's talk about what was really found as opposed to this speculation that we've heard.

We've just heard that, "Gee, it's obvious that this mining company has caused this impairment." That's just not true. And $I$ would invite the Board's attention to Page 67. And by the way, these findings are repeated elsewhere in the decision document.

First let's talk about Upper EFAC. There the Hearing Examiner notes that, "The evidence showed that the salinity in Upper EFAC was likely attributable to its inherent nature as an ephemeral stream, and the loss of stream side vegetation most likely is the result of agriculture," farming.

So first with respect to Upper EFAC.
The salinity issue, the impairment issue that he cites didn't come from mining, it came as a natural consequence of a prairie stream in Montana, and also from agriculture.

Let's move to Lower EFAC. With respect to Lower EFAC, impairments were likely attributable to other downstream sources, e.g., the town of Colstrip. Similarly -- and now we're
going to talk about the uses, your question -Upper EFAC was not supporting most of its beneficial uses, such as wading, swimming, salmonid fishes, "because of its ephemeral nature."

The Conservation Groups did not produce any convincing evidence that EFAC's existing impairment was previously attributed to the operations of the Rosebud Mine. This isn't the empty chair. This isn't pointing the finger back at us. We didn't do it. And that's apparent from the findings of the Hearing Examiner.

In fact, the decision goes on to note, "As a matter of fact, Conservation Groups conclusions fail because there is no evidence that the AM4 amendment, which is the only permitting decision at issue in this case, will cause any increase in salinity in the EFAC alluvium."

Let's talk about that issue. This assertion that this amendment is going to increase salt and TDS in the stream is simply belied by the evidence. First, there was an evaluation of all mining, and $I$ 'm not talking just about AM4, I'm talking about all of the mining that contributes any salts to East Fork Armells Creek.

The evidence that was accepted by the Hearing Examiner determined that there was not a detectable increase in salts in the surface waters of East Fork Armells Creek, even with the projection, the 13 percent projection that we all talk about, because of the variability of the stream. It's not statistically significant, and in fact, you cannot discern downstream any impact associated with all mining.

You just heard me say all mining, not AM4. Obviously AM4 would be a subset of all mining, and it's adamantly the case that the evidence demonstrates that there is no impact from AM4. In fact, there was evidence, interestingly enough, Dr. Nicklin's testimony, and if $I$ were better able to point you to a specific citation, $I$ could be more precise about this.

There is some interesting evidence that when they evaluated TDS levels downstream from the mine, and in fact downstream from the intersection with the West Fork Armells Creek, salinity levels had actually decreased since the beginning of mining.

I'm not suggesting that mining decreased salinity in the stream, but what $I$ am suggesting
is there is absolutely no proof of this assertion that there is some sort of material damage either from AM4, or for that matter, from all mining. Just very quickly, the OSM discussion in the regulations is irrelevant. Montana has had this program for many years under the shared responsibility under the SMCRA statute. Montana gets to decide this. MSUMRA governs this. SMCRA has no role.

If you look at Judge Christensen's decision in 2015, he cited that provision of SMCRA that expressly says that once you have primacy for a state, you have exclusive jurisdiction over surface mining. That argument is completely irrelevant. Thank you.

CHAIR DEVENY: Thank you.
BOARD MEMBER DEARMENT: Could I follow up one more time?

CHAIR DEVENY: Yes.
BOARD MEMBER DEARMENT: I don't mean to make Mr. Hernandez's argument for him, or even validate. I'm just, as a non-lawyer trying to get some understanding of what the law requires.
I think even if we were to grant
everything you said as just true, that Mr.

Hernandez might say that that is irrelevant because the law prohibits even a single grain of salt in a single drop of water from going to that listed impaired stream from this permitted mining operation; that in its most extreme, that's what it is. They simply cannot discharge any salinity to the stream, because it's already impaired, until the TMDL has been completed.

If that's true, then $I$ don't know that it matters that the mine caused the impairment initially, or that the variability is very great, or that the contribution is very small. It's simply the Department is prohibited from issuing the permit under those circumstances.

If there is no legal basis in that for that, no salt whatever can go from the mine to the stream, and I don't think we have much -- I think you've articulated the way out.

MR. MARTIN: And Mr. Dearment, I think you make a very valid point, that unless there is a statutory constraint, a regulatory constraint, something that says if it's an impaired stream, there can be no further contribution -- and we're not talking about a surface water discharge under the Clean Water Act. You know more about TMDL's
than I'll ever know. This is not that regime. Rather we're required under MSUMRA to assess whether or not there is material damage to the hydrologic balance outside of the permit area. That's the standard. And the fact that we have an impaired stream really shouldn't impinge on that. Let me add. If we were to look at -and it's always dangerous when a pointy-headed lawyer started to stray into technical scientific issues. But if $I$ had to guess, based on my experience with these issues, I'm guessing that a very significant portion of the prairie streams in eastern Montana are impaired for TDS. That's their natural state.

And by the reasoning that we've heard from the MEIC folks, that means that there can basically be no contribution of anything from any surface water discharge. That's a Clean Water Act argument.

I think what they would say is, "Well, that means that there can be no mining at all." If there is even one molecule added to an impaired stream, even if it's impaired naturally, that's prohibited. Simply put, that cannot be what MSUMRA was intended to do.

BOARD MEMBER DEARMENT: I just have one follow-up. I think -- I don't want to speak for him -- but if they're arguing that can't happen until the TMDL has been completed, there would never be a discharge, but there needs to be a plan in place to address the existing impairments before any action could occur that might exacerbate those impairments.

MR. MARTIN: And two responses to that.
One is the obvious, and that is that's a completely different regime that applies to surface water discharges, and doesn't apply in this context. What you're talking about now is water that is not controlled under the Clean Water Act.

And second, $I$ should also say that the one case that addressed this issue, it was the Ninth Circuit in Wild Swan. There the Ninth Circuit said the fact of impairment does not prevent entirely the contribution of any pollutants under the Clean Water Act. That's what the case law says.

Now, that said, you don't need to reach that issue. And again, $I$ can't help but add: Mining had nothing to do with the high levels of

TDS. That's a naturally occurring circumstance in probably the majority of prairie streams in eastern Montana. So it strikes me as a non sequitur. I don't think there's a legal basis for the argument.

MR. LUCAS: Madam Chair, if the
Department could briefly be heard with respect to Board Member Dearment's concerns?

CHAIR DEVENY: Okay.
MR. LUCAS: I think the most important
thing the Board needs to keep in mind is that MEIC, Petitioners, did not even prove contribution, Member Dearment. Their expert failed to calculate any increase in TDS.

So even if contribution did apply as the directed verdict shows us, they didn't even meet that standard. There is no increase. There is no adding more of salt. The impairment --

MR. HERNANDEZ: That's a
misrepresentation. I'd like to have the opportunity to correct that.

MR. LUCAS: Well, it says -- they can correct it as much -- We can sit here all day, and I can point to what the proposed ruling action says.


So what really bothers me is underlying a lot of Mr. Hernandez's arguments are conclusions and evidence that is contradicted by the record, and that's a big problem.

Now, is there a water quality violation in East Fork Armells Creek? The creek itself is not meeting water quality standards. What we're looking at here is whether the mine operating as proposed is designed to prevent that. That's a
very different issue.
Now, the definition of material damage, which keeps getting glossed over, it's not simply that there be a violation of water quality standards, but that be -- and I think I'm quoting the exact language. It probably won't get up there in time -- by mining, by coal mining and reclamation operations. Okay? The stream could be impaired for any number of reasons, but if the violation is not caused by mining, that's not material damage.

So I just wanted to point out one of the underlying assumptions in what he's saying is that material damage is existing. His witness couldn't establish that, the findings don't say that. Please don't make your decision based on his characterization. Analysis is what should guide you. Thank you.

CHAIR DEVENY: Our Court Reporter and everybody needs a break at this point, so we'll come back in ten minutes.

> (Recess taken)

CHAIR DEVENY: Let's reconvene.
Hillary, are you still with us?
MS. HANSON: (No response)

CHAIR DEVENY: Hillary Hanson?
(No response)
CHAIR DEVENY: We seem to have lost Hillary. We'll continue without her.

MS. FORD: I'll send her an email.
CHAIR DEVENY: Mr. Hernandez, you wanted to respond to Mr. Lucas's comments. If you could just keep it to one to two minutes at the most.

MR. HERNANDEZ: Absolutely. Four brief points. There is a question about whether or not the mining would cause an increase. The CHIA is unambiguous. CHIA 99 base flow in EFAC in surface water 55 is predicted to experience a post-mining increase of 13 percent. It's 13 percent. And DEQ is trying to get away from that by saying, "We can piecemeal it and separate out AM4."

OSM in the Alaska Supreme Court says you can't. There is causation here, causing a 13 percent increase. And it's not a molecule. If we advance to -- WECO's own expert said it's going to be 82 tons. The cumulative contribution of salt in this creek that is already impaired with salt from the mine is going to be 82 tons each year.

How long is this going to persist? Ms. Hinz says, Dr. Hinz, tens to hundred of years.

We're not talking about molecules here, we're talking about almost 100 tons of salt every year to a creek that's impaired.

Now, if you accept their argument and say, "Well, we didn't cause the initial impairment," that does that mean? That is a dangerous path that would happen, because then it would mean that as long as a creek is already impaired by any other cause, surface mining can't violate water quality standards. You can just continue to violate it forever.

They can't do that. That's what environmental law has gotten past by saying you have to have a cumulative analysis. It's not a free pass once the water is polluted. They can't get -- If you did that, it would mean the statutes mean nothing.

And finally the question of measurability and significance, that it's just a red herring, it was post hoc information presented by WECO's experts after the fact. And they said actually, when pressed, they said it's measurable. Maybe it's not within the deviation if we take twelve samples. If you take enough samples, you can detect a 13 percent increase in the creek.

Everyone admitted that. That's not disputed. And with that, I'll close.

CHAIR DEVENY: All right. I have a question of DEQ. I kind of need some clarification on the magnitude issue. And my background in science kind of helps me understand the saturation of the alluvium, and the fact that the contribution of the increased runoff through the mining areas is going to continue to keep that saturation up there.

And it appears that -- Mr. Hernandez pointed out that there have been statements that we're not going to have increases in concentrations per se, but the duration of the TDS is going to be for a much longer period.

And can you point me to the place in the statute or the law regarding the material damage, or wherever it is, that says that duration is not to be considered.

MR. LUCAS: No. You have to read -- the definition of material damage is a violation of a water quality standard. The proposed action, as the proposed ruling found, will not violate a water quality standard.

So it's like $I$ can do 80 out there on
15. No Highway Patrolman is going to pull me over and say, "Well, you've been within the bounds of the law. However, you did 80 for five hours." It's a threshold issue, Madam Chair.

If there is no violation of water quality standard, then it does not matter how long there will be a change in TDS from mining. They've complied with the law. Material damage is a violation of a water quality standard. There is no finding that a water quality standard is being violated here. So that's what that is getting at.

And when Signal Peak talked about duration, my predecessor or my predecessor's predecessor made a very bad argument to this Board that, "Well, material damage will happen, but that won't be for 50 years."

That's not the case here. The only evidence here shows that material damage has not happened, will not happened if the project proceeds as proposed. So that's why the duration is a true red herring.

And material damage, the definition talks about magnitude in a manner or to an extent. Those are the words of magnitude. And more importantly, all of the applicable water quality
standards are set forth in terms of concentration. Even the narrative standards say no increase in concentration that would result in "X."

So the duration issue, if it was material, if this CHIA showed that there would be material damage but only for one day, the flip side of that coin, we'd have to deny the permit because it's material damage.

CHAIR DEVENY: Thank you.
BOARD MEMBER DEARMENT: Could I follow up on that, please?

CHAIR DEVENY: Yes.
BOARD MEMBER DEARMENT: I'm trying to figure out how to phrase this, but you focus on exclusively on the water quality standard violation as the definition of material damage; but it clearly says there, "In a manner or an extent that beneficial uses of water are adversely affected."

MR. LUCAS: Correct.
BOARD MEMBER DEARMENT: If the beneficial uses of the water include aquatic life, and they're already impaired, extending that impairment or contributing additional pollutants to that impairment for an additional length of
time is pretty clearly an adverse effect on the aquatic life of that stream.

MR. LUCAS: Well, first of all, they're not contributing additional salt, so you start with that, right? The definition of material damage clearly encompasses beneficial uses.

In this case, Petitioners allege that the beneficial use for aquatic life support would be materially damaged by the mine, and that's why Dr. Hinz in part -- she used multiple lines of physical, chemical, and biological evidence.

Dr. Hinz went and took macroinvertebrate sampling data from 1970, compared it to macroinvertebrate data from 2014 at the mine, and that showed that a diverse community of aquatic insects consistent with what we find elsewhere in eastern Montana streams, and consistent with the diversity that was present in the 1970 , was still using the reach.

So the issue, Member Dearment, isn't whether the stream is impaired. The issue is will the mining cause material damage by violating either a water quality standard, or adversely affecting a beneficial use.

That issue did come up in this case. It
was decided against Petitioners. So we are looking at the beneficial uses, as we know from the Supreme Court case of PUD No. 1 out of Washington, water quality standards consist of designated uses, criteria to support those uses, and anti-degradation policy.

So we are looking at the beneficial use, the issue of the beneficial use did come up, but their witness, their aquatic expert did not conduct a material damage analysis, and that's why the proposed ruling found that their claims of existing water quality violations were limited to the Department's so-called assessment records for $303(d)$ purposes. And none of those found that the mine was the cause of the impairment of aquatic life use in Upper East Fork or Lower East Fork Armells Creek.

So again, you have to have that nexus of caused by mining. And what this does, we have all these other statutes, and we can talk about those, but there are other ways to go about this. I don't want to paint him a path to the door, but they're obviously -- Pinto Creek applies to MPDES permits. They've appealed the MPDES permit to the Supreme Court. All their other remedies, they've
exhausted them.
It's not like the Department doesn't care about East Fork Armells Creek. The undisputed evidence in this case shows that mining is not the cause of impairment, and that continued operation will not result in material damage. Thank you.

CHAIR DEVENY: Mr. Hernandez, if you'd like one more.

MR. HERNANDEZ: One minute. Madam Chair, Board Member Dearment. I don't understand what Mr. Lucas said. He said they're not going to add salt. The CHIA says they're going to add 13 percent more salt. It's already impairing, violating water quality standards by impairing aquatic life. I just don't see how they can get past this.

The only way they can is by taking water quality standards right out of the statute. It just doesn't make sense. It's telling that they then rely on Dr. Hinz's assessment of aquatic life because she's not an expert in aquatic life. She's admitted that. If that's what they're relying on, we win, because she admits she's not an expert on aquatic life.

And moreover, they admit that assessing macroinvertebrates isn't a way to tell the creek is impaired in eastern Montana. It just doesn't make sense. They're already causing harm, causing -- adding more pollution will just cause more harm.

MR. LUCAS: Your Honor, if I may briefly be heard.

CHAIR DEVENY: No, I think we're going to --

BOARD MEMBER TWEETEN: Madam Chair.
CHAIR DEVENY: We've gone around a lot.
BOARD MEMBER TWEETEN: Question for Mr.
Hernandez. That doesn't say mining causes a 13 percent increase. It doesn't say that. It says that it follows post-mining, but it doesn't say that mining is the causative agent for that. It doesn't say that.

MR. HERNANDEZ: But that matter is undisputed in the record. That 13 percent is attributable to mining. And if it's not, I invite Mr. Lucas to clarify that 13 percent was referring to cattle or anything else.

MR. LUCAS: I would have to look at the particular section of the CHIA. If you want me to clarify what is in the record, $I$ would like an opportunity to do that, but $I$ will give you my understanding.

The 13 percent increase is the result of all related mining, including previously permitted mining. That 13 percent was found by the previous CHIA's to not violate water quality standards. AM4, that 13 percent would exist with or without AM4, so that's why I'm taking issue with him saying that AM4 is adding anything, because it doesn't.

And the record again -- This is very frustrating for me because we have actual findings, we did a whole trial on this, and he's over there arguing to you without citing to the record, because the record doesn't support his position.

BOARD MEMBER LEHNHERR: Madam Chair.
MR. MARTIN: May I be heard very briefly? Excuse me, Doctor.

BOARD MEMBER LEHNHERR: Go ahead.
MR. MARTIN: Just very briefly. There
is a bit of confusion $I$ think about this 13 percent. Number one, it's not statistically significant. Number two, this is in the alluvium,
it's not in the surface water. Number three, it's not detectable in the surface water downstream. And then finally the most important point is that it just simply doesn't violate a water quality standard.

Now $I$ can get into the aquatic life issue, but my sense is that the Board wants to for the moment just focus on TDS. Mr. Dearment, would you prefer that $I$ talk about aquatic life as well?

BOARD MEMBER DEARMENT: Why don't you start with TDS.

MR. MARTIN: Okay. Well, $I$ think there is some misunderstanding of what actually occurred with respect to aquatic life. And $I$ understand your point when you say, "Look, TDS has an effect on the critters." The bugs react to elevated levels of TDS.

And as you might imagine, and this is the expert testimony that we heard at trial, prairie streams in eastern Montana have a lot of TDS. Those critters react to it. And the diversity, the numbers of critters is lower in eastern Montana prairie streams than it might be in some other streams.

What we had here was a comparison. The
comparison was first the data from the 1970 s, which is to say pre-mining, and it was a comparison that was done by an expert. It was a report that was required in one of those deficiency notices. It was a report that was referred to in the record as the Arcadis report.

This is not simply Dr. Hinz speculating about what might be the impact on aquatic life. As it turns out, this was done by an expert who actually testified in the hearing.

Peggy Hunter concluded that in fact, the population that you see in East Fork Armells Creek is the standard population that you see in eastern Montana prairie streams, and that there was effectively no difference between the data that she saw in the 1970 s from what she saw when she did her analysis, her survey in 2014.

This is not simply somebody saying, "Well, there are a few critters there, so there can't be an effect on aquatic life." It was scientifically done. It was done in accordance with DEQ protocol. There were experts who conducted this survey, and they concluded that there was no impact on aquatic life.

CHAIR DEVENY: And we know that those
are not the standards that are usually used for eastern Montana streams, but --

MR. HERNANDEZ: In fact --
CHAIR DEVENY: If that's what you were going to say, let's just move on.

MR. HERNANDEZ: Yes. That's it, but other than that, almost everything that my colleague and friend Mr. Martin said was just not accurate. They didn't have an expert analyze bugs. It was Dr. Hinz.

Aleisha, would you please put up my slides? I think the slides are important because the Board has got to look at the record and see what it says, because here -- This was the assessment they did to determine whether or not there was aquatic life in the stream. That's as far as they used that data. Is anything alive? That's what Dr. Hinz testified to.

That is not a scientific assessment. She's not a scientist in aquatic life. She's a wonderful hydrologist, but not a biologist of any kind. This is their assessment of diversity: More than one. That's all they meant. It was not some kind of scientific assessment.

And then as far as Ms. Hunter goes, DEQ
expressly told her not to assess the health of aquatic life in the creek. You indicated to Ms. Hunter not to apply the biological indices of their assessment. They have biological indexes for health of aquatic bugs, which the metrics they used was aquatic life health in eastern Montana streams. They said, "Don't use them."

And that's Ms. Penny Hunter's statement below. "I was instructed not to follow the water quality assessment method," that over and over DEQ said, "Don't look at the science. We don't want a scientific assessment, and we don't want you to actually do an assessment." And for them to come in here and then say, "But we did," it's just not accurate.

And the final point that I'll leave here with is that they talk about this comparison. This is what the CHIA says. It expressly rejects making comparison between the 1970 s data and the 2014 data, because Dr. Hinz, even though she's a hydrologist, and not a biologist, she recognized that these assessments used different methodologies, and if they're using different methodologies, they're not comparable. That's what every expert who testified also said.

So the fact that they're relying on this means they have nothing to rely on. Thank you, Madam Chair.

CHAIR DEVENY: Mr. Dearment.
MR. LUCAS: Madam Chair, if I could be heard in response to that.

CHAIR DEVENY: Mr. Dearment, go ahead.
BOARD MEMBER DEARMENT: Thank you, Madam
Chair. Mr. Hernandez, even if we took for the sake of argument, and assumed that DEQ's macroinvertebrates assessment was valid and correct, isn't it largely irrelevant to your fundamental argument, which is that simply that any discharge by the mine to the impaired stream is unlawful, regardless of the macroinvertebrates, regardless of the magnitude of the discharge, that it's simply protected until the TMDL is complete? Isn't that kind of the heart of what you've been arguing?

MR. HERNANDEZ: Madam Chair, Board Member Dearment. They're distinct claims. They're distinct assessments of water quality standards. They're both wrong, we maintain, and this Board in In Re: Bull Mountain said that $D E Q$ applied the water quality standard that's not
right, that's unlawful under SMCRA.
And here, there's no question -- Mr.
Lucas to his credit said correctly that aquatic life uses, designated uses, are water quality standards. That's the Supreme Court's decision in PUD number whatever 13.

How did they assess growth and propagation of aquatic life in the creek? They said, "Is there anything there?" There is no question that that is not the standard that DEQ uses to assess water quality standards for aquatic life, because it's absurd. If the mere presence of aquatic life were sufficient, water quality standards mean nothing.

CHAIR DEVENY: I'd like to ask Mr. Lucas a question, and that is: If we totally threw out the macroinvertebrates sampling, were there other methods that were used to assess the health of the creek that are -- I'm not asking for something that's outside the record.

MR. LUCAS: Yes, Madam Chair. We cite this in our response to their exceptions. The proposed ruling clearly found that Dr. Hinz and others assessed multiple lines of evidence, physical, chemical, and in the case of the
macroinvertebrates biological data. So there are other grounds, other lines of evidence supporting this conclusion.

But $I$ do want to speak to the continued mischaracterization of what happened here. As we've tried to explain to you, there was a coal program that does MSUMRA, there was a water quality program that implements the Clean Water Act.

Section 303 of the Clean Water Act requires that they go out and they assess the health of streams. Assessing the overall health Of a stream, as our expert Eric Urban explained, and as these findings -- which by the way, you've already adopted -- explained, we don't use macroinvertebrates data to determine overall stream health for 303 (d) listing impairment purposes in eastern Montana, because it's not reliable.

And we did tell Arcadis: "Do not do this quantitative analysis because we're not asking you whether the stream is impaired. We know it is. We want to know the impact of this operation, and to determine that impact, we're going to do an empirical analysis of the biota
that were there in the $1970 s$, and the biota that were there in 2014."

So again, you're being misled with the argument that we told people not to use science. This is why you need to hear from scientists and not lawyers characterizing science. It's a perfect example. The issue is: Is it a reliable method? Yes, but for what? What's the application?

There was an impact assessment that was done under MSUMRA. The water quality division did not want some kind of quantitative analysis because that wasn't the issue. We're trying to protect our methods, and the integrity of the science. And you can't let Petitioners keep blurring the lines.

We put a witness on the stand. You've got paragraph after paragraph of findings explaining to you why we told them not to do a quantitative analysis, to give us the information that Dr. Hinz requested, and how we used that here. And even their own expert agreed that that was an appropriate application of the data for the purposes Dr. Hinz used it on.

So we can sit here all day, and
eventually it will be a question of stamina, because I'm already losing where $I$ am in this ruling. But we have a ruling. Can we please focus on the ruling? And the ruling says what it says, not what Mr. Hernandez wants it to say. Thank you.

MR. MARTIN: May I offer just a supplement to that, Madam Chair?

CHAIR DEVENY: Very briefly.
MR. MARTIN: Very briefly, and I'll
focus on what was actually decided in this hearing.

First Paragraph 177 on Page 46 . Western Energy through Arcadis conducted the aquatic life survey consistent with guidance provided by DEQ regarding the appropriate methodology and protocols, and submitted the aquatic life survey to DEQ on February 2015.

And moving over to Paragraph 188 in connection with DEQ's informed material damage determination, Dr. Hinz appropriately utilized the updated macroinvertebrate sampling data via qualitative analysis as an indicator of whether or not aquatic life was still being supported in EFAC in its current $T D S$ concentration. And recall that
the TDS levels are not a product of mining. Go to Paragraph 190 on Page 50. Dr.

Hinz has concluded that the updated macroinvertebrate survey empirically demonstrated that a diverse community of macroinvertebrates consisting of taxa commonly found in eastern Montana prairie streams was using the stream reach at issue.

193 on the same page, the 2014 Arcadis report shows that EFAC's beneficial use of aquatic life is supported and consistent with natural conditions of ephemeral prairie streams and with historic data.

And then finally, taxa richness was similar to all of the sites sampled along East Fork Armells Creek in the 1970 s, and the 2014 Arcadis report demonstrates similar diversity of the macroinvertebrate community in East Fork Armells Creek. I could go on.

CHAIR DEVENY: Thank you. So have we exhausted our discussion on TDS and material damage, or do Board members want to ask more questions or get more clarification?

BOARD MEMBER HORNBEIN: I actually have a couple more questions. The first one for Mr .

Lucas or perhaps your hydrologic expert. This is really more of a hydrologic question.

You said a number of times that there is no additional salt going into the system, but the way $I$ read the findings of fact was there is in fact additional salt that would be added, but the carrying capacity of the water is such that at a certain level, there just isn't more salt that will dissolve into the water, and therefore increase the concentration.

I just want to make sure that I'm understandingly correctly the way this is working, because no salt being added to the system is a little bit different than there will not be an increase in the concentration of salt.

MR. LUCAS: There won't be an increase in the concentration of salt. That's pretty clear.

The carrying capacity is another example where Petitioners put this in their brief without a citation to the record --

BOARD MEMBER HORNBEIN: I'm only looking at the findings of fact here. I'm not --

MR. LUCAS: Right, but I'm trying to get back to carrying capacity. Where carrying
capacity is discussed, that's not in terms of a surface water $T M D L$ Dr. Hinz discussed carrying capacity with respect to the ability of the ground water to only carry so much salt on its way to contributing base flow to the stream. So $I$ want to be clear about what that carrying capacity issue is.

BOARD MEMBER HORNBEIN: Doesn't that also encompass the 13 percent increase? Is that with reference to the groundwater, or is that with reference to what would be added to the surface water?

MR. LUCAS: I'm glad you asked that question, Member Hornbein, because this is another area where Petitioners have distorted and mischaracterized the record, and we talk about this in our --

CHAIR DEVENY: Just answer the question, please.

BOARD MEMBER HORNBEIN: And for clarification, it's Hornbein.

MR. LUCAS: Hornbein. I apologize.
What the record shows is that Petitioners never prove, although they just assumed, that a 13 percent increase in the alluvial translates to a

13 percent increase in the stream.
The proposed ruling in fact finds that they did not establish that it's a one-to-one 13 percent in the alluvium equals 13 percent in the steam. And that was all based on what happened at trial.

There -- and I'm going to have to look for this since you've asked this specific question. Petitioners' experts failed to calculate an increase in salinity in EFAC as opposed to the alluvium. That's at Page 36, Finding of Fact 125, Page 39, Finding of Fact 143.

Groundwater base flow from the alluvium to EFAC is actually insignificant -- and now I'm going to quote the proposed ruling -- which means that, quote, "TDS levels in EFAC will not be significantly impacted by groundwater TDS levels associated with the AM4 permit."

So it's important to note that the only evidence we have shows that while the alluvium will increase by 13 percent, which again is well within the nature and range of natural variability and indistinguishable in the alluvium, it will only be a minor contribution of base flow from the alluvium to the stream.

So you just can't say 13 percent in the alluvium equals 13 percent in the stream. I tried to lay that out in my response to their exceptions. And all I'm doing is citing what the proposed ruling says. So I'm sorry I keep going back to that, Madam Chair, but this is --

CHAIR DEVENY: NO, I don't mind. I just don't want the editorializing.

MR. LUCAS: What this is is exactly what lawyers are not supposed to do. We're not supposed to multiply proceedings. You're supposed to work in a proceeding, and the issues are supposed to get narrower and more refined.

Everything you're dealing with here is obfuscation and mischaracterization. This is what I started with in my opening statement here. This is not respecting the science. This is someone trying to tell you that a proposed ruling says something that it doesn't.

And if you guys are okay with that, I understand you're impartial, you're independent, you must have the judicial temperament. Maybe it just looks a little bit more aggravated from where I sit. But it is a big problem, and it's prejudicial, and it needs to please come to an
end. I'll answer any question you have, but the record is the record, and it's not what you're being told.

BOARD MEMBER LEHNHERR: Madam Chair.
I'm just looking for a little bit of clarification. We're talking about an amendment that would increase the amount of minable acres in Area B. Is Area B currently being mined?

MR. LUCAS: I would have to --
MR. MARTIN: Dr. Lehnherr, I think $I$ can answer that question.

MR. LUCAS: Yes, it is currently being mined.

MR. MARTIN: The answer is yes.
MR. LUCAS: This is an increase of 49 acres of that area.

BOARD MEMBER LEHNHERR: Thank you.
CHAIR DEVENY: So Board, what's your pleasure with the $T D S$ and material damage conclusions of law? Are we wanting to stick with the finding of the Hearings Officer, or have you been convinced that we should make some changes to any of these?

BOARD MEMBER BUSBY: I think the Hearing Officer's conclusions of law are at least
consistent with the facts as we've approved them.
BOARD MEMBER TWEETEN: Madam Chair,
could $I$ suggest that we simply proceed through the numbered paragraphs, and just consider them one at time, and cumulatively as we go through. It seems to me the most orderly way to start addressing this. We've already done 18.

CHAIR DEVENY: We've done 18 , so we're going to start at 19 , starting at Page 82 of the hard copy $I$ have, and it's probably a different number on the electronic copy.

BOARD MEMBER LEHNHERR: 235.
CHAIR DEVENY: 235.
BOARD MEMBER LEHNHERR: Of the agenda packet.

CHAIR DEVENY: No. 19.
BOARD MEMBER TWEETEN: For purposes of discussion, $I$ move we adopt 19.

BOARD MEMBER BUSBY: I'll second that.
CHAIR DEVENY: It's been moved and seconded. Is there any further discussion by the Board?

BOARD MEMBER TWEETEN: Well, Madam Chair, this is really one of the ultimate questions of law in this case, which is whether
the company's met their burden before the Department of demonstrating in their application that the hydrologic consequences and cumulative hydrologic impacts will not result in material damage to the hydrologic balance outside of the permit area.

I'm convinced that this is an accurate conclusion. I guess I think that there is an implicit causation requirement in this statutory language, because it uses term "result," "will not result in," and that implies a cause and effect relationship.

And I'm convinced that the findings of fact support the conclusion that the amendment that's being permitted here will not result in material damage outside the permit area, as material damage is defined in the statute.

I don't think the cause and effect relationship has been shown here. In fact, to the contrary, $I$ think the findings of fact support the conclusion that the cause of whatever incremental increase there is in TDL's in the stream is predominantly something other than the mining project.

And $I$ think we've heard discussion about
this at length today. The nature of Armells Creek is that it's an ephemeral prairie steam, and it looks like every other ephemeral prairie stream in eastern Montana for the most part, including those that are not located anywhere near a coal mine, because increased salt deposits in the stream are endemic to eastern Montana streams.

They exist all over eastern Montana regardless of whether there is any mining activity close by. And $I$ think the findings of fact make that finding, and $I$ think this conclusion flows from that. So I'm convinced that this is an accurate conclusion of law.

CHAIR DEVENY: Other Board members opinions?

BOARD MEMBER DEARMENT: I would -- Madam Chair, Chris -- add that $I$ tend to agree with all of that, with one possible exception as a matter of law, as $I$ characterize MEIC's argument, is that any contribution of a pollutant to a listed stream in the absence of a TMDL is essentially in itself by definition material damage.

If that's not correct as a matter of
law, and $I$ think we've heard from $D E Q$ and $M r$. Martin that they certainly don't think it is, but
if the Pinto case doesn't apply, and that perhaps MEIC has overstepped, then $I$ agree with everything Mr. Tweeten said, again, with that possible assumption. I'm not sure how else to resolve that with the conversation we've already had.

CHAIR DEVENY: I'm still struggling with the duration issue, but $I$ do think our findings of fact that we've approved have sort of led us to this conclusion.

BOARD MEMBER HORNBEIN: I also struggle with the duration issue, but $I$ can't find any authority that supports incorporating that into an analysis of water quality violation has occurred.

The other thing I'm really struggling with still, but the more $I$ read it, the more $I$ think that the intent is clear in the statute, is the argument that Mr. Hernandez was making that at the end of the definition for material damage in 82.4.203(31), it basically says that any water quality violation is material damage.

At the same time it is clear from the first part of that definition that it's anticipating damage caused by mining, and $I$ can't get away from that, even though the argument you're making makes intuitive sense to me. When $I$
read that, especially in combination with the language in 82.4.227(3)(a), I think it's pretty clear that the statutory intent here is looking at it within the mining picture.

And if there is already an impairment, there is a process for dealing with that through an alternative statutory process. I just can't quite see how you can layer those two things together. So it's not a comfortable decision for me, but that's where $I$ 'm coming down on it.

CHAIR DEVENY: Any other Board members want to make any comments, or have further discussion, before we take a vote on the motion to approve the Conclusion of Law No. 19?
(No response)
CHAIR DEVENY: Hearing none, all those in favor of Conclusion of Law No. 19, please signify by saying aye.
(Response)
CHAIR DEVENY: All those opposed.
(No response)
CHAIR DEVENY: Hillary, did we get your vote?

MS. HANSON: Yes, $I$ was in favor.
CHAIR DEVENY: Thank you.

MR. LUCAS: Madam Chair, if I may. CHAIR DEVENY: Excuse me. The motion carries.

MR. LUCAS: You weren't voting on 18 ? $I$ guess I misunderstood.

CHAIR DEVENY: We already voted on 18.
MR. LUCAS: All right. I'll stop there.
CHAIR DEVENY: Moving on to 20. I think
21 and the rest of the material damage section probably all fall if we approve 19. I think it's pretty hard for us to not approve 20, 21 , and 22. Let me give you a chance to read it.

BOARD MEMBER TWEETEN: Madam Chair, I move that we approve Conclusions 22 through 27 inclusive, for those same reasons that we've discussed with respect to 21 .

CHAIR DEVENY: I'll second it. Is there discussion on that?
(No response)
CHAIR DEVENY: Seeing nobody raising their hand, we'll have a vote on numbers 20 through 27; is that correct?

BOARD MEMBER TWEETEN: Yes.
CHAIR DEVENY: All those in favor of approving Conclusions of Law 20 through 27 ,
signify by saying aye.
(Response)
CHAIR DEVENY: Any opposed?
MS. HANSON: Aye.
CHAIR DEVENY: Hillary, what was your
vote? Hillary, we didn't get your vote.
MS. HANSON: I'm in favor.
CHAIR DEVENY: Thank you. The next section has to do with East Fork Armells Creek impairment, and this goes on through No. 38. Let's take a minute to read through there and see if we can handle this as a group, or if we want to take them one by one, we can. Are Board members ready to make a motion?

BOARD MEMBER TWEETEN: Madam Chair, I move that we approve Conclusions of Law 28 through 38 inclusive.

CHAIR DEVENY: It's been moved that Conclusions of Law 28 through 38 be approved. Is there a second?

BOARD MEMBER BUSBY: Second.
CHAIR DEVENY: Any discussion?
(No response)
CHAIR DEVENY: All those in favor, please signify by saying aye.
(Response)
CHAIR DEVENY: Any opposed?
(No response)
CHAIR DEVENY: Motion carries. Let's move on to TDS. I believe we're not addressing -I'm sorry. I think we can take TDS, nitrogen, and aquatic life together. What's the Board pleasure here?

BOARD MEMBER BUSBY: Do you want to make a motion on that?

CHAIR DEVENY: Do you?
BOARD MEMBER BUSBY: I will. I move that we approve the three separate items here, TDS, nitrogen, and aquatic life --

BOARD MEMBER TWEETEN: Madam Chair.
BOARD MEMBER BUSBY: -- in their entirety.

BOARD MEMBER TWEETEN: I'll second the motion.

CHAIR DEVENY: Discussion on this motion?

BOARD MEMBER TWEETEN: Madam Chair. The provision on $T D S$ incorporates the discussion section by reference, and that requires us to look at the issue that we punted for the moment a
couple hours ago about the burden of proof language that's in the discussion section.

And the two instances that $I$ was able to find in the discussion section were on Page 65, and if you look eight lines from the bottom paragraph, it starts, "Therefore." It says, "Therefore the Conservation Groups have the burden to show by a preponderance of the evidence that DEQ had information available to it at the time of issuing the permit that indicated issuing the permit could result in material damage."

And this, if $I$ understand the prior argument correctly, the use of the word "could" there is problematic. So I see Mr. Lucas is chomping at the bit here, so I'll --

MR. LUCAS: I am, but the bit's wearing out today, and I apologize. Madam Chair, Member Tweeten. It appears from where $I$ sit that the discussion section is broken up into Section $A$ burden of proof, Section $B$ TDS and everything else.

BOARD MEMBER TWEETEN: Oh, I see.
MR. LUCAS: So it might be you could.
And that is expressly incorporated by reference in Section $B$ of the discussion.

BOARD MEMBER TWEETEN: Excellent. Thank you. You're correct. So $I$ withdraw my comment. CHAIR DEVENY: Do we have any problems with the discussion section in the findings of fact and conclusions of law Section $B$ on TDS material damage?

MR. MARTIN: Madam Chair, just a minor point. Toward the bottom of Page 71 there is language that $I$ think might be changed, if $I$ understood the Board's previous ruling.

CHAIR DEVENY: Could you speak up a little bit. I'm having a hard time hearing you.

MR. MARTIN: I apologize. I could have pushed the button. Sorry. Here's the sentence, Madam Chair, and Member Tweeten. It's toward the bottom of Page 71. It reads, "However,

Conservation Groups fail to provide sufficient evidence even to make this hypothesis into a more likely than not possibility."

I believe if we change that word to "probability," it would conform with the Board's previous ruling.

We find the same issue on Page 76, and it begins with the word "ultimately." "The burden of proof in this action falls to Conservation

Groups to present a more likely than not possibility that a water quality standard could be violated by the permitted action."

Again, if we were to change the word "possibility" to "probability," I think it would conform with the Board's ruling. Thank you.

CHAIR DEVENY: So we have a motion before us to approve $39,40,41,42$, and 43 as is; but it sounds like we would be more consistent if we could either delete the language in Subsection B, or change it as has been proposed.

BOARD MEMBER TWEETEN: Madam Chair, I move an amendment to the existing motion.

CHAIR DEVENY: Go ahead, Chris.
BOARD MEMBER TWEETEN: In Subsection B of the discussion section on Page 71, three lines from the bottom, the line that begins "likely than not," that we strike the word "possibility" and insert the word "probability."

And then on Page 76, again three lines from the bottom of the text that exists above Footnote 5, we strike the word "possibility" and insert the word "probability."

And with those amendments, we then make one further change in Paragraph 39 of the
conclusions of law on Page 88, two lines from the bottom of the page. After the word "above," we insert the words, "As amended by the Board," comma. So that's the extent of my proposed motion.

CHAIR DEVENY: Dexter, are you amenable to the amendment to your --

BOARD MEMBER BUSBY: I am, and I would second his amendment.

CHAIR DEVENY: The motion and the amendment have been moved and seconded. And I guess we'll vote first on the amendment.

BOARD MEMBER HORNBEIN: I have an additional comment for whatever it's worth. So the standard in Paragraph 39, "The Conservation Groups failed to present evidence necessary to establish the facts essential to a determination that the AM4 permit will cause material damage" is not the same as what is articulated on Page 76, even taking into account the change we're about to vote on, which states, "Ultimately the burden of proof in this action falls to Conservation Groups to present a more likely than not probability --" with the change proposed -- "that a water quality standard could be violated by the permitted
action." Those are two different standards. CHAIR DEVENY: Good point. So let's figure out a way to change that, and make them fit without causing additional issues.

BOARD MEMBER HORNBEIN: Madam Chair, if
I could. I would just add -- and this is based entirely on my reading of the statute and the agency's own regulation, which basically says to paraphrase that they cannot approve a permit basically unless it will not cause material damage.

I don't think that -- if we're going to include that, and I'm not sure if we are going take that into account because the changes we already made to Paragraph 18, which $I$ voted against for this specific reason because it doesn't take the regulation into account.

If we were going to take the language of the regulation into account, $I$ don't think that we can then flip and require the Petitioner to prove with certainty that damage will occur, if that makes sense.

So that was the basis for my not voting for the amendment to 18 , and $I$ probably won't vote this one based on the same thing.

BOARD MEMBER TWEETEN: All right. Let's fix this.

CHAIR DEVENY: Do we need to have the discussion in here at all? I guess that doesn't necessarily fix the "will cause" issue, however. BOARD MEMBER BUSBY: Sarah, could we amend --

MR. MARTIN: May it please the Board. CHAIR DEVENY: Dexter, did you have a question of Sarah?

BOARD MEMBER BUSBY: Could we amend 39 just to remove the section, the discussion section?

MS. CLERGET: Yes, you can.
BOARD MEMBER BUSBY: Would that change the legal ruling at all?

MS. CLERGET: I don't think that addresses -- Well, it will not -- If you withdraw the reference to the discussion section, it doesn't change the ultimate conclusion, but it also keeps the "will cause" language.

CHAIR DEVENY: It doesn't address Melissa's concern.

BOARD MEMBER BUSBY: That doesn't address her concern.

MR. MARTIN: Madam Chair.
BOARD MEMBER TWEETEN: Madam Chair, I'd like to withdraw my prior motion to amend at least in part. Well, actually $I$ guess I'd like to move to amend my prior motion to amend, because I don't want to change it all. Particularly $I$ don't want to change the parts on Pages 71 and 76 .

But what $I$ would suggest -- and Melissa, please let me know if this solves the problem -if we amend Paragraph 39 on Page 88 by striking everything after "Conservation Groups failed to" in the second line through "EFAC" in the second line on the next page, and amend it to read, "Conservation Groups failed to sustain their burden to show that issuance of the permit would be unlawful," period, and I'd put in the citations. We'd used that idea at least once before, so --

CHAIR DEVENY: Specific to TDS?
BOARD MEMBER TWEETEN: Yes. I don't think we used it specifically for TDS, but --

CHAIR DEVENY: But I mean do we need to do that because it's specific to TDS?

BOARD MEMBER TWEETEN: Right. I think that's right. And it takes out the objectionable
burden of proof language altogether. I don't think there is any dispute that the burden to show that the issuance of the permit would be unlawful rests with the Petitioners, MEIC.

So if we say "Conservation Groups failed to sustain their burden to show," it's still a good conclusion of law $I$ think, but it works around the --

CHAIR DEVENY: Are we doing this for nitrogen and aquatic life as well? Because the same language is there. I asked Chris if we were going to apply that same language to nitrogen and aquatic life as we are to the TDS, as we would to the TDS section, because it's also included there. MR. LUCAS: Madam Chair, may the Department offer a hopefully helpful suggestion?

CHAIR DEVENY: Yes, please.
MR. LUCAS: Going back to 39, leaving it as it is, "Conservation Groups failed to present the evidence necessary to establish facts essential to a determination that the AM4 permit is not designed to prevent material damage." Now you've got the statutory language in there. That's really what they need to show by a preponderance of the evidence, based on your
change to Conclusion of Law No. 12.
And I hope it addresses Member
Hornbein's concerns, because $I$ don't think we've ever argued, and we would not support a burden of proof that they had to show that something will happen. That's the opposite side of the coin than what we've argued.

But $I$ think if you again focus on the design standard, it might be the simplest way to fix it. Thank you.

CHAIR DEVENY: I'd like to ask our Legal
Counsel if that language would be acceptable, an acceptable change to a conclusion of law, or is that --

MS. CLERGET: It's your conclusion of law. You get to change it however you want. BOARD MEMBER TWEETEN: I actually like that.

CHAIR DEVENY: I do, too.
BOARD MEMBER BUSBY: That works for me.
BOARD MEMBER HORNBEIN: So it doesn't alleviate my concern, and the reason $I$ voted against the change to Conclusions of Law No. 18. It does address the issue that Mr. Lucas raised, which I believe was the impermissible shifting of
a burden to the petitioner to show that something will happen.

So I'm going to vote for it because the Board voted for the changes to 18 , and this is consistent with that, but $I$ just maintain my objection to what we did to 18 .

CHAIR DEVENY: Are there any other questions or discussion of anybody?
(No response)
BOARD MEMBER TWEETEN: So my amended motion to amend would include the amendments to Pages 71 and 76 as previously discussed; and then would modify Conclusions of Law 40, 41, and 42, as suggested by Mr. Lucas, which would make 39, for example, read "Conservation Groups failed to present evidence necessary to establish the facts essential to a determination that the AM4 permit was not designed to prevent material damage to the hydrologic balance outside the permit boundary by increasing TDS levels in EFAC."

Is that the essence of yours?
MR. LUCAS: I'd say that captures it.
BOARD MEMBER TWEETEN: Then in 40, I
would make a similar change after "AM4 permit" in the second line of 40 , so it would read,
"Essential to a determination the AM4 permit was not designed to prevent material damage," and the rest of the paragraph would remain the same.

MR. LUCAS: Yes.
BOARD MEMBER TWEETEN: Then in 42, we would make a similar change in the second line of 42. After "AM4 permit," it would read, "The determination that the AM4 permit was not designed to prevent material damage to aquatic life use of EFAC." So that gets us through all three of those subsections.

CHAIR DEVENY: Is everybody clear on the amended motion, and then the motion that's before the Board?

Let's vote first then on the amended motion. All those in favor, please signify by saying aye.
(Response)
CHAIR DEVENY: All those opposed.
(No response)
CHAIR DEVENY: Motion carries. Now we will vote on the -- or have further discussion, if there is, on the motion to adopt Conclusions of Law 39, 40, 41, and 42. Did you just go through 43? I think it was just --

BOARD MEMBER BUSBY: Yes.
CHAIR DEVENY: Did it go through 43 as well?

BOARD MEMBER BUSBY: 43.
CHAIR DEVENY: Okay. Through 43. Do members have discussion on the motion before us? (No response)

CHAIR DEVENY: All those in favor, signify by saying aye.
(Response)
CHAIR DEVENY: All those opposed.
(No response)
CHAIR DEVENY: All right. So all we have left now is the recommended decision Conclusions of Law No. 44. Does the Board have discussion on this point, or wish to entertain a motion?

BOARD MEMBER TWEETEN: Madam Chair.
CHAIR DEVENY: Chris.
BOARD MEMBER TWEETEN: I move that the Board adopt as its own decision the Hearing Examiner's recommended decision as stated in Paragraph 44, Conclusions of Law 44, and the "therefore it is ordered" Sub(a) and (b) paragraphs found on Page 90 of the Hearing

Examiner's proposed decision.
CHAIR DEVENY: I would like to ask, before anybody seconds that -- and it's just a point of matter. We were going to go through and take out the discussion of burden of proof out of the discussion section of the conclusions of law and findings of fact. Can we do that before --

BOARD MEMBER TWEETEN: Sure. I'll withdraw that motion, and I'll make this one instead.

Madam Chair, I move that with the exception of Subsection (b) of the discussion section the Board remove from its decision -excuse me. Strike that -- the Board decline to adopt the discussion section of the proposed decision of the Hearing Examiner set forth in the discussion section of the proposed decision.

CHAIR DEVENY: I would second that. Is there discussion about removing that from our conclusions?

BOARD MEMBER BUSBY: The entire discussion section?

BOARD MEMBER TWEETEN: With the exception of (b).

BOARD MEMBER BUSBY: Okay.

CHAIR DEVENY: It's --
BOARD MEMBER TWEETEN: We've already incorporated (b) by reference, so $I$ don't want to keep that.

CHAIR DEVENY: Any other questions for clarification or discussion?
(No response)
CHAIR DEVENY: Hearing none, all those in favor of the motion before the Board signify by saying aye.
(Response)
CHAIR DEVENY: All those opposed.
BOARD MEMBER HORNBEIN: Nay.
CHAIR DEVENY: Motion carries. Now we'll move on to No. 44.

BOARD MEMBER TWEETEN: Madam Chair, I move that the Board adopt as its decision the recommended decision of the Hearing Examiner found in Conclusion of Law 44 on Page 90 of the Hearing Examiner's proposed decision, and that the Board adopt as its order the provisions of the "therefore it's ordered" paragraph, including subparagraphs (a) and (b), of the Hearing Examiner's proposed decision found on Page 90. CHAIR DEVENY: There is a motion before
the Board. Is there a second?
BOARD MEMBER BUSBY: I'll second it.
CHAIR DEVENY: It has been seconded. Is there discussion? David.

BOARD MEMBER LEHNHERR: Madam Chair, I just wanted to go on the record to say something in response to Board Member Tweeten's comments.

Looking at the information, $I$ think it's not clear where the degradation in EFAC comes from, but $I$ don't think there is evidence that says that mining has not contributed to the degradation. I just don't want an assumption being made by everyone that mining could not contribute to that degradation. I just wanted to add that to the record. Thank you.

CHAIR DEVENY: Other comments by members of the Board?

BOARD MEMBER HORNBEIN: I just wanted to reiterate that $I$ believe that the burden of proof definitions that we have adopted have impermissibly read out of the statute the agency's regulation, which $I$ don't believe is inconsistent with the statutory language.

Having said that, because a majority of the Board voted to adopt that burden of proof
language, $I$ will ultimately vote to adopt the resolution articulated in Paragraph 44, but I just want to be clear on that point.

CHAIR DEVENY: Any other Board members have comments?

BOARD MEMBER LEHNHERR: I would just ask that we get these revisions printed out as soon as soon as possible for our review.

MS. CLERGET: Yes. It will probably be Monday.

BOARD MEMBER LEHNHERR: Thank you.
CHAIR DEVENY: Any other comments, discussion points, questions from Board members before we vote on No. 44?
(No response)
CHAIR DEVENY: All those in favor of the motion before us to approve Conclusion of Law No. 44, please signify by saying aye.
(Response)
CHAIR DEVENY: All those opposed.
(No response)
CHAIR DEVENY: Motion carries.
MS. CLERGET: The rest of the agenda.
CHAIR DEVENY: So with that, we'll move to the rest of the agenda. I want to thank the
parties for their time, and their indulgence, and their professionalism in being here today, and working together on this case, and $I$ have a feeling we might see you all again.
(The proceedings were concluded
at 4:06 p.m.)

*     *         *             *                 * 

$\begin{array}{lllllllllll}C & E & R & T & I & I & C & A & T & E\end{array}$
STATE OF MONTANA

COUNTY OF LEWIS \& CLARK )
I, LAURIE CRUTCHER, RPR, Court Reporter, Notary Public in and for the County of Lewis \& Clark, State of Montana, do hereby certify:

That the proceedings were taken before me at the time and place herein named; that the proceedings were reported by me in shorthand and transcribed using computer-aided transcription, and that the foregoing - 216 - pages contain a true record of the proceedings to the best of my ability.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal
this $\qquad$ day of $\qquad$ , 2019 .

LAURIE CRUTCHER, RPR
Court Reporter - Notary Public
My commission expires
March 9, 2020 .

|  | 142:12, | 112:11, | 186:9, | 198:10, |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 143:15, | 112:15, | 186:16 | 198:17, | 5 |
| 1[5] 28:19, | 148:21, | $118: 2$, $131: 10$, | 2015[3] | $198: 19$ $39[11]$ | 5 [21] 28:19, |
| 126:20, | 148:25, | 131:20, | 160:11, | 139:9, | 66:7, |
| 136:12, | 149:1, | 131:21, | 185:18 | 139:23, | 107:17, |
| 136:23, | 149:16, | 131:22, | 2016 [2] | 189:12, | 107:21, |
| 173:3 | 149:18, | 131:24, | 34:19, 34:19 | 202:8, | 108:3, |
| 1,000-46:5 | 150:8, | 132:7, | 2016-03SM - | 202:25, | 108:7, |
| 10[2] 94:2, | 155:24, | 132:10, | 1:4 | 203:15, | 108:14, |
| 94:13 | 159:5, | 134:21, | 2018-66:5 | 205:11, | 108:20, |
| 10,000 - | 167:14, | 135:22, | 2019 [2] | 206:10, | 109:15, |
| 63:11 | 167:14, | 135:24, | 1:14, 217:17 | 207:18, | 109:19, |
| 100 [8] | 167:18, | 136:2, | 2020-217:22 | 209:14, | 110:3, |
| 33:24, | 168:25, | 136:4, | $21[3] 197: 9$, | 210:24 | $110: 5$, |
| 58:17, | 174:13, | 139:4, | 197:11, |  | 131:10, |
| 99:17, | 175:14, | 139:4, | 197:16 | 4 | 131:13, |
| 142:24, | 175:20, | 139:21, | 210-29:3 |  | 136:14, |
| 143:3, | 175:22, | 192:7, | 216-217:12 | 4 [3] 15:4, | 137:8, |
| 146:6, | 176:4, | 192:8, | 22 [2] | 136:12, | 137:10, |
| 150:20, | 176:6, | 197:4, | 197:11, | 136:23 | 137:11, |
| 168:2 | 176:8, | 197:6, | 197:14 | 4-4-623 - | 137:13, |
| 103-2:4 | 176:23, | 204:15, | 227 [2] | 103:4 | 137:16, |
| 10:30-1:15 | 182:6, | 204:24, | 124:16, | 4-5-1-81:21 | 202:22 |
| 11 [3] | 188:9, | 208:23, | 124:17 | 40 [5] 202:8, | 50 [2] |
| 137:11, | 188:24, | 209:4, 209:6 | 227(3)(a- | 209:13, | 170:16, |
| 137:13, | 189:1, | 188-185:19 | 144:19 | 209:23, | 186:2 |
| 137:16 | 189:3, | 19[6] 192:9, | 23[2] 90:6, | 209:25, | 500 [2] |
| 111-1:11 | 189:4, | 192:16, | 91:8 | 210:24 | 33:22, 58:14 |
| 12 [28] | 189:21, | 192:18, | 233[2] 52:2, | 400 [2] 4:6, | 54[2] 22:22, |
| 109:3, | 190:1, 190:2 | 196:14, | 109:11 | 31:21 | 28:6 |
| 109:9, | 14 [4] | 196:17, | 235 [2] | 402-26:14 | 55 [2] |
| 109:14, | 115:17, | 197:10 | 192:12, | 405(6- | 148:20, |
| 109:20, | 134:19, | 190-186:2 | 192:13 | 152:20 | 167:13 |
| 110:3, | 134:24, | 193-186:9 | 25[5] 28:22, | 41 [3] 202:8, | 59601-2:5 |
| 110:5, | 138:9 | 1970-172:13 | 46:3, 60:5, | 209:13, | 59620-2:9 |
| 112:11, | 143-189:12 | 1970 [8] | 85:7, 85:14 | 210:24 | 5:00 [5] 5:2, |
| 112:11, | 15[3] 138:8, | 41:12, | 250-55:12 | 42 [6] | 5:5, 5:6, |
| 115:13, | 149:25, | 46:24, | 251-55:12 | 139:25, | $5: 7,5: 12$ |
| 115:24, | 170:1 | 172:18, | 260-32:18 | 202:8, |  |
| $116: 3$, $116: 7$ | 1520-1:12 | 178:1, | 26th - 66:5 | 209:13, | 6 |
| 116:7, | 16 [3] | 178:16, | 27[4] 95:4, | 210:5, |  |
| 118:2, | 149:25, | 180:19, | 197:14, | 210:7, | 6[8] 23:9, |
| $131: 10$, $131: 15$, | 149:25, | 184:1, | 197:22, | 210:24 | 54:5, 55:9, |
| $131: 15$, $131: 16$, | 152:13 | 186:16 | 197:25 | 43 [5] 202:8, | 103:5, |
| 131:16, | 163-94:13 |  | 28[3] 85:10, | 210:25, | 111:16, |
| 132:7, | 167 [2] | 2 | 198:16, | 211:2, | 114:13, |
| 132:10, | 28:18, 28:22 |  | 198:19 | 211:4, 211:5 | 120:22, |
| 134:17, | 17[6] 28:22, | 2-128:2 |  | 44 [8] | 128:24 |
| 135:25, | 51:21, | 2-2-154:16 | 3 | 211:15, | 6,500-82:12 |
| 136:1, | 94:20, | 2-3-154:16 |  | 211:23, | 6-23-4 - |
| 136:2, | 138:18, | 2-4-154:16 | 3-148:20 | 211:23, | 97:14 |
| $136: 6$, | 150:10, | 2-4-621(3- | 3)(a [2] | 213:15, | 65 [2] 118:3, |
| 137:5, | 152:13 | 8:19 | 129:3, 129:4 | 213:19, | $200: 4$ |
| 137:10, | 17-24-405 [3] | 20 [4] 197:8, | 303-183:10 | 215:2, | 66-118:4 |
| 137:11, | 111:15, | 197:11, | 303(d [2] | 215:14, | 67-157:7 |
| 138:2, 208:1 | 114:13, | 197:21, | 173:14, | 215:18 | 68-2:14 |
| 1200 [2] | 115:2 | 197:25 | 183:17 | 46-185:13 |  |
| 35:1, 88:11 | 17.24.301(32 | 2005-48:2 | 31-1:14 | 49-191:15 | 7 |
| 125-189:12 | - 28:3 | 200901-2:9 | 33-94:21 | 4:06-216:6 | 7 |
| 12:30-64:22 | 17.24.301.(31 | 2014 [7] | 36-189:11 | 4:45 [2] 5:8, | 7-55:9 |
| 13 [36] | -82:1 | 46:25, | 38[8] 41:6, | 5:9 | 7.1-30:24 |
| 15:22, | 177-185:13 | 172:14, | 125:19, |  | 70-148:3 |
| 51:21, | 18 [29] | 178:17, | 125:24, |  | 71 [6] 118:4, |
| 107:18, | 109:21, | 180:20, | 126:13, |  | $201: 8 \text {, }$ |
| 138:18, | 109:23, | 184:2, | 127:10, |  |  |


| 201:16, | 70:21, 86:9, | acknowledgment | 32:18, | 165:7, | 43:7, 43:15, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 202:16, | 127:4, | - 121:19 | 45:15, 85:5, | 205:22, | 169:1, |
| 206:7, | 159:16, | acre - 82:12 | 107:4, | 205:25, | 174:23 |
| 209:12 | 200:3 | acres [2] | 136:14, | 208:24 | admittedly |
| 73-23:9 | absence - | 191:7, | 136:18, | addressed | 45:20 |
| 76 [5] | 194:21 | 191:16 | 142:4, | [22] 16:5, | adopt [16] |
| 201:23, | absolute [3] | acronym - | 148:22, | 16:8, 18:1, | 8:25, |
| 202:20, | 115:2, | 12:11 | 150:9, | 26:4, $30: 16$, | 101:21, |
| 203:19, | 115:4 | acronyms [2] | 162:7, | 46:20, 54:2, | 108:2, |
| 206:7, | 117:10 | 11:20, 12:6 | 163:24, | 60:10, | 133:1, |
| 209:12 | absolutely [5] | Act [29] 12:8, | 174:13, | 60:12, | 133:3, |
| 78-108:4 | 11:14, 81:2, | 12:13, | 174:13, | 75:24, 77:6, | 133:24, |
|  | 152:6, | 12:20, | 194:17, | 89:9, $91: 24$, | 134:1, |
| 8 | 160:1, 167:9 | 12:22, | 204:6, | 95:5, 98:2, | 137:16, |
|  | absurd - | 16:22, 17:3, | 214:15 | 100:8, | 192:18, |
| 8-51:7 | 182:12 | 17:19, 18:8, | added [5] | 100:9, | 210:23, |
| 80 [6] 51:20, | abundance - | 18:13, | 142:18, | 113:5 | 211:21, |
| 51:25, 52:7, | 152:2 | 26:11, | 162:22, | 125:17, | 212:15, |
| 109:11, | accept [9] | 26:14, 27:2, | 187:6, | 139:12, | 213:17, |
| 169:25, | 8:24, 9:3, | 44:21, 57:5, | 187:13, | 154:8, | 213:21, |
| 170:3 | 102:6, | 57:5, 58:7, | 188:11 | 163:17 | 214:25, |
| 82 [3] | 102:9, | 58:8, 58:11, | addendum [4] | addresses [8] | 215:1 |
| 167:21, | 105:1 | 58:12, | 33:24, | 62:5, | adopted [4] |
| 167:23, | 105:24, | 141:20, | 54:18, | 117:15, | 105:4, |
| 192:9 | 136:12, | 153:5, | 83:22, 86:5 | 121:6, | 138:11, |
| 82.4.203(31 | 155:8, 168:4 | 153:9, | adding [15] | 125:20, | 183:15, |
| [2] 147:20, | acceptability | 153:11, | 13:6, 13:20, | 139:18, | $214: 20$ |
| 195:19 | [2] 33:18, | 161:25, | 15:20, | 140 | adopting [3] |
| 82.4.227 - | 57:10 | 162:18, | 26:17, 45:9, | 205:18, | 106:19, |
| 111:12 | acceptable [2] | 163:15, | 100:4, | 208:2 | 106:21, |
| 82.4.227(3)(a | 208:12, | 163:21, | 139:16, | addressing [2] | 136:22 |
| -196:2 | 208:13 | 183:9, | 142:11, | 192:6, 199:5 | adoption [2] |
| 82.4.227(a)(3 | accepted - | 183:10 | 142:12, | adequacy - | 133:19, |
| - 124:10 | 159:1 | acted - 27: | 148:25, | 105:12 | 138:17 |
| 83001-2:14 | accepting [2] | action [15] | 151:13, | adequately [5] | advance [2] |
| 88[2] 203:1, | 73:23, | 6:21, 9:1, | 153:13, | 59:4, 59:10, | 46:9, 167:20 |
| 206:10 | $102: 15$ | 9:14, 10:11, | 164:18, | 62:21, | advantage [5] |
|  | access [2] | 10:13, | 175:5 | 70:15, | 62:23, 64:7, |
| 9 | 85:15, 85:16 | 10:20, | 176:10 | 113:21 | 68:11, 71.24 |
|  | accommodate |  | additional | adjourn-72:4 | 71:16, 71:24 |
| 9-217:22 | $-14: 5$ | $104: 15$ | [13] 16:24, | administrative [25] $34 \cdot 3$ | adversaries <br> 20:17 |
| 9-8-47:3 | accordance - <br> 178:21 | 163:7' | $\begin{aligned} & 52: 13, ~ 65: 6, \\ & 74: 22, \end{aligned}$ | $\begin{aligned} & {[25] 34: 3,} \\ & 34: 7,46: 2, \end{aligned}$ | adverse [2] |
| 9-9-148:19 90 [3] | according | 164:24 | 95:17, | 34:7, 46:2, 46:19, | $\begin{aligned} & \text { adverse [2] } \\ & 126: 20 \end{aligned}$ |
| $\begin{aligned} & 90[3] \\ & 211: 25, \end{aligned}$ | 49:18 | 201:25 | 141:12, | 48:19, | 172:1 |
| 213:19, | account [5] | 202:3, | 171:24, | 52:11, | adversely [5] |
| 213:24 | 124:3, | 203:22 | 171:25 | 52:18, | 42:9, |
| 99-167:12 | 203:20, | 204:1 | 172:4, | 52:22, | 116:15, |
|  | 204:14, | actions | 187:4, | 52:23, | 153:20, |
| A | 204:17, | 29:14 | 187:6, | 53:23, | 171:18, |
|  | 204:19 | activity [2] | 203:14, | 54:13, | 172:23 |
| a)(3 [3] | accumulated | 140:19, | 204:4 | 55:18, 59:4, | advice - 103:7 |
| 124:17, | accurate [6] | acts - 17:21 | address | $62: 21 \text {, }$ | $87: 25$ |
| $\begin{aligned} & 124: 19, \\ & 127: 24 \end{aligned}$ | 99:12, | actual [4] | 22:16, 62:1, | 63:20, 66:9, | Advocacy |
|  | 141:1, | 46:8, 107:8, | 62:2, 68:18, | 66:12, 69:2, | 21:19 |
| abbreviations | 179:9, | 116:5, | 89:12, | 69:20, | advocate |
| - 11:17 | 180:15, | 176:13 | 100:3, | 70:15, | 70:9 |
| ability [4] | 193:7 | ad - 77: | 113:13, | 78:25, 79:2, | affect [2] |
| 6:18, 85:24, | 194:13 | adamantly | 119:2, | 104:17 | 38:17, 89:20 |
| 188:3, | accuse - | 159:12 | 119:16, | admire [2] | affected [5] |
| 217:14 | 85:17 | add [21] | 120:14, | 32:6, 32:10 | 38:25, |
| able [9] 30:4, | achieve - $130: 5$ | 13:13, | 139:24, | admit - 175:1 | $42: 10 \text {, }$ |
| 32:7, 56:6, | acknowledges | $\begin{aligned} & 13: 18, \\ & 15: 23,18: 2, \end{aligned}$ | 141:1, |  | $116: 15$, $153: 21$, |
| 61:21, | acknowledges $-121: 21$ | $\begin{aligned} & 15: 23,18: 2 \text {, } \\ & 18: 11, \end{aligned}$ | $\begin{aligned} & 142: 2, \\ & 163: 6, \end{aligned}$ | 174:24 ${ }^{\text {admitted [4] }}$ | $\begin{aligned} & 153: 21, \\ & 171: 19 \end{aligned}$ |


|  |  |  |  | 220 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| affecting - | 117:12, | 129:24, | AM4 [42] 1:5, | 203:9, | 66:18, |
| 172:24 | 124:1, | 165:7 | 4:20, 5:15, | 203:11, | 75:24, |
| affiliated - | 129:20, | allowed [6] | 14:24, 15:4, | 203:12, | 76:19, |
| 7:22 | 131:9, | 28:12, 31:7, | 28:15, | 204:24 | 77:20, |
| affirm [2] | 194:17, | 51:9, 51:17, | 28:21, 29:3, | amendments | 80:14, |
| 92:3, 92:20 | 195:2 | 52:13, 52:23 | 29:19, | [2] 202:24, | 80:15, |
| affirmative [6] | agreed [3] | alluvial [4] | 29:24, 38:6, | 209:11 | 81:16, |
| 27:13, | 23:24, | 128:12, | 38:13, | among [2] | 81:23, |
| 27:14, | 106:13, | 142:13, | 38:25, | 51:10, 110:6 | 81:25, 82:2, |
| 27:19, | 184:22 | 143:16, | 39:15, 40:2, | amount [2] | 82:5, 82:8, |
| 27:21, | agreeing - | 188:25 | 40:9, 40:18, | 8:3, 191:7 | 82:17, 95:8, |
| 35:21, 60:20 | 107:11 | alluvium [11] | 42:7, 84:11, | analysis [29] | 110:16, |
| affirmatively | agreement [2] | 143:19, | 84:15, 85:2, | 14:15, | 121:4, |
| [6] 14:8, | 51:2, 100:18 | 158:18, | 98:3, | 14:19, | 124:22 |
| 45:22, | agriculture [3] | 169:7, | 142:19, | 17:22, | anticipating |
| 110:14, | 37:13, | 176:25, | 149:15, | 17:24, 18:6, | 195:23 |
| 114:15, | 157:16, | 189:4, | 158:16, | 19:3, 29:2, | antithetical - |
| 120:24, | 157:21 | 189:11, | 158:23, | 46:8, 50:1, | 21:20 |
| 152:20 | ahead [14] | 189:13, | 159:11, | 56:13, | anymore |
| affirmed [2] | 19:22, | 189:20, | 159:11, | 59:23, | 132:19 |
| 49:20, | 58:24, | 189:23, | 159:14, | 60:23, 82:3, | anyplace - |
| 139:22 | 73:15, | 189:25, | 160:3, | 86:4, 86:5, | 76:20 |
| affirming [2] | 73:21, | 190:2 | 167:16, | 128:15, | apologize [7] |
| 77:7, 87:7 | 78:11, | alone - 21:15 | 176:8, | 139:12, | 7:9, 11:21, |
| affixed - | 83:16, | already [32] | 176:9, | 140:7, | 31:20, |
| 217:16 | 93:14, | 13:7, 16:17, | 176:10, | 152:12, | 109:12, |
| afternoon [4] | 100:19, | 17:16, | 189:18, | 166:17, | 188:22, |
| 5:1, 5:3, | 108:13, | 40:13, $76: 1$, | 203:18, | 168:14, | 200:17, |
| 97:11, | 126:7, | 99:13, | 207:21, | 173:10, | 201:13 |
| 125:15 | 141:8, | 137:10, | 209:17, | 178:17, | apparent [2] |
| afterwards - | 176:21, | 138:4, | 209:24, | 183:21, | 113:25, |
| 89:8 | 181:7, | 140:20, | 210:1, | 183:25, | 158:11 |
| against [4] | 202:14 | 147:25, | 210:7, 210:8 | 184:12, | apparently [2] |
| 115:3, | ajar - 71:10 | 148:4, | AM5-91:12 | 184:20, | 67:11, 79:25 |
| 173:1, | Alaska [4] | 148:5, | amalgamate - | 185:23, | appeal [12] |
| 204:16, | 150:11, | 148:7, | 26:10 | 195:13 | 1:4, 4:19, |
| 208:23 | 150:12, | 148:10, | amenable [3] | analyze - | 5:15, 30:9, |
| agencies - | 152:17, | 150:7, | 105:14, | 179:9 | 30:19, |
| 119:11 | 167:17 | 150:22, | 132:16, | analyzed [2] | 34:14, 61:7, |
| agency [13] | Aleisha [2] | 153:13, | 203:6 | 30:25, 82:23 | 74:19, |
| 9:1, 9:6, | 134:13, | 154:8, | amend [8] | anathema - | 113:1, |
| 9:14, 19:16, | 179:11 | 161:7, | 205:7, | 24:8 | 113:15, |
| 19:16, | alerting - | 167:22, | 205:11, | anchor - | 113:16, |
| 29:10, | 87:18 | 168:8, | 206:3, | 151:4 | 144:7 |
| 56:21, 62:5, | alive [6] | 171:23, | 206:5, | Ann-65:9 | appealed [2] |
| 62:7, 62:9, | 18:22, | 174:14, | 206:5, | Annotated - | 126:10, |
| 62:12, | 43:24, | 175:4, | 206:10, | 8:19 | 173:24 |
| 104:15, | 44:17, | 183:15, | 206:13, | anonymous - | appear [8] |
| 105:2 | 44:22, | 185:2, | 209:11 | 4:3 | 27:4, 28:8, |
| agency's [4] | 140:2, | 192:7, | amended [5] | answered | 30:18, |
| 119:4, | 179:17 | 195:5, | 140:21, | 69:13 | 54:10, 68:9, |
| 124:1, | allegation - | 196:5, | 203:3, | answering - | 69:16, |
| 204:8, | 75:5 | 197:6, | 209:10, | 76:5 | 69:17, 71:24 |
| 214:21 | allege - 172:7 | 204:15, | 210:13, | answers - | appeared [3] |
| agenda [3] | alleged - | 213:2 | 210:15 | 123:24 | 68:19, |
| 192:14, | 71:11 | alternative - | amendment | anti-degradation | n 76:11, 78:7 |
| 215:23, | alleviate - | 196:7 | [15] 1:5, | - 173:6 | APPEARING |
| 215:25 | 208:22 | although [6] | 5:15, 15:4, | anti-lock - | [3] 2:2, 2:6, |
| agent - | Alley - 2:4 | 39:16, | 39:15, | 115:6 | 2:11 |
| 175:17 | allocating - | 50:17, | 131:25, | anticipated | appears [10] |
| aggravated - | 126:23 | 87:13, | 158:16, | [23] 28:5, | 5:9, 61:12, |
| 190:23 | allocations - | 89:24, | 158:20, | 46:11, | 63:20, |
| agree [9] | 146:1 | 151:18, | 191:6, | 52:14, | 76:19, |
| 50:12, | allow [6] 6:3, | 188:24 | 193:14, | 59:16, | 81:19, 82:1, |
| 67:13, | 55:5, 55:19, | altogether - | 202:13, | 59:21, | 109:5, |
| 117:7, | 72:5, | 207:1 | 203:7, | 62:11, | 115:17, |

221

| 169:11, | 195:1, | 44:7, 140:3, | 140:18, | 101:12, | 41:21, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 200:18 | 207:12 | 153:24, | 144:9, | 101:15, | 148:9, |
| applicable - | applying [2] | 171:22, | 148:12, | 101:23, | 149:5, |
| 170:25 | 48:10, | 172:2, | 163:3, | 104:16, | 150:15, |
| applicant [4] | 129:10 | 172:8, | 176:15, | 125:10, | 154:14, |
| 35:22, 36:1, | appreciate [4] | 172:15, | 181:19 | 140:1, | 162:3, |
| 48:22, | 64:17, | 173:9, | argument [63] | 146:24, | 180:1, |
| 126:18 | 86:21, | 173:15, | 1:9, 7:19, | 165:2, | 182:7, |
| applicant's [2] | 146:2, | 174:16, | 7:23, $33: 9$, | 165:18 | 182:11, |
| 27:18, 57:11 | 156:22 | 174:21, | 37:24, 38:5, | ARM [2] 28:3, | 182:18, |
| application | approach | 174:22, | 39:2, $40: 11$, | 82:1 | 183:11 |
| [23] 14:8, | 146:13 | 174:25, | 40:21, | Armells [34] | assessed [2] |
| 33:15, | approaching - | 177:6, | 40:25, | 13:19, | 41:2, 182:24 |
| 48:21, | 98:2 | 177:9, | 46:25, 47:3, | 26:23, | assesses - |
| 48:23, 49:9, | appropriate | 177:14, | 47:6, 47:8, | 29:21, | 143:22 |
| 66:13, | [7] 85:19, | 178:8, | 47:9, 54:10, | 29:25, | assessing [8] |
| 66:16, 86:3, | 88:23, | 178:20, | 54:15, 63:3, | 37:19, | 15:6, |
| 103:20, | 100:24, | 178:24, | 63:5, 66:3, | 37:22, 38:9, | 114:23, |
| 110:12, | 104:8, | 179:16, | 66:7, 66:21, | 39:4, 39:14, | 115:10, |
| 110:14, | 140:4, | 179:20, | 67:7, 68:6, | 40:10, | 123:10, |
| 110:24, | 184:23, | 180:2, | 68:21, | 40:17, | 140:2, |
| 111:1, | 185:16 | 180:5, | 69:13, | 45:13, | 152:7, |
| 112:21, | appropriately | 180:6, | 69:17, | 62:13, 90:6, | 175:1, |
| 114:14, | [2] 143:25, | 182:3, | 69:17, | 90:10, | 183:12 |
| 114:17, | 185:21 | 182:8, | 70:10, 77:1, | 140:16, | assessment |
| 114:18, | approval [4] | 182:11, | 78:6, 78:7, | 142:8, | [29] 12:1, |
| 120:23, | 14:11, | 182:13, | 80:2, 80:5, | 142:9, | 23:24, 27:8, |
| 121:1, | 48:24, 49:8, | 185:14, | 80:9, 80:11, | 142:10, | 43:3, 43:14, |
| 126:25, | 93:23 | 185:17, | 82:22, | 143:20, | 44:6, 44:15, |
| 184:9, | approve [16] | 185:24, | 82:25, | 146:4, | 44:21, 45:4, |
| 184:23, | 14:7, | 186:10, | 83:20, | 148:1, | 70:5, |
| 193:2 | 100:19, | 199:7, | 87:16, | 149:11, | 110:15, |
| applications - | 108:13, | 199:14, | 88:12, | 158:25, | 124:21, |
| 82:6 | 110:12, | 207:10, | 96:13, | 159:4, | 139:21, |
| applied [8] | 110:24, | 207:13, | 104:21, | 159:21, | 147:1, |
| 18:21, | 114:14, | 210:9 | 140:9, | 165:22, | 147:5, |
| 23:25, | 120:23, | Arcadis [6] | 151:9, | 173:17, | 150:4, |
| 43:16, | 196:14, | 41:14, | 151:17, | 174:3, | 154:15, |
| 50:21, | 197:10, | 178:6, | 151:23, | 178:12, | 173:13, |
| 52:20, | 197:11, | 183:20, | 155:9, | 186:16, | 174:21, |
| 82:11, | 197:14, | 185:14, | 155:16, | 186:19, | 179:15, |
| 144:24, | 198:16, | 186:9, | 160:14, | 194:1, 198:9 | 179:19, |
| 181:25 | 199:13, | 186:17 | 160:21, | ARMs - 111:10 | 179:22, |
| applies [13] | 202:8, | areas [6] | 162:19, | articulated [5] | 179:24, |
| 38:4, 38:15, | 204:9, | 15:1, $28: 2$, | 164:5, | 107:9, | 180:4, |
| 48:18, | 215:17 | 80:24, 81:4, | 165:10, | 116:20, | 180:10, |
| 49:17, | approved [6] | 126:20, | 168:4, | 161:18, | 180:12, |
| 61:18, 62:1, | 82:18, | 169:9 | 170:14, | 203:19, | 180:13, |
| 77:19, | 112:22, | aren't - 20:11 | 181:10, | 215:2 | 181:11, |
| 128:24, | 142:14, | arguably - | 181:13, | articulating - | 184:10 |
| 144:10, | 192:1, | 118:10 | 184:4, | 121:9 | assessments |
| 146:5, | 195:8, | argue [7] | 194:19, | articulation | [3] 146:18, |
| 155:3, | 198:19 | 21:13, 25:6, | 195:17, | 98:13 | 180:22, |
| 163:11, | approving [3] | 70:18, 71:5, | 195:24, | aside - 61:25 | 181:22 |
| 173:23 | 106:3, | 122:19, | 200:13 | asking [4] | assimilative - |
| apply [16] | 138:11, | 132:19, | arguments | 10:16, | 14:4 |
| 25:25, 26:6, | 197:25 | 145:3 | [22] 8:23, | 81:11, | assist - |
| 50:9, 61:20, | aquatic [51] | argued [7] | 11:6, 23:1, | 182:19, | 133:12 |
| 61:24, 62:6, | 14:17, | 35:7, 54:21, | 27:3, 27:25, | 183:22 | assistance - |
| 66:9, 82:24, | 18:19, | 66:8, 83:19, | 28:1, 29:6, | asserting - | 31:11 |
| 127:12, | 18:25, 19:2, | 120:7, | 34:20, | 87:12 | assistant [3] |
| 146:6, | 19:5, 23:21, | 208:4, 208:7 | 47:12, | assertion [3] | 2:8, 20:8, |
| 151:19, | 35:5, 40:20, | arguing [9] | 53:21, | 74:24, | 32:7 |
| 163:12, | 40:24, 41:7, | 29:16, | 71:23, | 158:20, | associated [2] |
| 164:15, | 41:16, 43:9, | 30:20, | 76:23, | 160:1 | 159:9, |
| 180:3, | 43:9, 43:21, | 75:19, | 77:17, | assess [11] | 189:18 |

$222$


223

| 132:22, | 192:22, | 214:18, | 20:12 | 154:4 | 127:12, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 134:5, | 192:23, | 214:25, | bridge - 90:22 | broken [2] | 131:10, |
| 134:9, | 194:14, | 215:4, | brief [32] | 94:7, 200:19 | 136:7, |
| 134:11, | 194:16, | 215:6, | 11:22, | brought - | 136:8, |
| 134:25, | 195:10, | 215:11, | 15:17, | 127:19 | 136:15, |
| 135:2, | 196:11, | 215:13 | 17:25, | Bruins - 20:15 | 136:20, |
| 135:9, | 197:13, | Board's [11] | 19:12, 24:3, | bugs [5] 19:8, | 137:9, |
| 135:16, | 197:23, | 9:1, 9:5, | 27:1, 27:10, | 97:7, | 193:1, |
| 136:11, | 198:13, | 9:13, 17:22, | 28:6, 28:8, | 177:16, | 200:1, |
| 136:16, | 198:15, | 50:10, | 46:17, 74:1, | 179:10, | 200:7, |
| 136:19, | 198:21, | 114:10, | 87:17, | 180:5 | 200:20, |
| 136:22, | 199:7, | 125:16, | 96:10, | Building - | 201:24, |
| 137:3, | 199:9, | 157:7, | 96:24, | 1:11 | 203:21, |
| 137:7, | 199:12, | 201:10, | 98:11, | built - 101:13 | 206:15, |
| 137:17, | 199:15, | 201:21, | 100:23, | Bull [7] 16:3, | 207:1, |
| 138:10, | 199:16, | 202:6 | 112:5, | 46:20, | 207:2, |
| 138:15, | 199:18, | boat - 22:16 | 114:21, | 126:17, | 207:6, |
| 139:15, | 199:22, | Bob - 4:9 | 115:12, | 130:14, | 208:4, |
| 139:18, | 200:22, | body [3] | 115:17, | 130:18, | 209:1, |
| 140:11, | 201:1, | 61:23, | 126:5, | 154:8, | 212:5, |
| 140:13, | 202:12, | 145:17, | 126:6, | 181:24 | 214:19, |
| 140:24, | 202:15, | 145:17 | 131:18, | bunch - 29:13 | 214:25 |
| 141:9, | 203:3, | boggling - | 134:18, | bunny - 123:3 | Bureau [2] |
| 144:24, | 203:8, | 155:25 | 140:15, | burden [72] | 3:24, 3:25 |
| 147:13, | 203:13, | boiler [2] | 144:1, | 27:5, 27:19, | BUSBY [27] |
| 151:8, | 204:5, | 105:1, 114:8 | 144:24, | 27:20, | 1:19, $6: 17$, |
| 153:15, | 205:1, | bonding - | 149:24, | 27:23, $36: 1$, | 51:24, 69:6, |
| 154:7, | 205:6, | 121:24 | 151:10, | 36:7, 36:8, | 69:11, |
| 154:9, | 205:8, | Boston - | 152:13, | 36:9, $36: 11$, | 92:10, |
| 154:10, | 205:11, | 20:14 | 167:9, | 47:18, | 102:4, |
| 156:7, | 205:15, | bothers - | 187:20 | 47:21, | 102:9, |
| 156:21, | 205:24, | 165:17 | briefed - | 47:23, 48:4, | 134:11, |
| 160:17, | 206:2, | bottom [9] | 113:21 | 48:7, 48:14, | 135:9, |
| 160:20, | 206:20, | 8:21, 74:25, | briefing [3] | 48:17, | 191:24, |
| 163:1, | 206:24, | 81:11, | 14:22, | 48:21, 49:7, | 192:19, |
| 164:8, | 208:17, | 200:5, | 35:18, 76:24 | 50:13, | 198:21, |
| 164:11, | 208:20, | 201:8, | briefly [16] | 50:14, | 199:9, |
| 170:14, | 208:21, | 201:16, | 45:25, | 50:22, 51:2, | 199:12, |
| 171:10, | 209:4, | 202:17, | 68:15, | 66:19, | 199:16, |
| 171:13, | 209:10, | 202:21, | 77:22, | 98:13, | 203:8, |
| 171:21, | 209:23, | 203:2 | 95:11, | 106:13, | 205:6, |
| 174:11, | 210:5, | bound [3] | 97:17, | 106:15, | 205:11, |
| 175:11, | 210:14, | 58:5, 58:20, | 128:19, | 106:17, | 205:15, |
| 175:13, | 211:1, | 58:20 | 129:16, | 106:22, | 205:24, |
| 176:18, | 211:4, | boundary | 131:1, | 107:1, | 208:20, |
| 176:21, | 211:15, | 209:19 | 141:24, | 107:5, | 211:1, |
| 177:7, | 211:18, | bounds [2] | 148:18, | 107:8, | 211:4, |
| 177:10, | 211:20, | 86:8, 170:2 | 164:7, | 108:13, | 212:21, |
| 179:13, | 211:21, | Bowers - | 175:7, | 108:16, | 212:25, |
| 181:8, | 212:8, | 144:15 | 176:20, | 110:1, | 214:2 |
| 181:20, | 212:13, | Box [2] 2:9, | 176:22, | 112:2, | button - |
| 181:24, | 212:14, | 2:14 | 185:9, | 112:12, | 201:14 |
| 186:22, | 212:21, | brained - 50:8 | 185:10 | 112:23, |  |
| 186:24, | 212:23, | brakes [2] | bring [9] | 112:24, | C |
| 187:22, | 212:25, | 115:6, | 22:14, 30:9, | 112:24, |  |
| 188:8, | 213:2, | 121:17 | 62:20, | 113:3, | C1984003B - |
| 188:20, | 213:9, | break [9] | 64:11, | 113:14, | 1:6 |
| 191:4, | 213:13, | 64:1, 64:5, | 70:18, | 116:8, | C3-38:23 |
| 191:17, | 213:16, | 64:17, | 71:14, | 116:19, | calculate [4] |
| 191:18, | 213:17, | 64:21, | 101:2, | 117:18, | 146:11, |
| 191:24, | 213:20, | 93:11, | 129:17, | 123:17, | 164:14, |
| 192:2, | 214:1, | 103:11, | 145:4 | 123:25, | 165:12, |
| 192:12, | 214:2, | 137:6, | brings - 39:10 | 124:4, | 189:10 |
| 192:14, | 214:5, | 165:7, | broader - | 126:11, | calculated - |
| 192:17, | 214:7, | 166:20 | 153:25 | 126:23, | 40:9 |
| 192:19, | 214:17, | breathing - | broadly - | 127:9, | calculations - |


| 40:12 | 209:22 | 103:10, | 203:18, | 31:18, | 97:16, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| can't [48] | care [2] 5:5, | 105:25, | 204:10, | 42:14, | 97:18, 98:5, |
| 15:23, | 174:3 | 106:3, | 205:5, | 42:17, 47:7, | 98:10, |
| 15:24, 32:6, | career - 58:13 | 106:18, | 205:21 | 47:10, | 98:17, |
| 47:5, 60:12, | careful - | 113:6, | caused [9] | 47:11, | 98:19, |
| 60:14, | 100:13 | 114:7, | 37:19, | 48:13, 51:1, | 98:23, 99:3, |
| 60:19, | cares - 45:11 | 116:19, | 45:12, | 51:5, 52:3, | 99:6, 99:23, |
| 60:22, 61:6, | carries [8] | 123:25, | 45:12, | 52:6, 52:24, | 100:16, |
| 61:23, 63:9, | 93:8, 106:8, | 125:16, | 155:12, | 53:20, 54:3, | 101:1, |
| 63:10, | 135:17, | 125:20, | 157:5, | 55:24, 56:2, | 102:2, |
| 63:16, | 197:3, | 127:11, | 161:10, | 56:14, | 102:13, |
| 67:17, | 199:4, | 128:13, | 166:10, | 56:19, | 102:20, |
| 87:13, | 210:21, | 128:15, | 173:19, | 56:22, | 103:6, |
| 89:10, | 213:14, | 129:11, | 195:23 | 58:21, | 103:17, |
| 89:11, | 215:22 | 134:9, | causes [5] | 58:22, | 103:18, |
| 94:18, | carry - 188:4 | 138:15, | 36:17, | 58:24, | 104:10, |
| 99:21, | carrying [10] | 141:14, | 152:24, | 59:12, | 104:19, |
| 103:10, | 13:12, | 146:5, | 153:2, | 62:15, | 104:20, |
| 114:13, | 16:18, | 148:5, | 153:12, | 63:21, | 105:15, |
| 114:14, | 17:16, | 152:2, | 175:14 | 63:22, 64:2, | 105:16, |
| 115:3, | 119:10, | 153:1, | causing [7] | 64:18, | 105:21, |
| 117:3, | 187:7, | 153:2, | 150:22, | 64:20, | 105:23, |
| 117:9, | 187:19, | 156:9, | 156:2, | 64:24, 65:5, | 106:6, |
| 117:22, | 187:25, | 158:17, | 156:3, | 65:11, | 106:8, |
| 120:23, | 187:25, | 159:12, | 167:18, | 65:13, | 106:10, |
| 123:18, | 188:2, 188:6 | 163:17, | 175:4, | 65:18, | 106:16, |
| 125:4, | case [95] | 163:22, | 175:4, 204:4 | 65:23, | 106:21, |
| 145:15, | 4:25, 5:14, | 170:17, | caution - | 67:23, 68:1, | 106:25, |
| 145:21, | 6:15, 7:16, | 172:7, | 78:19 | 68:13, | 107:3, |
| 149:12, | 7:19, 9:21, | 172:25, | Center [3] | 68:15, | 107:13, |
| 154:20, | 10:14, | 173:3, | 2:4, 11:10, | 68:23, 70:1, | 108:6, |
| 154:23, | 10:19, | 174:4, | 65:10 | 72:14, 73:1, | 108:11, |
| 154:24, | 10:22, | 182:25, | certain - | 73:3, 73:14, | 108:24, |
| 154:25, | 11:22, 12:5, | 192:25, | 187:8 | 73:19, | 109:1, |
| 163:3, | 13:24, | 195:1, 216:3 | certainly [10] | 73:21, | 109:8, |
| 163:24, | 17:24, | cases - 20:10 | 48:25, | 74:20, | 109:16, |
| 167:18, | 19:13, 21:7, | catch - | 70:10, 72:2, | 77:21, | 109:18, |
| 168:9, | 21:19, 22:6, | 128:17 | 73:4, 73:14, | 77:23, | 110:4, |
| 168:12, | 22:20, | categorization | 77:19, 87:4, | 78:11, | 111:11, |
| 168:15, | 22:25, 25:2, | - 38:24 | 122:22, | 78:12, | 111:15, |
| 178:20, | 25:23, 26:6, | cattle [2] | 134:2, | 79:13, | 111:17, |
| 184:15, | 26:12, | 37:12, | 194:25 | 81:17, 83:5, | 112:6, |
| 190:1, | 26:13, | 175:23 | certainty [2] | 83:6, 83:8, | 113:22, |
| 195:11, | 26:15, | causation [5] | 117:13, | 83:13, | 113:24, |
| 195:23, | 26:17, | 36:16, | 204:21 | 83:16, | 116:2, |
| 196:7 | 26:21, | 144:20, | certify - | 86:13, | 117:5, |
| cannot [6] | 26:25, 32:5, | 144:25, | 217:7 | 91:18, | 118:24, |
| 40:15, | 32:8, $32: 12$, | 167:18, | chair [375] | 91:21, | 123:12, |
| 78:15, | 32:22, | 193:9 | 1:17, 3:4, | 91:25, 92:8, | 124:6, |
| 159:8, | 33:22, | causative - | 3:8, 3:16, | 92:12, | 125:14, |
| 161:6, | 35:14, | 175:17 | 4:1, 4:4, | 92:14, | 126:5, |
| 162:24, | 35:16, | cause [19] | 4:8, $4: 14$, | 92:16, | 126:7, |
| 204:9 | 35:19, 36:6, | 16:20, 38:6, | 4:21, $4: 24$, | 92:19, | 127:13, |
| canvas - | 36:10, | 45:16, | 5:6, 5:9, | 92:25, 93:3, | 127:19, |
| 18:17 | 36:11, | 126:19, | 6:2, 6:13, | 93:5, 93:8, | 128:8, |
| capacity [12] | 38:16, 40:8, | 158:17, | 6:16, 6:20, | 93:10, | 128:17, |
| 13:12, 14:4, | 45:3, 45:5, | 167:11, | 6:23, $7: 1$, | 93:12, | 128:20, |
| 16:18, | 47:18, 48:3, | 168:5, | 7:8, 7:14, | 93:14, | 129:10, |
| 17:17, | 48:6, 48:6, | 168:9, | 7:18, 8:10, | 93:17, | 129:14, |
| 33:13, 34:5, | 49:5, 49:10, | 172:22, | 10:7, 11:2, | 93:20, 94:6, | 129:15, |
| 187:7, | 49:13, | 173:15, | 11:5, 11:9, | 94:15, | 130:9, |
| 187:19, | 54:21, 56:6, | 174:5, | 19:19, | 94:23, 95:1, | 130:11, |
| 187:25, | 56:9,57:1, | 175:5, | 19:24, $20: 1$, | 95:10, | 130:25, |
| 188:1, 188.6 | 57:17, 67:8, | 193:11, | 24:21, | 95:12, | 131:2, |
| 188:3, 188:6 | 68:4, 72:4, | 193:18, | 31:13, | 95:18, | 131:8, |
| captures - | 73:15, | 193:21, | 31:15, | 95:19, | 131:12, |

225

| 132:3, | 165:8, | 199:15, | challenges - | CHIA [69] | Chris [14] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 132:15, | 166:19, | 199:20, | 101:25 | 11:25, 26:3, | 1:17, 1:19, |
| 132:17, | 166:23, | 199:22, | challenging - | 29:1, $30: 20$, | 55:2, 55:8, |
| 132:21, | 167:1, | 200:17, | 36:8 | 30:24, | 62:16, |
| 133:7, | 167:3, | 201:3, | chance [2] | 33:21, 34:6, | 65:20, |
| 133:18, | 167:6, | 201:7, | 64:11, | 43:19, 46:8, | 103:6, |
| 134:4, | 169:3, | 201:11, | 197:12 | 47:3, 47:3, | 111:13, |
| 135:1, | 170:4, | 201:15, | change [24] | 47:4, 47:10, | 129:14, |
| 135:5, | 171:9, | 202:7, | 38:7, 125:5, | 53:22, 54:6, | 131:11, |
| 135:8, | 171:12, | 202:12, | 142:13, | 54:11, | 194:17, |
| 135:11, | 174:8, | 202:14, | 143:16, | 54:16, | 202:14, |
| 135:15, | 174:11, | 203:6, | 146:11, | 54:22, | 207:11, |
| 135:17, | 175:9, | 203:10, | 146:13, | 54:23, | 211:19 |
| 135:20, | 175:11, | 204:2, | 170:7, | 55:17, 56:7, | Christensen's |
| 135:24, | 175:12, | 204:5, | 201:20, | 56:15, 57:1, | - 160:10 |
| 136:2, | 176:18, | 205:3, | 202:4, | 57:4, 58:6, | Circuit [4] |
| 136:5, | 178:25, | 205:9, | 202:11, | 58:17, 59:3, | 13:10, |
| 136:10, | 179:4, | 205:22, | 202:25, | 59:9, $59: 19$, | 13:11, |
| 136:11, | 181:3, | 206:1, | 203:20, | 61:13, | 163:18, |
| 136:14, | 181:4, | 206:2, | 203:24, | 62:22, | 163:19 |
| 136:18, | 181:5, | 206:19, | 204:3, | 66:11, | Circuit's - |
| 136:21, | 181:7, | 206:22, | 205:15, | 66:17, | 17:23 |
| 137:1, | 181:9, | 207:9, | 205:20, | 66:23, | circumstance |
| 137:3, | 181:20, | 207:15, | 206:6, | 68:20, | 164:1 |
| 137:8, | 182:15, | 207:17, | 206:7, | 69:18, | circumstances |
| 137:15, | 182:21, | 208:11, | 208:1, | 76:12, | - 161:14 |
| 137:18, | 185:8, | 208:19, | 208:13, | 76:18, 78:7, | citation [6] |
| 137:21, | 185:9, | 209:7, | 208:16, | 79:20, | 19:12, |
| 137:24, | 186:20, | 210:12, | 208:23, | 79:23, 80:1, | 75:23, |
| 138:1, | 188:18, | 210:19, | 209:24, | 80:5, 80:23, | 78:10, |
| 138:5, | 190:6, | 210:21, | 210:6 | 81:2, 81:20, | 128:14, |
| 138:10, | 190:7, | 211:2, | changed - | 82:4, 82:8, | 159:16, |
| 138:14, | 191:4, | 211:5, | 201:9 | 83:25, | 187:21 |
| 138:19, | 191:18, | 211:8, | changes [6] | 85:25, 86:1, | citations - |
| 138:22, | 192:2, | 211:11, | 17:11, | 86:2, 86:8, | 206:17 |
| 138:25, | 192:8, | 211:13, | 132:10, | 86:9, 87:21, | cite [7] |
| 139:2, | 192:13, | 211:18, | 137:12, | 89:6, 89:19, | 17:25, 97:2, |
| 139:10, | 192:16, | 211:19, | 191:22, | 143:22, | 103:10, |
| 140:9, | 192:20, | 212:2, | 204:14, | 143:25, | 104:6, |
| 140:13, | 192:24, | 212:11, | 209:4 | 148:18, | 144:23, |
| 141:8, | 194:14, | 212:18, | changing - | 154:12, | 150:10, |
| 141:19, | 194:17, | 213:1, | 74:9 | 154:12, | 182:21 |
| 142:1, | 195:6, | 213:5, | characterization | 154:16, | cited [7] |
| 143:7, | 196:11, | 213:8, | [3] 32:25, | 167:11, | 26:13, |
| 143:10, | 196:16, | 213:12, | 44:4, 166:17 | 167:12, | 99:12, |
| 147:8, | 196:20, | 213:14, | characterization | 171:5, | 144:19, |
| 147:9, | 196:22, | 213:16, | - 24:11 | 174:13, | 151:6, |
| 147:15, | 196:25, | 213:25, | characterize - | 175:25, | 152:10, |
| 151:8, | 197:1, | 214:3, | 194:19 | 180:18 | 156:9, |
| 151:25, | 197:2, | 214:5, | characterized | CHIA's - | 160:11 |
| 153:15, | 197:6, | 214:16, | -98:12 | 176:7 | cites - 157:19 |
| 155:16, | 197:8, | 215:4, | characterizing | Chief - 3:24 | citing [4] |
| 155:19, | 197:13, | 215:12, | [2] 24:6, | child - 5:4 | 28:18, |
| 156:5, | 197:17, | 215:16, | 184:6 | chippy - 20:13 | 29:15, |
| 156:15, | 197:20, | 215:20, | chase [2] | chloride [5] | 176:15, |
| 156:16, | 197:24, | 215:22, | 11:16, 63:7 | 30:17, | 190:4 |
| 156:18, | 198:3, | 215:24 | cheap - 84:18 | 30:18, | civil - 155:15 |
| 156:24, | 198:5, | Chair's - | check [2] | 30:21, 31:3, | claim - 101:7 |
| 157:1, | 198:8, | 147:13 | 3:10, 65:2 | 52:15 | claiming - |
| 158:10, | 198:15, | challenge [5] | checked [2] | chomping - | 36:17 |
| 160:16, | 198:18, | 23:22, 48:3, | 59:24, 65:7 | 200:15 | claims [4] |
| 160:19, | 198:22, | 60:2, | chemical [2] | choose - | 29:20, 35:4, |
| 164:6, | 198:24, | 105:12, | 172:11, | 134:8 | 173:11, |
| 164:9, | 199:2, | 142:16 | 182:25 | chooses - | 181:21 |
| 165:1, | 199:4, | challenged - | Cheyenne - | 105:11 | clarification |
| 165:6, | 199:11, | 144:13 | 31:23 | chose - 153:6 | [6] 132:22, |


|  |  |  |  | 226 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 169:5, | 127:8, | 127:22, | 143:23, | 151:16, | 170:8 |
| 186:23, | 127:15, | 128:23, | 214:9 | 155:15 | complies |
| 188:21, | 127:18, | 129:4, | comfortable | commonly [2] | 12:15 |
| 191:6, 213:6 | 141:13, | 133:1, | [5] 6:14, | 87:1, 186:6 | component - |
| clarified [2] | 144:18, | 133:11, | 6:18, 11:18, | communication | 143:19 |
| 75:16, 112:9 | 145:9, | 133:23, | 69:1, 196:9 | - 10:10 | components |
| clarify [11] | 152:6, | 134:13, | coming [3] | community [4] | 31:1 |
| 10:9, 10:14, | 154:3, | 135:7, | 27:21 | 43:20, | comprises |
| 51:18, | 187:18, | 135:21, | 148:13, | 172:15, | 33:22 |
| 66:25, | 188:6, | 136:1, | 196:10 | 186:5, | computer-aided |
| 74:23, | 195:16, | 136:3, | comma | 186:18 | - 217:11 |
| 106:11, | 195:21, | 136:7, | 203:4 | companies - | concede |
| 116:2, | 196:3, | 137:6, | comment [13] | 50:17 | 118:6 |
| 124:7, | 210:12, | 138:3, | 26:2, 33:16, | company [6] | conceivably - |
| 128:19, | 214:9, $215: 3$ | 139:5, | 34:5, 34:13, | 1:6, $2: 11$, | 115:21 |
| 175:22, | clearer - | 205:14, | 60:5, 61:3, | 5:16, 34:2, | concentration |
| 176:1 | 112:18 | 205:17, | 61:5, 66:16, | 48:25, 157:5 | [10] 16:11, |
| clarifying - | clearly [17] | 208:15, | 85:13, | company's - | 146:12, |
| 94:15 | 15:11, | 215:9, | 91:10, | 193:1 | 146:14, |
| clarity [2] | 68:10, | 215:23 | 97:22, | comparable - | 165:12, |
| 51:10, | 68:17, | Clerget's - | 201:2, | 180:24 | 171:1, |
| 100:11 | 68:22, 73:7, | 69:15 | 203:14 | compare - | 171:3, |
| Clark [2] | 73:8, 80:24, | client - 79:9 | commented | 56:19 | 185:25, |
| 217:4, 217:7 | 112:23, | clients - 32:4 | [2] 34:9, | compared [2] | 187:10, |
| class [2] | 121:20, | close [2] | 34:10 | 41:12, | 187:15, |
| 36:23, | 123:2, | 169:2, | comments | 172:13 | 187:17 |
| 126:20 | 141:17, | 194:10 | [45] 6:16, | comparing - | concentrations |
| clean [28] | 146:23, | closed - 53:23 | 29:7, 29:8, | 129:8 | [2] 142:7, |
| 12:20, | 151:6, | coal [13] | 29:9, 29:10, | comparison | 169:14 |
| 12:22, 14:1, | 171:17, | 3:24, 4:10, | 29:13, | [7] 46:24, | concept [2] |
| 16:22, 17:3, | 172:1, | 4:13, 12:17, | 29:13, | 47:5, | 119:3, 153:9 |
| 17:19, 18:7, | 172:6, | 24:14, | 29:22, | 177:25, | concern [9] |
| 18:13, | 182:23 | 28:13, | 29:24, 30:5, | 178:1, | 56:3, 70:7, |
| 26:11, | Clerget [64] | 36:18, | 30:14, | 178:3, | 76:10, |
| 26:14, 27:2, | 6:11, 6:25, | 110:13, | 30:19, | 180:17, | 132:8, |
| 44:21, 57:5, | 7:3, 7:17, | 128:4, | 33:19, | 180:19 | 145:16, |
| 57:5, 58:7, | 8:8, 8:16, | 129:7, | 33:20, 46:2, | compatible - | 145:22, |
| 58:7, 58:11, | 10:15, 32:7, | 166:7, | 46:13, 51:1, | 140:8 | 205:23, |
| 58:12, | 51:18, | 183:6, 194:5 | 55:25, | compensate - | 205:25, |
| 141:20, | 51:25, 52:5, | Code - 8:19 | 56:23, | 22:24 | 208:22 |
| 153:4, | 53:4, $53: 11$, | coin [2] | 57:15, | competition | concerned [4] |
| 153:9, | 53:15, | 171:7, 208:6 | 59:20, | 20:17 | 50:22, |
| 153:11, | 53:25, 55:2, | Coleman [2] | 60:10, | compiled - | 69:15, |
| 161:25, | 55:8, 55:23, | 3:23, 3:23 | 60:11, | 111:1 | 73:22, |
| 162:18, | 63:3, 63:14, | colleague [2] | 61:15, | complementary | 131:15 |
| 163:14, | 66:25, 67:8, | 64:8, 179:8 | 62:14, | - 111:24 | concerns [4] |
| 163:21, | 67:9, 68:7, | colleagues - | 66:12, | complements - | 57:19, |
| 183:8, | 75:16, | 34:4 | 68:18, | 130:16 | 91:24, |
| 183:10 | 77:24, 78:2, | Colstrip [6] | 80:21, | complete [3] | 164:8, 208:3 |
| clear [39] | 94:12, | 37:8, 90:8, | 81:21, 84:3, | 88:7, 116:5, | conclude - |
| 8:14, 13:11, | 102:8, | 90:13, | 85:4, $91: 2$, | 181:17 | 42:12 |
| 16:3, 25:22, | 103:9, | 90:17, | 94:25, 95:4, | completed [2] | concluded [8] |
| 27:7, 36:7, | 105:22, | 90:20, | 95:9, 97:22, | 161:8, 163:4 | 37:18, 38:3, |
| 49:7, 50:20, | 106:10, | 157:25 | 131:8, | completely [5] | 41:15, |
| 57:7, 61:9, | 106:19, | combination - | 140:15, | 56:25, | 49:13, |
| 61:11, 68:5, | 107:16, | 196:1 | 141:15, | 57:21 | 178:11, |
| 75:14, | 108:17, | comes [11] | 167:7, | 150:20, | 178:23, |
| 80:22, | 109:11, | 12:20, | 196:12, | 160:14, | 186:3, 216:5 |
| 88:15, 95:7, | 109:23, | 68:23, | 214:7, | 163:11 | conclusion |
| 97:20, | 111:9, | 72:10, | 214:16, | complex - | [50] 13:5, |
| 114:23, | 111:13, | 107:19, | 215:5 | 20:9 | 13:6, 21:19, |
| 115:9, | 111:16, | 110:9, | 215:12 | compliance | 38:4, 38:11, |
| 123:4, | 119:24, | 110:25, | commission - | [3] 134:17, | 38:12, |
| 124:8, | 124:16, | 127:17, | 217:21 | 145:24, | 38:15, |
| 125:8, | 124:19, | 133:16, | common [3] | 145:25 | 41:25, $42: 1$, |
| 125:21, | 127:5, | 142:14, | 151:10, | complied | 42:5, 42:6, |

227

| 53:5, | 133:13, | 130:22 | 200:7, | 87:13 | 165:10, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 54:25, | 133:15, | conflicting [3] | 201:17, | contentious - | 167:21, |
| 55:21, | 133:17, | 119:9, | 201:25, | 20:9 | 169:8, |
| 87:25, | 133:19, | 124:2, 125:3 | 203:15, | contest - | 189:24, |
| 88:20, 96:5, | 133:22, | conflicts [2] | 203:22, | 27:22 | 194:20 |
| 97:5, 99:18, | 133:25, | 119:4, | 206:11, | contested [6] | control [3] |
| 106:20, | 134:7, | 124:14 | 206:14, | 36:6, 36:10, | 12:8, |
| 106:21, | 136:12, | confluence [2] | 207:5, | 48:6, 49:5, | 122:21, |
| 108:8, | 136:23, | 37:9, $90: 12$ | 207:19, | 49:13, 57:17 | 125:22 |
| 108:14, | 137:13, | conform [3] | 209:15 | contests - | controlled |
| 109:3, | 137:16, | 131:17, | consider [6] | 20:18 | 163:14 |
| 109:9, | 138:16, | 201:21, | 15:8, 15:9, | context [4] | controlling - |
| 112:11, | 138:18, | 202:6 | 15:15, 82:4, | 89:17, | 13:10 |
| 112:11, | 139:8, | conformed - | 84:4, 192:4 | 114:11, | controls [3] |
| 116:19, | 139:20, | 132:10 | consideration | 122:17, | 114:6, |
| 121:12, | 141:4, | conforms [2] | [3] 57:16, | 163:13 | 125:2, 127:8 |
| 131:16, | 153:18, | 131:24, | 117:21, | continue [6] | conversation |
| 131:21, | 158:15, | 134:23 | 125:16 | 18:10, | [2] 72:24, |
| 134:16, | 165:18, | confounding - | considerations | 143:3, | 195:5 |
| 134:21, | 191:20, | 90:15 | - 153:24 | 165:2, | convince |
| 140:7, | 191:25, | confuse - | considered [3] | 167:4, | 48:22 |
| 183:3, | 197:14, | 48:17 | 24:8, 84:1, | 168:11, | convinced [4] |
| 193:8, | 197:25, | confusion [3] | 169:19 | 169:9 | 191:22, |
| 193:14, | 198:16, | 35:19, | consist - | continued [2] | 193:7, |
| 193:21, | 198:19, | 36:22, | 173:4 | 174:5, 183:4 | 193:13, |
| 194:11, | 201:5, | 176:23 | consistent [8] | continues - | 194:12 |
| 194:13, | 203:1, | connected - | 116:18, | 94:20 | convincing [2] |
| 195:9, | 208:23, | 29:14 | 172:16, | continuing [2] | 23:11, 158:7 |
| 196:14, | 209:13, | connection [8] | 172:17, | 104:15, | cooperative - |
| 196:17, | 210:23, | 28:15, | 185:15, | 104:16 | 12:14 |
| 205:20, | 211:15, | 28:18, | 186:11, | contradicted | coordinator |
| 207:7, | 211:23, | 29:18, 74:6, | 192:1, | [2] 23:1, | 4:10 |
| 208:1, | 212:6, | 87:9, 88:5, | 202:9, 209:5 | 165:19 | copper [2] |
| 208:13, | 212:20 | 90:2, 185:20 | consisting - | contrary [14] | 18:3, 18:4 |
| 208:15, | conditions [3] | consequence - | 186:6 | 17:18, 18:6, | corners [2] |
| 213:19, | 40:16, | 157:20 | consists | 18:7, 18:12, | 26:6, 89:6 |
| 215:17 | 41:15, | consequences | 114:19 | 41:11, 96:2, | corporations - |
| conclusions | 186:12 | [16] 25:16, | constitutes | 99:10, | 155:4 |
| [68] 8:25, | conduct [2] | 27:9, 28:25, | 45:6 | 101:5, | correct [28] |
| 9:5, 9:8, | 23:23, | 57:12, | constraint [2] | 105:4, | 6:7, 6:9, |
| 23:23, | 173:10 | 58:15, | 161:21, | 105:6, | 16:15, 29:4, |
| 49:15, | conducted [3] | 110:10, | 161:21 | 142:6, | 51:15, |
| 49:24, 50:5, | 22:13, | 111:2, | constraints | 151:7, | 52:21, |
| 50:11, | 178:23, | 114:20, | [2] 14:15, | 152:11, | 55:22, |
| 50:19, | 185:14 | 115:11, | 99:16 | 193:20 | 56:15, 64:8, |
| 51:20, | conference [4] | 115:22, | construct - | contribute [3] | 69:25, |
| 51:21, | 67:3, 67:4, | 116:25, | 22:17 | 27:3, | 79:22, |
| 51:22, 52:1, | 67:10, 67:16 | 120:17, | contain - | 126:19, | 79:22, |
| 58:16, 72:2, | confirm [4] | 121:3, | 217:12 | 214:14 | 80:13, |
| 87:8, 88:18, | 27:20, 36:2, | 123:11, | contained [5] | contributed | 81:25, |
| 92:6, 99:11, | 114:16, | 128:25, | 52:10, | 214:11 | 96:15, |
| 101:16, | 120:25 | 193:3 | 54:11, | contributes | 101:8, |
| 102:1, | confirmed - | conservation | 54:22, | 158:24 | 108:21, |
| 106:9, | 58:16 | [24] 4:18, | 69:18, 75:11 | contributing | 109:13, |
| 106:12, | conflict [12] | 49:6, 54:7, | contemplates | [3] 171:24, | 139:6, |
| 107:16, | 111:23, | 54:15, | [4] 57:14, | 172:4, 188:5 | 140:21, |
| 108:2, | 114:5, | 54:20, | 122:4, | contribution | 141:3, |
| 108:5, | 119:6, | 55:15, | 122:11, | [14] 140:18, | 164:21, |
| 108:8, | 120:7, | 66:15, | 123:19 | 145:3, | 164:23, |
| 109:6, | 120:12, | 99:24, | contended - | 148:15, | 171:20, |
| 110:2, | 120:19, | 112:13, | 16:10 | 161:12, | 181:12, |
| 126:15, | 121:10, | 113:2, | contends - | 161:23, | 194:23, |
| 131:13, | 122:18, | 113:6, | 145:14 | 162:17, | 197:22, |
| 132:24, | 127:16, | 116:8, | contention - | 163:20, | 201:2 |
| 133:2, | 129:21, | 158:6, | 27:17 | 164:13, | corrected |
| 133:5, | 130:7, | 158:14, | contentions | 164:15, | 76:17 |

228

| correction - | 138:8, | 153:13, | [2] 28:20, | 129:2, | 207:22, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 109:19 | 138:17, | 153:14, | 192:5 | 130:19, | 209:18, |
| correctly [6] | 144:4 | 155:1, | Cup - 20:15 | 130:19, | 210:2, $210: 9$ |
| 53:24, | create - 14:4 | 156:11, | cure - 71:22 | 131:23, | damaged - |
| 98:12, | creature | 158:25, | curious - 87:2 | 134:22, | 172:9 |
| 98:24, | 58:5 | 159:4, | current - | 135:22, | Dan-4:2 |
| 182:3, | credit [2] | 159:21, | 185:25 | 136:4, | danger - |
| 187:12, | 34:11, 182:3 | 165:22, | currently [2] | 139:3, | 88:17 |
| 200:13 | creek [91] | 165:22, | 191:8, | 139:11, | dangerous [8] |
| correspondence | 13:7, 13:11, | 167:22, | 191:12 | 139:14, | 79:9, 86:19, |
| - 54:19 | 13:14, | 168:3, | cut [4] 11:15, | 139:21, | 86:22, 87:5, |
| couldn't [8] | 13:19, | 168:8, | 59:23, 63:7, | 140:12, | 87:22, |
| 36:10, 61:4, | 13:21, 14:2, | 168:25, | 156:5 | 142:22, | 91:16, |
| 66:21, | 14:5, 15:22, | 173:17, | cuts - 89:11 | 143:21, | 162:8, 168:7 |
| 90:23, | 16:12, | 173:23, | CWA - 12:21 | 144:21, | data [17] |
| 146:13, | 16:16, 17:5, | 174:3, |  | 146:6, | 23:25, 38:3, |
| 165:13, | 17:16, | 175:2, | D | 147:6, | 41:12, |
| 165:14, | 17:24, 18:3, | 178:12, |  | 147:17, | 41:13, |
| 166:14 | 18:11, | 180:2, | daily - 14:3 | 147:21, | 90:21, |
| Counsel [6] | 18:22, | 182:8, | damage [121] | 147:24, | 172:13, |
| 4:18, 10:8, | 18:23, | 182:19, | 15:8, 15:14, | 150:4, | 172:14, |
| 32:5, 42:21, | 26:13, | 186:16, | 23:23, 30:1, | 150:18, | 178:1, |
| 94:24, | 26:23, | 186:19, | 30:3, $30: 8$, | 150:20, | 178:15, |
| 208:12 | 29:21, | 194:1, 198:9 | 30:10, 36:4, | 150:22, | 179:17, |
| County [2] | 29:25, | creeks [2] | 36:17, | 152:3, | 180:19, |
| 217:4, 217:6 | 37:19, | 155:10, | 38:14, | 152:8, | 180:20, |
| couple [7] | 37:22, 38:9, | 156:14 | 41:22, | 153:6, | 183:1, |
| 14:17, | 39:4, 39:14, | criteria [3] | 60:15, | 153:17, | 183:16, |
| 33:23, | 40:10, | 154:13, | 60:21, | 154:10, | 184:23, |
| 47:15, 83:3, | 40:17, | 154:14, | 60:22, 61:6, | 154:13, | 185:22, |
| 85:5, | 43:17, | 173:5 | 109:24, | 154:14, | 186:13 |
| 186:25, | 43:24, | Critically - | 110:20, | 156:2, | David [5] |
| 200:1 | 44:16, | 46:17 | 111:4, | 160:2, | 1:20, 5:18, |
| course [3] | 44:17, | critters [6] | 111:18, | 162:3, | 5:23, |
| 37:14, 61:4, | 44:18, | 41:1, $41: 9$, | 111:20, | 166:2, | 127:13, |
| 119:18 court [27] | 44:22, 45:3, | 177:16, | 111:21, | 166:11, | 214:4 ${ }_{\text {deal }}$ [5] 5:17 |
| court [ 27$]$ $1: 24,3: 22$, | 45:10, | $177: 21$, $177: 22$, | 112:16, | 166:14, | $\begin{gathered} \text { deal [5] 5:17, } \\ 7: 4,33: 21, \end{gathered}$ |
| 17:23, 18:1, | 45:16, | 178:19 | 114:3, | 169:21, | 38:22, |
| 18:5, 22:2, | 46:24, | cross-examine | 115:3, | 170:8, | 135:25 |
| 45:9, 48:2, | 52:15, | - 28:12 | 115:5, | 170:15, | dealing [5] |
| 48:15, 50:7, | 60:13, | crow [2] 22:8, | 117:14, | 170:18, | 26:20, |
| 103:10, | 62:13, 90:7, | 25:3 | 117:20, | 170:22, | 123:21, |
| 125:20, | 90:10, | CRUTCHER [3] | 117:23, | 171:6, | 136:13, |
| 125:25, | 100:5, | 1:23, 217:5, | 117:25, | 171:8, | 190:14, |
| 126:10, | 139:16, | 217:19 | 118:8, | 171:16, | 196:6 |
| 126:11, | 140:16, | cumulative | 118:9, | 172:6, | deals - 106:22 |
| 126:22, | 142:8, | [22] 12:1, | 118:21, | 172:22, | dealt [6] |
| 144:16, | 142:9, | 13:17, 14:9, | 121:12, | 173:10, | 53:4, 53:7, |
| 150:11, | 142:10, | 15:7, 15:15, | 121:13, | 174:6, | 101:24, |
| 150:12, | 144:9, | 29:1, $29: 14$, | 121:23, | 185:20, | 135:21, |
| 152:17, | 144:10, | 59:22, | 121:24, | 186:22, | 135:24, |
| 154:22, | 145:12, | 80:17, 82:5, | 122:4, | 191:19, | 136:1 |
| 166:19, | 145:15, | 84:1, | 122:5, | 193:5, | Dearment [44] |
| 167:17, | 145:20, | 110:16, | 122:10, | 193:16, | 1:18, 6:13, |
| 173:3, | 146:4, | 111:2, | 122:24, | 193:17, | 19:23, 55:6, |
| 173:25, | 148:1, | 124:22, | 123:1, | 194:22, | 55:10, 56:2, |
| 217:5, | 148:9, | 128:25, | 124:13, | 195:18, | 57:20, |
| 217:20 | 148:11, | 149:17, | 124:20, | 195:20, | 61:19, 64:8, |
| Court's [2] | 148:16, | 149:19, | 124:25, | 195:23, | 68:24, 69:9, |
| 45:4, 182:5 | 148:25, | 150:15, | 125:22, | 197:9, | 69:14, |
| courtroom [2] | 149:3, | 152:21, | 127:17, | 200:11, | 69:24, 70:3, |
| 22:14, 22:15 | 149:11, | 167:21, | 127:24, | 201:6, | 72:14, |
| Courts [2] | 149:20, | 168:14, | 128:5, | 203:18, | 140:13, |
| 50:8, 62:2 | 151:19, | 193:3 | 128:10, | 204:11, | 140:24, |
| covered [3] | 153:4, | cumulatively | 128:15, | 204:21, | 141:9, |

229

| 142:2, | 132:25, | 73:25, | 114:15, | 3:25, 4:11, | 115:5, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 147:10, | 133:4, | 73:25, | 120:24, | 7:21, 12:4, | 115:6, |
| 147:13, | 133:6, | 76:11, | 142:5, | 18:21, 19:6, | 115:8, |
| 151:8, | 154:9, | 76:19, | 159:13, | 19:7, 19:24, | 116:13, |
| 151:25, | 157:9, | 76:25, 80:1, | 186:17 | 30:24, | 117:24, |
| 153:15, | 158:13, | 80:10, | demonstrating | 33:19, | 118:22, |
| 156:21, | 158:17, | 80:11, | - 193:2 | 33:20, 36:2, | 121:11, |
| 157:1, | 160:11, | 80:16, | demonstration | 36:7, 41:11, | 121:20, |
| 160:17, | 166:16, | 80:19, | [7] 27:12, | 43:7, 46:9, | 122:10, |
| 160:20, | 182:5, | 80:20, 81:7, | 27:14, | 46:13, | 122:14, |
| 161:19, | 196:9, | 81:16, | 27:14, | 48:22, 49:2, | 124:12, |
| 163:1, | 211:14, | 81:19, | 27:15, | 49:4, 50:17, | 124:24, |
| 164:13, | 211:21, | 81:23, | 27:19, | 56:15, | 125:6, |
| 165:13, | 211:22, | 81:24, | 27:21, 35:22 | 59:15, | 127:23, |
| 171:10, | 212:1, | 81:25, 83:4, | demonstrative | 61:15, | 129:4, |
| 171:13, | 212:13, | 91:11, | - $90: 9$ | 82:21, 83:2, | 130:13, |
| 171:21, | 212:16, | 132:20, | denied - | 97:6, 98:5, | 130:17, |
| 172:20, | 212:17, | 144:21, | 64:13 | 109:13, | 130:18, |
| 174:11, | 213:17, | 153:17, | denominated - | 112:22, | 131:4, |
| 177:8, | 213:18, | 153:19, | 96:6 | 113:22, | 131:6, |
| 177:10, | 213:20, | 166:2, | deny [3] 14:1, | 116:9, | 132:1, |
| 181:4, | 213:24 | 169:21, | 30:7, 171:7 | 140:20, | 165:25, |
| 181:7, | decisions [4] | 170:22, | denying - | 147:19, | 207:22, |
| 181:8, | 19:16, | 171:16, | 87:7 | 147:25, | 209:18, |
| 181:21, | 25:20, 50:4, | 172:5, | Department | 154:12, | 210:2, 210:8 |
| 194:16 | 156:8 | 194:22, | [31] 2:6, 2:8, | 167:14, | despite [2] |
| Dearment's - | decline - | 195:18, | 20:5, 24:1, | 169:4, | 151:15, |
| 164:8 | 212:14 | 195:22 | 26:7, 29:12, | 178:22, | 152:9 |
| decades - | decreased [2] | definitions | 36:9, 48:1, | 179:25, | destroy |
| 145:19 | 159:22, | 214:20 | 56:20, | 180:10, | 155:9 |
| December - | 159:24 | definitively - | 73:20, | 181:24, | destruction - |
| 34:19 | decry - 25:12 | 117:22 | 83:21, | 182:10, | 156:13 |
| decide [5] | dedicated - | degradation | 85:18, | 185:15, | detail [5] |
| 10:17, | 24:16 | [5] 36:16, | 95:11, | 185:18, | 33:5, 37:17, |
| 10:18, | deemed [2] | 144:22, | 98:20, | 194:24, | 40:6, 41:5, |
| 10:24, | 77:1, 77:5 | 214:9, | 104:11, | 200:9 | 84:20 |
| 68:25, 160:8 | defense [2] | 214:12, | 108:21, | DEQ's [12] | detailed - |
| decided [4] | 155:15, | 214:14 | 109:2, | 13:25, | 86:3 |
| 34:19, | 155:16 | degrade - | 110:12, | 16:24, 17:9, | details - 84:9 |
| 35:14, | defer - 73:16 | 42:7 | 110:18, | 19:3, 25:7, | detect [2] |
| 173:1, | deferential - | degree [4] | 110:24, | 46:8, 46:19, | 90:23, |
| 185:11 | 50:3 | 97:4, 99:9, | 111:1, | 66:2, | 168:25 |
| decides - 72:6 | deficiency [7] | 118:2, 127:9 | 120:20, | 134:18, | detectable [2] |
| decision [53] | 34:1, 35:23, | delete - | 124:23, | 148:18, | 159:3, 177:2 |
| 5:22, 7:11, | 35:24, | 202:10 | 129:19, | 181:10, | determination |
| 8:15, 16:4, | 54:18, | deliberating | 131:1, | 185:20 | [18] 15:15, |
| 19:10, | 83:24, 86:6, | [2] 104:14, | 145:8, | derail - 72:24 | 22:5, 44:7, |
| 19:15, | 178:5 | 111:8 | 161:13, | described [3] | 44:10, 49:2, |
| 19:17, 20:6, | define - 153:6 | deliberation | 164:7, | 39:19, | 60:15, |
| 21:5, 22:6, | defined [4] | 112:1 | 174:2, | 117:9, | 60:21, |
| 22:9, 48:2, | 59:18, | demeans - | 193:2, | 117:11 | 60:22, 61:6, |
| 49:16, | 85:23, | 44:21 | 207:16 | description - | 104:24, |
| 50:10, | 152:3, | demonstrate | Department's | 94:21 | 139:11, |
| 53:10, | 193:17 | [5] 84:10, | [9] 21:9, | deserve-25:4 | 141:7, |
| 53:18, | definition [44] | 117:13, | 22:6, 24:14, | design [2] | 185:21, |
| 57:17, 73:9, | 28:7, 46:10, | 118:20, | 27:20, | 129:22, | 203:17, |
| 73:16, 76:1, | 59:16, | 118:21, | 66:17, | 208:9 | 207:21, |
| 76:14, 86:2, | 59:17, | 130:1 | 74:19, | designated [4] | 209:17, |
| 92:7, 92:21, | 59:21, | demonstrated | 143:15, | 38:17, | 210:1, 210:8 |
| 92:22, | 59:25, 60:6, | [3] 43:19, | 147:1, | 154:5, | determine |
| 92:23, | 61:12, | 45:22, 186:4 | 173:13 | 173:5, 182:4 | [10] 30:15, |
| 100:24, | 62:10, | demonstrates | depending - | designed [30] | 43:9, 43:13, |
| 104:4, | 63:16, | [10] 14:9, | 139:17 | 110:19, | 57:10, |
| 105:9, | 63:19, | 81:8, 84:14, | deposits - | 111:19, | 93:22, |
| 105:9, | 66:18, | 85:1, | 194:6 | 111:20, | 121:10, |
| 121:14, | 68:19, | 110:15, | DEQ [47] | 113:4, | 152:21, |

230

| 179:15, | 92:25, 93:3, | 135:24, | 196:22, | dewatering [7] | 181:14, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 183:24 | 93:5, 93:8, | 136:2, | 196:25, | 30:11, | 181:16 |
| determined | 93:12, | 136:5, | 197:2, | 52:14, | discharged [3] |
| [6] 41:1, | 93:14, | 136:10, | 197:6, | 60:11, | 17:2, 17:3, |
| 82:24, | 93:17, | 136:14, | 197:8, | 60:11, 61:1, | 25:8 |
| 90:18, | 93:20, 94:6, | 136:18, | 197:17, | 61:14, 62:13 | dischargers - |
| 143:20, | 94:15, 95:1, | 136:21, | 197:20, | Dexter [5] | 145:24 |
| 147:25, | 95:12, | 137:1, | 197:24, | 1:19, 4:25, | discharges [6] |
| 159:2 | 95:19, | 137:8, | 198:3, | 135:8, | 37:14, |
| determines | 97:18, 98:5, | 137:15, | 198:5, | 203:6, 205:9 | 144:1, |
| [2] 123:24, | 98:17, | 137:18, | 198:8, | dictionary - | 144:2, |
| 124:23 | 98:23, 99:3, | 137:21, | 198:18, | 27:16 | 144:4, |
| determining | 100:16, | 137:24, | 198:22, | difference [5] | 144:11, |
| [3] 123:17, | 102:2, | 138:1, | 198:24, | 82:9, 82:12, | 163:12 |
| 124:4, | 102:13, | 138:5, | 199:2, | 111:17, | disciplines - |
| 126:16 | 102:20, | 138:14, | 199:4, | 112:10, | 21:23 |
| detriment - | 103:6, | 138:19, | 199:11, | 178:15 | discount - |
| 104:17 | 103:18, | 138:22, | 199:20, | differences - | 16:1 |
| DEVENY [269] | 104:19, | 138:25, | 201:3, | 108:12 | Discovery - |
| 1:17, 3:4, | 105:16, | 139:2, | 201:11, | differently - | 82:15 |
| 3:8, 3:16, | 105:21, | 140:9, | 202:7, | 110:23 | discrepancy - |
| 4:1, 4:4, | 105:23, | 141:8, | 202:14, | differing - | 113:25 |
| 4:8, 4:14, | 106:6, | 141:19, | 203:6, | 47:22 | discretion |
| 4:21, 4:24, | 106:8, | 143:7, | 203:10, | difficult - | 73:14 |
| 5:6, 5:9, | 106:16, | 143:10, | 204:2, | 32:9 | discuss [4] |
| 6:2, 6:16, | 106:21, | 147:8, | 205:3, | dig - 63:6 | 13:2, 48:11, |
| 6:20, 6:23, | 106:25, | 147:15, | 205:9, | digging [3] | 67:3, 108:14 |
| 7:1, 7:8, | 107:13, | 156:5, | 205:22, | 74:16, | discussed [9] |
| 7:14, 7:18, | 108:6, | 156:15, | 206:19, | 151:12, | 51:17, 59:1, |
| 8:10, 11:2, | 108:11, | 156:18, | 206:22, | 151:22 | 76:5, 82:14, |
| 11:5, 19:19, | 108:24, | 156:24, | 207:9, | digress - 84:7 | 83:1, 188:1, |
| 19:24, | 109:8, | 160:16, | 207:17, | diluted - | 188:2, |
| 31:13, | 109:16, | 160:19, | 208:11, | 147:12 | 197:16, |
| 31:18, | 110:4, | 164:9, | 208:19, | direct - 17:23 | 209:12 |
| 42:14, 47:7, | 111:11, | 165:1, | 209:7, | directed [3] | discusses |
| 47:11, 51:1, | 111:15, | 165:6, | 210:12, | 35:9, 81:19, | 54:5 |
| 51:5, 52:3, | 111:17, | 166:19, | 210:19, | 164:16 | discussing [2] |
| 52:6, 53:20, | 112:6, | 166:23, | 210:21, | directive - | 78:16, |
| 55:24, | 113:22, | 167:1, | 211:2, | 123:9 | 107:23 |
| 56:14, | 116:2, | 167:3, | 211:5, | directly - | discussion |
| 56:22, | 118:24, | 167:6, | 211:8, | 27:16 | [74] 52:12, |
| 58:21, | 123:12, | 169:3, | 211:11, | disagree [6] | 52:19, |
| 58:24, | 126:5, | 171:9, | 211:13, | 10:2, 14:19, | 67:15, |
| 62:15, | 126:7, | 171:12, | 211:19, | 32:11, | 67:18, |
| 63:22, 64:2, | 127:13, | 174:8, | 212:2, | 77:18, | 75:18, |
| 64:20, | 127:19, | 175:9, | 212:18, | 80:19, | 92:12, |
| 64:24, 65:5, | 128:17, | 175:12, | 213:1, | 123:14 | 92:14, |
| 65:11, | 128:20, | 178:25, | 213:5, | disagreed - | 100:9, |
| 65:13, | 129:10, | 179:4, | 213:8, | 77:13 | 100:23, |
| 65:18, | 129:14, | 181:4, | 213:12, | disagreement | 102:14, |
| 67:23, 68:1, | 130:11, | 181:7, | 213:14, | [2] 107:5, | 106:1, |
| 68:15, | 131:2, | 182:15, | 213:25, | 107:19 | 106:25, |
| 68:23, 70:1, | 131:8, | 185:9, | 214:3, | disagrees - | 107:1, |
| 73:3, $73: 21$, | 132:3, | 186:20, | 214:16, | 50:1 | 107:20, |
| 74:20, | 132:15, | 188:18, | 215:4, | discern - | 107:24, |
| 77:23, | 132:21, | 190:7, | 215:12, | 159:8 | 107:25, |
| 78:11, | 133:7, | 191:18, | 215:16, | discharge [11] | 108:15, |
| 79:13, 83:5, | 133:18, | 192:8, | 215:20, | 26:18, | 108:22, |
| 83:8, 83:13, | 134:4, | 192:13, | 215:22, | 145:16, | 109:7, |
| 83:16, | 135:1, | 192:16, | 215:24 | 145:21, | 110:6, |
| 86:13, | 135:5, | 192:20, | deviation - | 148:12, | 117:6, |
| 91:18, | 135:8, | 194:14, | 168:23 | 149:4, | 117:15, |
| 91:21, 92:8, | 135:11, | 195:6, | devil's - 70:9 | 161:6, | 118:3, |
| 92:12, | 135:15, | 196:11, | dewatered [3] | 161:24, | 118:16, |
| 92:14, | 135:17, | 196:16, | 29:21, | 162:18, | 129:17, |
| 92:16, | 135:20, | 196:20, | 29:25, 60:13 | 163:5, | 132:9, |


| 132:11, | 48:20, 80:7, | 134:7, 157:9 | 169:14, | 180:6, | 14, 14:1, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 132:23, | 89:23, | documents [4] | 169:18, | 183:18, | 60:3, 98:7, |
| 133:10, | 97:21, | 46:5, 56:22, | 170:13, | 186:6, | 98:24, |
| 133:15, | 146:21, | 60:4, 82:16 | 170:20, | 194:4, | 101:4, |
| 133:19, | 149:9, 207:2 | door [3] 71:9, | 171:4, | 194:7, 194:8 | 130:4, |
| 134:2, | disputed [2] | 71:10, | 195:7, | easy [2] | 160:2, |
| 134:6, | 88:18, 169:1 | 173:22 | 195:11 | 81:20, | 172:23, |
| $135: 2$, | disputes [2] | dory - 41:10 | duty [2] 25:7, | 122:20 | 202:10 |
| 137:19, | 48:24, 70:11 | downstream | 25:9 | echo - 98:20 | electronic |
| 138:20, | disqualify [2] | [5] 157:24, |  | ecology - | 192:11 |
| 139:12, | 5:18, 5:23 | 159:8, | E | 23:22 | element [3] |
| 140:6, | dissolve - | 159:19, |  | Ed - 3:23 | 36:16, |
| 141:12, | 187:9 | 159:20, | e.g-157:24 | edge - 90:21 | 39:21, $46: 15$ |
| 142:21, | dissolved [4] | 177:2 | earlier [5] | editorializing | elements [2] |
| 151:5, | 35:4, 39:7, | dozen-30:25 | 23:5, 82:14, | -190:8 | 32:10, 33:12 |
| 160:4, | 39:10, 52:15 | Dr [31] 5:18, | 107:1, | EFAC [21] | elevated - |
| 186:21, | distinct [2] | 17:9, $23: 19$, | 141:15, | 13:20, 37:6, | 177:16 |
| 192:18, | 181:21, | 23:22, | 150:18 | 148:5, | elsewhere [3] |
| 192:21, | 181:22 | 23:25, | earn-86:15 | 148:19, | 116:20, |
| 193:25, | distinction [2] | 24:14, | easier [3] | 148:20, | 157:8, |
| 196:13, | 111:6, | 30:23, | 99:15, | 157:10, | 172:16 |
| 197:18, | 129:18 | 40:13, 43:2, | 120:1, | 157:12, | email [2] |
| 198:22, | distinctions | 43:6, 44:2, | 133:16 | 157:17, | 10:10, 167:5 |
| 199:20, | 111:22 | 83:9, 83:14, | East [37] | 157:22, | emailed - |
| 199:23, | distinguish - | 91:19, | 1:12, 13:18, | 157:23, | 10:16 |
| 200:2, | 40:15 | 151:1, | 26:22, | 158:2, | embedded |
| 200:4, | distorted | 159:15, | 29:21, | 158:18, | 96:8 |
| 200:19, | 188:15 | 167:25, | 29:24, | 167:12, | Emily - 24:15 |
| 200:25, | distortions | 172:10, | 36:24, | 185:24, | emissions - |
| 201:4, | 24:3 | 172:12, | 36:24, | 189:10, | 126:18 |
| 202:16, | District - 50:7 | 174:21, | 36:24, | 189:14, | emphatically - |
| 205:4, | disturbed - | 178:7, | 37:12, | 189:16, | 44:20 |
| 205:12, | 29:4 | 179:10, | 37:19, | 206:12, | empirical - |
| 205:19, | disturbing | 179:18, | 37:22, 38:8, | 209:20, | 183:25 |
| 209:8, | 50:24 | 180:20, | 39:4, 39:14, | 210:10, | empirically - |
| 210:22, | diverse [4] | 182:23, | 40:9, $40: 16$, | 214:9 | 186:4 |
| 211:6, | 43:20, 44:9, | 184:21, | 45:13, | EFAC's [2] | empty [3] |
| 211:16, | 172:15, | 184:24, | 62:13, 90:6, | 158:7, | 155:16, |
| 212:5, | 186:5 | 185:21, | 140:16, | 186:10 | 155:19, |
| 212:6, | diversity [10] | 186:2, | 142:8, | effect [10] | 158:10 |
| 212:12, | 41:17, | 188:2, | 142:9, | 26:23, 38:9, | enabling - |
| 212:15, | 41:18, 44:2, | 191:10 | 142:10, | 40:2, 54:6, | 119:5 |
| 212:17, | 96:25, 97:2, | draconian | 143:19, | 105:3, | enacting - |
| 212:19, | 97:3, | 21:6 | 146:3, | 172:1, | 119:11 |
| 212:22, | 172:18, | draft [8] | 148:1 | 177:15, | encompass - |
| 213:6, | 177:22, | 56:23, 57:3, | 149:11, | 178:20, | 188:9 |
| 214:4, | 179:22, | 57:6, 58:6, | 158:25, | 193:11, | encompasses |
| 215:13 | 186:17 | 58:7, 62:4, | 159:4, | 193:18 | 172:6 |
| discussions | divide - 90: | 85:25, 86:1 | 165:22, | effectively [2] | endemic |
| [3] 47:18, | divides - | draw - 72:2 | 173:16, | 34:21, | 194:7 |
| 75:22, | 84:11 | drives - 57:8 | 173:16, | 178:15 | Energy [9] |
| 108:12 | division [2] | drop [2] 42:3, | 174:3, | effects - | 2:11, 5:15, |
| disinterested - | 147:2, | 161:3 | 178:12, | 15:16 | 7:21, 19:24, |
| 21:15 | 184:11 | dry [4] 37:3, | 186:15, | effort [3] | 31:14, |
| disparaging - | Doct | 37:5, 38:20, | 186:18, | 32:2, 32:9, | 31:24, 98:6, |
| 84:18 | 176:20 | 38:24 | 198:9 | 88:13 | 113:23, |
| displayed - | document [16] | due [2] 13:8, | eastern [15] | ego - 9:21 | 185:14 |
| 134:19 | 12:5, 46:4, | 85:14 | 155:1, | eight [6] | Energy)permit |
| disposition - | 53:22, | duration [15] | 162:13, | 34:1, 35:2, | - $1: 5$ |
| 72:10 | 57:12, | 16:19, | 164:3, | 38:12, | engineer |
| dispositive [2] | 58:15, 59:7, | 17:11, | 172:17, | 57:13, | 32:17 |
| 10:13,10:20 | 62:4, 66:4, | 23:12, | 175:3, | 83:23, 200:5 | Engineers [3] |
| dispositively - | 66:6, 86:2, | 39:16, $40: 1$, | 177:20, | EIS - 56:16 | 4:6, 31:22, |
| 59:14 dispute [8] | 98:1, 98:9, | 142:20, | 177:23, | EIS-like - | 32:16 |
| dispute [8] | 114:21, | 142:21, | 178:13, | 82:3 | ensure - |
| 13:16, | 121:4, | 151:3, | 179:2, | either [10] | 24:23 |


| ensures - | Eric - 183:13 | 56:20, 185:1 | 159:13, | 10:17, | 104:16 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 156:12 | erroneous | everybody [5] | 159:14, | 20:16, 23:3, | exhausted [5] |
| entangled - | [19] 13:4, | 94:4, 94:16, | 159:18, | 96:25, | 72:8, 73:8, |
| 127:6 | 59:16, 60:6, | 108:3, | 165:19, | 110:11, | 77:2, 174:1, |
| enter [2] | 60:18, | 166:20, | 170:18, | 184:7, | 186:21 |
| 112:1, | 61:12, | 210:12 | 172:11, | 187:19, | exhausting - |
| 126:15 | 63:19, | everyone [6] | 174:4, | 209:15 | 25:24 |
| entered [3] | 66:18, | 11:18, | 182:24, | exceeding | exhaustion |
| 49:15, 65:6, | 68:19, | 13:19, | 183:2, | 148:4 | [19] 25:12, |
| 68:5 | 70:24, | 33:10, | 189:20, | Excellent - | 25:23, $26: 7$, |
| entertain - | 71:11, | 84:20, | 200:8, | 201:1 | 46:19, |
| 211:16 | 73:24, | 169:1 | 201:18, | except - | 57:23, |
| entertainment | 76:18, | 214:13 | 203:16, | 66:23 | 61:18, |
| - 112:19 | 76:25, | everything | 207:20, | exception [8] | 61:22, 62:3, |
| entire [11] | 80:10, 81:7, | [17] 7:2, | 207:25, | 57:23, 79:1, | 62:6, 62:7, |
| 9:12, 10:19, | 81:16, | 15:16, 34:5, | 209:16, | 88:14, 91:4, | 66:9, 68:3, |
| 19:3, 49:21, | 81:18, 83:4, | 41:9, 57:15, | 214:10 | 107:20, | 68:6, 71:22, |
| 63:17, | 141:5 | 89:5, 90:22, | exacerbate | 194:18, | 73:17, |
| 78:22, | error - 15:25 | 114:12, | 163:8 | 212:12, | 77:17, 79:1, |
| 79:15, | errors - 99:19 | 131:21, | exact [3] | 212:24 | 88:14, 96:10 |
| 79:16, | especially [2] | 134:21, | 63:2, 63:5, | exceptions | exhibit [3] |
| 104:18, | 90:20, 196:1 | 145:1, | 166:6 | [25] 12:17, | 82:19, 90:6, |
| 145:17, | ESQ [3] 2:3, | 160:25, | exactly [3] | 22:22, 27:5, | 91:8 |
| 212:21 | 2:7, 2:12 | 179:7, | 83:24, | 95:14, | exhibits - |
| entirely [7] | essence - | 190:14, | 127:3, 190:9 | 95:23, | 97:3 |
| 54:16, | 209:21 | 195:2, | Examiner [40] | 98:11, | exist [4] |
| 61:25, 63:4, | essential [5] | 200:20, | 9:13, 9:21, | 98:14, | 117:3, |
| 75:14, | 22:5, | 206:11 | 20:8, 20:25, | 101:5, | 145:4, |
| 82:25, | 203:17, | everywhere - | 21:9, 34:12, | 101:6, | 176:8, 194:8 |
| 163:20, | 207:21, | 155:3 | 35:9, $35: 11$, | 101:9, | existing [13] |
| 204:7 | 209:17, | evidence [62] | 37:18, 38:2, | 102:5, | 15:19, |
| entirety [2] | 210:1 | 9:10, 21:14, | 49:19, 50:2, | 103:23, | 15:22, 28:5, |
| 8:25, 199:17 | essentially [2] | 21:17, 22:4, | 50:16, | 104:5, | 29:23, 30:1, |
| entitled [3] | 10:16, | 22:15, | 50:21, | 104:7, | 30:8, |
| 73:10, | 194:21 | 23:11, 25:1, | 50:24, | 104:13, | 146:25, |
| 99:11, | establish [5] | 35:12, | 57:20, 59:1, | 104:14, | 150:6, |
| 104:23 | 166:15, | 35:13, | 62:19, | 104:22, | 158:7, |
| entitlement - | 189:3, | 37:20, 40:8, | 64:10, | 114:21, | 163:6, |
| 103:2 | 203:17, | 42:6, 49:23, | 70:11, | 115:13, | 166:14, |
| enumerate | 207:20, | 52:9, 54:21, | 70:17, 71:8, | 120:15, | 173:12, |
| 140:5 | 209:16 | 76:2, 78:21, | 71:10, 72:5, | 139:25, | 202:13 |
| environment - | established | 96:1, 96:14, | 72:7, 72:9, | 143:6, | exists [4] |
| 26:24 | [2] 79:6, | 96:17, | 75:3, $76: 13$, | 149:25, | 118:10, |
| environmental | 126:18 | 96:18, | 87:18, 91:4, | 182:22, | 118:11, |
| [14] 1:1, 2:4, | establishes - | 98:16, 99:2, | 105:7, | 190:4 | 146:20, |
| 2:8, 11:10, | 61:22 | 99:4, 101:4, | 114:7, | excessive - | 202:21 |
| 12:2, 17:21, | establishing | 101:11, | 117:15, | 13:8 | expand - |
| 24:18, 29:9, | [2] 22:4, | 101:22, | 118:6, | Exclude - | 150:23 |
| 32:17, 48:1, | 125:18 | 112:21, | 118:14, | 82:17 | expansion [5] |
| 65:10, | etc - 7:22 | 112:22, | 157:11, | excluded [7] | 13:17, 14:8, |
| 149:22, | evaluate [5] | 112:25, | 158:12, | 30:18, 76:2, | 14:24, 15:3, |
| 156:12, | 56:5, 84:22, | 113:7, | 159:2, | 77:2, 83:2, | 82:13 |
| 168:13 | 84:25, | 113:11, | 212:16, | 89:21, | expansions - |
| EPA [2] | 86:10, 86:12 | 113:15, | 213:18 | 89:23, 90:1 | 83:3 |
| 19:11, 19:14 | evaluated - | 113:18, | Examiner's | exclusive - | expect [2] |
| ephemeral [9] | 159:19 | 116:9, | [11] 21:5, | 160:13 | 17:10, 84:8 |
| 36:25, 37:2, | evaluating - | 116:24, | 50:4, 92:3, | exclusively - | expended - |
| 38:7, 38:10, | 84:13 | 126:16, | 92:20, | 171:15 | 33:20 |
| 157:14, | evaluation | 126:24, | 92:22, | excoriate - | experience [2] |
| 158:4, | 158:22 | 146:9 | 92:24, | 22:9 | 162:11, |
| 186:12, | eve - 27:1 | 146:10, | 138:12, | excuse [3] | 167:13 |
| 194:2, 194:3 | even-handedly | 157:12, | 211:22, | 176:20, | expert [22] |
| equals [2] | - $26: 1$ | 158:7, | 212:1, | 197:2, | 16:25, 17:9, |
| 189:4, 190:2 | event-50:6 | 158:15, | 213:20, | 212:14 | 23:22, 25:8, |
| equate - | eventually [4] | 158:22, | 213:24 | exhaust [2] | 35:2, 41:14, |
| 147:6 | 20:10, 37:8, | 159:1, | example [8] | 78:24, | 44:6, 74:5, |

233

| 146:11, | extends - | 206:14, | 156:3, 156:7 | 49:22, 50:3, | 194:10, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 164:13, | 155:11 | 207:5, | feeling [2] | 50:19, | 195:7, |
| 167:20, | extensive - | 207:19, | 91:23, 216:4 | 51:25, 53:1, | 201:4, 212:7 |
| 173:9, | 152:14 | 209:15 | felt [3] 52:16, | 74:9, 75:21, | finds [2] |
| 174:22, | extent [12] | failing - 22:16 | 69:12, 73:10 | 75:25, 77:7, | 49:20, 189:2 |
| 174:25, | 23:11, | fails - 6:24 | fertilizer [2] | 78:21, 87:8, | fine [4] |
| 177:19, | 40:10, 42:9, | failure - 26:8 | 37:13, 37:14 | 92:5, 93:21, | 19:23, 47:7, |
| 178:3, | 92:22, | fair [6] 8:2, | fifteen-7:24 | 94:1, 94:6, | 88:1, 131:14 |
| 178:9, | 114:4, | 21:11, | figure [2] | 94:7, 94:16, | finer - 125:11 |
| 179:9, | 124:13, | 30:21, | 171:14, | 95:24, | finger - |
| 180:25, | 129:21, | 64:11, | 204:3 | 96:19, | 158:10 |
| 183:13, | 130:7, | 71:21, 81:12 | filed [3] | 96:22, 97:1, | finish - 147:3 |
| 184:22, | 145:12, | fairly - 87:1 | 29:10, | 97:4, 97:13, | fishes - 158:4 |
| 187:1 | 170:23, | fairness [10] | 79:21, 79:24 | 98:7, 98:15, | fit - 204:3 |
| expertise [2] | 171:18, | 56:3, 56:5, | filing - 66:12 | 98:21, 99:8, | five [8] |
| 43:8, 43:8 | 203:4 | 57:19, | final [12] 9:1, | 99:10, | 11:11, |
| experts [7] | extraordinary | 61:19, 64:9, | 9:1, 9:5, | 99:12, | 12:23, 35:2, |
| 21:18, | [2] 32:2, 32:9 | 68:24, 69:7, | 9:13, $56: 21$, | 99:17, | 42:15, 96:9, |
| 22:14, | extreme - | 69:12, | 57:16, | 100:10, | 112:7, |
| 38:13, | 161:5 | 69:25, 71:6 | 104:14, | 100:12, | 143:8, 170:3 |
| 38:17, | extremely [2] | fall-197:10 | 105:2, | 100:19, | fix [3] 205:2, |
| 168:21, | 27:7, 39:5 | fallible - | 105:8, | 100:21, | 205:5, |
| 178:22, |  | 122:9 | 105:9, | 101:3, | 208:10 |
| 189:9 | F | falling - 48:5 | 132:25, | 101:7, | flaw - 16:16 |
| expires - |  | falls [5] | 180:16 | 101:13, | flawed - 14:21 |
| 217:21 | facts [20] | 39:10, 48:7, | finally [6] | 101:21, | flip [2] 171:6, |
| explain [2] | 22:5, 42:19, | 50:15, | 35:6, 36:5, | 102:6, | 204:20 |
| 28:13, 183:6 | 50:11, 71:7, | 201:25, | 85:21, | 102:10, | floors - |
| explained [4] | 74:17, | 203:22 | 168:18, | 102:15, | 128:12 |
| 74:4, | 76:16, | familiar - | 177:3, | 102:16, | Florida - |
| 150:12, | 78:21, 88:4, | 119:3 | 186:14 | 103:3, | 154:22 |
| 183:13, | 88:5, 88:18, | family - 97:10 | finals - 20:15 | 103:21, | flow [12] |
| 183:15 | 94:6, | fan - 20:14 | finding [25] | 103:22, | 15:21, 17:5, |
| explaining - | 100:21, | farming - | 29:3, 33:4, | 104:25, | 26:22, 37:4, |
| 184:19 | 105:6, | 157:16 | 44:22, | 105:3, | 39:5, |
| explains - | 105:24, | fashion - | 46:23, 64:6, | 105:4, | 148:13, |
| 27:10 | 106:3, | 64:14 | 80:22, 95:3, | 105:10, | 148:19, |
| explanation | 121:7, | favor [19] | 96:4, 96:6, | 105:24, | 148:20, |
| [2] 119:13, | 192:1, | 35:15, | 96:7, 97:1, | 106:3, | 167:12, |
| 127:11 | 203:17, | 72:18, 73:6, | 101:10, | 107:14, | 188:5, |
| explore - | 207:20, | 92:17, 93:1, | 101:19, | 108:5, | 189:13, |
| 55:19 | 209:16 | 106:2, | 101:21, | 114:16, | 189:24 |
| explored - | factual [11] | 135:12, | 101:24, | 120:24, | flowing [2] |
| 56:25 | 38:12, | 136:24, | 103:2, | 126:15, | 26:22, 38:8 |
| express - 6:5 | 48:23, | 137:22, | 123:7, | 132:23, | flows - 194:11 |
| expressed [2] | 50:15, | 138:23, | 123:8, | 133:2, | focus [8] |
| 50:18, 123:7 | 54:24, | 196:17, | 143:15, | 133:4, | 13:1, 38:5, |
| expressly [6] | 74:11, | 196:24, | 146:6, | 133:13, | 153:16, |
| 47:9, 96:16, | 74:17, | 197:24, | 170:10, | 133:21, | 171:14, |
| 160:12, | 78:21, | 198:7, | 189:12, | 133:25, | 177:8, |
| 180:1, | 87:12, | 198:24, | 189:12, | 134:7, | 185:4, |
| 180:18, | 87:16, 88:7, | 210:16, | 191:21, | 139:13, | 185:11, |
| 200:24 | 101:19 | 211:8, | 194:11 | 139:19, | 208:8 |
| extend [4] | factually [2] | 213:9, | finding's [2] | 148:3, | focused |
| 15:24, 17:1, | 42:1, 140:16 | 215:16 | 13:4, 13:6 | 153:5, | 99:18 |
| 150:19, | fail [4] 6:11, | February [2] | findings [98] | 153:18, | focusing - |
| 151:2 | 104:16, | 66:5, 185:18 | 8:24, 9:4, | 157:8, | 128:14 |
| extended [2] | 158:15, | federal [4] | 9:8, 12:24, | 158:12, | FOFCOL [3] |
| 62:19, | 201:17 | 12:9, 12:15, | 14:19, | 166:15, | 9:4, 9:15, |
| 152:13 | failed [11] | 15:12, 150:2 | 14:23, 15:6, | 176:14, | 94:14 |
| extending [5] | 71:4, 78:24, | federalism - | 16:1, $32: 21$, | 183:14, | folks [9] |
| 16:12, | 121:17, | 12:14 | 32:24, | 184:18, | 3:18, 4:1, |
| 16:19, | 164:14, | feel [7] 5:25, | 32:25, 38:1, | 187:5, | 5:13, 33:7, |
| 17:14, | 189:9, | 59:3, 64:12, | 41:5, 41:7, | 187:23, | 36:13, |
| 118:3, | 203:16, | 88:24, | 49:14, | 193:13, | 36:20, |
| 171:23 | 206:11, | 133:12, | 49:18, | 193:20, | 58:11, |


| 145:12, | 148:1, | gather - 55:14 | 4:5, 32:14 | 56:11, | 115:21, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 162:16 | 149:11, | gave [2] | ground [2] | 56:14, 68:9, | 117:12, |
| follow [6] | 158:25, | 70:17, | 16:6, 188:3 | 69:2, 69:10, | 123:8, |
| 46:13, | 159:4, | 119:13 | grounds [7] | 69:14, 70:3, | 125:6, |
| 62:15, 78:3, | 159:21, | Gee [2] | 14:20, | 72:15, | 130:3, |
| 160:17, | 165:22, | 84:22, 157:4 | 14:21, | 72:20, 78:5, | 130:14, |
| 171:10, | 173:16, | general [4] | 50:23, 73:7, | 88:2, 95:22, | 142:19, |
| 180:9 | 173:16, | 2:8, 56:3, | 95:25, | 121:8, | 163:3, |
| follow-up [2] | 174:3, | 94:10, 94:17 | 145:8, 183:2 | 129:8, | 168:7, |
| 156:23, | 178:12, | generally - | groundwater | 136:8, | 170:15, |
| 163:2 | 186:16, | 94:22 | [15] 26:22, | 140:10, | 208:6, 209:2 |
| followed - | 186:18, | generations | 84:11, 85:1, | 141:6, | happened [5] |
| 25:10 | 198:9 | 16:8 | 90:3, $90: 4$, | 141:10, | 97:24, |
| follows - | forms - 11:21 | gets [3] 10:4, | 112:21, | 145:11, | 170:19, |
| 175:16 | formulate - | 160:8, | 112:23, | 151:21, | 170:19, |
| footnote [3] | 66:17 | 210:10 | 113:5, | 162:10, | 183:5, 189:5 |
| 23:9, 97:25, | Formulating - | given [5] | 113:8, | 193:8, | happens [3] |
| 202:22 | 68:1 | 13:25, | 113:9, | 197:5, | 35:20, |
| Ford [9] 3:7, | forth [4] | 14:14, | 143:22, | 203:12, | 84:16, 155:8 |
| 3:12, 3:14, | 57:14, | 58:19, | 148:14, | 205:4, 206:4 | happy [6] |
| 11:12, | 121:1, | 99:16, 99:16 | 188:10, | guessing [2] | 13:2, 30:14, |
| 11:14, | 171:1, | giving [3] | 189:13, | 88:4, 162:11 | 81:9, 81:10, |
| 18:20, 47:1, | 212:16 | 62:7, 64:11, | 189:17 | guidance - | 83:14, 142:2 |
| 65:3, 167:5 | forward [3] | 71:21 | group [2] | 185:15 | harm [4] |
| foregoing - | 10:3, 91:5, | glad [3] 3:16, | 113:2, | guide [2] | 113:16, |
| 217:12 | 115:20 | 20:5, 188:13 | 198:12 | 17:22, | 113:18, |
| foresee - | fouls - 20:23 | glossed - | Groups [22] | 166:17 | 175:4, 175:6 |
| 61:17 | foundation | 166:3 | 49:6, 54:7, | guided - | harmed - |
| foreseen | 101:14 | goals - 156:12 | 54:15, | 156:8 | 40:24 |
| 61:4 | framework | God - 25:4 | 54:20, | guys [7] 9:19, | harmonize |
| foreshadowed | 57:3 | goes [11] | 55:15, | 55:25, 94:2, | 130:23 |
| [5] 55:17, | frankly [5] | 15:25, 37:7, | 66:15, | 106:11, | harmonized |
| 59:4, 59:10, | 33:9, 39:23, | 55:9, 80:12, | 99:25, | 125:17, | [2] 120:12, |
| 62:21, 70:15 | 80:8, | 90:7, 113:1, | 112:13 | 144:14, | 127:4 |
| forever [2] | 118:13, | 139:22, | 113:7, | 190:20 | Hart - 2:13 |
| 150:23, | 129:20 | 140:1, | 116:8, |  | hashed - 81:5 |
| 168:11 | free - 168:15 | 158:13, | 158:6, | H | hasn't-73:25 |
| forget-93:18 | Friday - 67:2 | 179:25, | 158:14, |  | hat - 123:3 |
| forgetting - | front [10] | 198:10 | 200:7, | hadn't [4] | haven't [9] |
| 8:11 | 25:12, | golden - 71:1 | 201:17, | 11:23, 56:7, | 44:18, |
| Forgive | 30:14, | golf - 37:14 | 202:1, | 59:20, 89:22 | 65:24, |
| 133:7 | 41:25, | gone [3] 79:6, | 203:16, | hair - 50:8 | 89:12, |
| forgotten - | 79:15, | 133:8, | 203:22, | hammered - | 102:4, |
| 8:6 | 79:17, | 175:12 | 206:11, | 25:24 | 121:17, |
| Fork [39] | 80:23, | gotten [2] | 206:14, | handle | 133:8, |
| 13:18, | 83:22, | 91:9, 168:13 | 207:5, | 198:12 | 136:6, |
| 26:22, | 84:20, | governed - | 207:19, | hands - 20:20 | 136:7, |
| 29:21, | 89:13, 91:14 | 144:11 | 209:15 | hanging - | 136:10 |
| 29:24, | frustrating - | governing - | growth [6] | $70: 25$ | having [8] |
| 36:24, | 176:13 | 66:20 | 14:16, | Hanson [17] | 43:8, 56:13, |
| 36:24, | full [2] 56:8, | governs [2] | 18:18, | 1:21, 3:12, | 58:25, 61:9, |
| 36:25, 37:9, | 56:13 | 12:9, 160:8 | 18:24, 19:1, | 3:13, 65:3, | 79:14, |
| 37:12, | fundamental | grain - 161:2 | 19:4, 182:7 | 65:4, 93:7, | 85:18, |
| 37:19, | [2] 83:20, | grant [2] | guarantee [3] | 93:16, | 201:12, |
| 37:22, 38:9, | 181:13 | 12:16 | 27:15, | 93:19, | 214:24 |
| 39:4, 39:14, | fundamentally | 160:24 | 115:3, | 99:20, | he's [14] |
| 40:9, 40:17, | -139:13 | granted - 35:9 | 122:24 | 99:23, | 32:14, |
| 45:13, | fur - 38:20 | grazing - | guarantees - | 135:19, | 69:24, |
| 62:13, 90:6, |  | 37:12 | 115:4 | 137:2, | 80:10, |
| 90:10, | G | greater - | guards | 166:25, | 80:12, 81:6, |
| 140:16, |  | 37:17 | 24:17 | 167:1, | 89:16, |
| 142:8, | gaps - 133:20 | greatly - | guess [33] | 196:24, | 104:15, |
| 142:9, | gatekeeper - | 39:11 | 5:12, 5:20, | 198:4, 198:7 | 104:16, |
| 142:10, | 21:25 | green - 15:3 | 51:14, | happen [14] | 104:23, |
| 143:20, | gatekeepers - | grist - 20:21 | 53:11, 55:2, | 27:24, | 141:3, |
| 146:3, | 24:10 | Gross [3] 4:5, | 55:20, 56:4, | 109:5, | 141:5, |


|  |  |  |  | 23 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 144:16, | 20:7, 20:8, | 212:16, | 96:16, | 170:21 | 86:15 |
| 166:13, | 20:25, 21:4, | 213:8, | 98:23, 99:5, | hers - 23:15 | honored - |
| 176:14 | 21:9, 26:3, | 213:18, | 99:23, | hesitate | 24:13 |
| heading [2] | 28:11, | 213:19, | 99:24, | 84:17 | hook - 151:20 |
| 74:8, 87:6 | 34:11, | 213:23 | 100:20, | higher - 17:15 | hooks - 90:7 |
| heads - 90:11 | 34:21, $35: 1$, | Hearings [5] | 102:21, | highlight - | hope [7] 5:11, |
| health [7] | 35:8, $35: 11$, | 51:11, | 102:25, | 27:8 | 20:14, 25:6, |
| 180:1, | 35:13, 36:6, | 51:15, | 103:20, | highway [4] | 42:18, |
| 180:5, | 37:18, | 52:16, 69:4, | 103:24, | 37:2, 37:7, | 91:21, 94:8, |
| 180:6, | 37:25, 38:2, | 191:21 | 104:6, | 90:22, 170:1 | 208:2 |
| 182:18, | 38:12, | heart - | 105:10, | Hillary [15] | hopefully [2] |
| 183:12, | 38:16, | 181:18 | 105:14, | 1:21, 3:11, | 144:20, |
| 183:12, | 40:21, 49:5, | Hedges [2] | 112:4, | 3:12, 3:17, | 207:16 |
| 183:17 | 49:14, | 65:9, 65:9 | 112:5, | 65:2, 65:3, | hoping - |
| hear [20] | 49:19, 50:2, | held - 72:8 | 112:8, | 93:5, 93:15, | 105:18 |
| 3:16, 7:19, | 50:4, 50:16, | Helena [3] | 117:7, | 135:17, | Hornbein [34] |
| 8:23, 19:20, | 50:21, | 1:13, 2:5, | 117:8, | 166:24, | 1:20, 5:4, |
| 31:4, 31:14, | 50:24, | 2:9 | 125:14, | 167:1, | 5:8, 10:7, |
| 69:6, 69:12, | 52:18, | hello-20:2 | 126:6, | 167:4, | 55:12, 70:6, |
| 73:15, 85:6, | 55:15, | helpful - | 126:8, | 196:22, | 74:21, 76:7, |
| 99:21, | 55:21, | 207:16 | 129:3, | 198:5, 198:6 | 77:9, 107:3, |
| 102:17, | 57:20, 59:1, | helps - 169:6 | 130:9, | Hinz [23] | 108:10, |
| 108:18, | 59:6, 62:19, | Here's [3] | 130:12, | 17:10, | 119:1, |
| 109:17, | 63:23, | 41:24, | 132:15, | 23:19, | 119:22, |
| 112:3, | 64:10, 65:7, | 142:21, | 132:17, | 23:25, | 119:25, |
| 132:5, | 67:3, $70: 11$, | 201:14 | 139:10, | 24:15, | 120:5, |
| 141:6, | 70:16, | hereby - | 140:14, | 30:23, | 123:14, |
| 141:11, | 70:17, | 217:7 | 140:22, | 40:13, 43:6, | 124:7, |
| 147:14, | 70:21, 71:8, | herein - 217:9 | 141:13, | 44:2, 151:1, | 125:13, |
| 184:5 | 71:10, | hereunto - | 142:3, | 167:25, | 130:15, |
| heard [38] | 71:15, 72:4, | 217:15 | 144:3, | 167:25, | 135:16, |
| 1:11, 9:19, | 72:5, 72:7, | Hernandez | 144:8, | 172:10, | 136:16, |
| 28:1, 32:14, | 72:9, 72:17, | [105] 2:3, | 145:14, | 172:12, | 186:24, |
| 32:22, | 72:22, | 11:6, 11:8, | 146:2, | 178:7, | 187:22, |
| 34:15, | 73:23, 75:3, | 11:9, 11:15, | 146:15, | 179:10, | 188:8, |
| 34:18, | 75:14, | 18:21, | 147:9, | 179:18, | 188:14, |
| 39:17, | 75:18, | 19:19, 23:5, | 147:16, | 180:20, | 188:20, |
| 40:13, | 76:13, 77:2, | 23:14, | 151:9, | 182:23, | 188:21, |
| 40:25, | 77:10, | 26:16, | 151:24, | 184:21, | 188:22, |
| 47:11, 59:1, | 87:18, 91:4, | 39:17, | 154:2, | 184:24, | 195:10, |
| 73:20, 75:8, | 92:3, $92: 20$, | 42:15, | 156:7, | 185:21, | 203:13, |
| 77:22, 78:5, | 92:21, | 42:17, 47:2, | 156:19, | 186:3, 188:2 | 204:5, |
| 83:7, 92:25, | 92:24, 98:8, | 47:8, $58: 23$, | 161:1, | Hinz's [4] | 208:21, |
| 95:11, | 102:20, | 59:12, 63:1, | 164:19, | 23:22, 43:2, | 213:13, |
| 97:16, | 105:6, | 64:18, | 165:8, | 43:12, | 214:18 |
| 98:23, | 117:15, | 65:20, | 167:6, | 174:21 | Hornbein's [2] |
| 104:11, | 118:6, | 65:22, | 167:9, | historic - | 78:13, 208:3 |
| 140:9, | 118:14, | 67:17, | 169:11, | 186:13 | hours [2] |
| 141:15, | 132:13, | 68:13, | 174:8, | hoc [5] 82:25, | 170:3, 200:1 |
| 141:17, | 134:4, | 68:16, | 174:10, | 91:15, | however [7] |
| 141:19, | 135:5, | 69:21, | 175:14, | 96:19, | 58:9, 77:10, |
| 156:17, | 137:21, | 69:23, | 175:19, | 96:20, | 80:16, |
| 157:3, | 138:12, | 73:24, 75:7, | 179:3, | 168:20 | 170:3, |
| 157:4, | 138:22, | 75:12, | 179:6, | hockey [3] | 201:16, |
| 159:10, | 139:2, | 76:16, | 181:9, | 20:13, | 205:5, |
| 162:15, | 156:22, | 77:16, | 181:20, | 20:14, 20:18 | 208:16 |
| 164:7, | 157:11, | 79:10, | 185:5, | hold [2] 26:2, | huge [2] |
| 175:8, | 158:12, | 79:19, | 195:17 | 72:21 | 26:9, 59:23 |
| 176:19, | 159:2, | 79:21, 80:3, | Hernandez's | Hole - 2:14 | humanity - |
| 177:19, | 178:10, | 81:13, 87:3, | [6] 38:5, | holes [2] | 24:18 |
| 181:6, | 185:12, | 87:12, 89:2, | 39:2, 70:10, | 151:11, | humans |
| 193:25, | 191:24, | 89:24, | 88:10, | 154:23 | 122:8 |
| 194:24 | 196:16, | 89:25, | 160:21, | Holland - 2:13 | humor [2] |
| hearing [98] | 201:12, | 93:10, | 165:18 | Honor [2] | 64:5, 64:16 |
| 4:24, 9:13, | 211:21, | 94:23, 95:2, | herring [2] | 81:13, 175:7 | hundred [2] |
| 9:20, 16:10, | 211:25, | 95:21, 96:3, | 168:20, | honorary - | 33:23, |


| 167:25 | 113:13, | 143:23, | - 208:25 | 134:6, | 191:7, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| hundreds [8] | 117:8, | 143:24, | impermissibly | 146:17, | 191:15, |
| 17:6, 17:13, | 117:11 | 145:1, | [2] 14:23, | 153:7, | 193:22 |
| 17:17, |  | 149:19, | 214:21 | 176:5, | increased [3] |
| 18:12, 23:6, | I | 150:15, | impinge - | 194:4, | 17:1, 169:8, |
| 86:4, 86:5, |  | 152:21, | 162:6 | 213:22 | 194:6 |
| 151:3 | idea [6] | 193:4 | implementation | inclusive [2] | increases |
| hunky - 41:10 | 17:14, | impaired [29] | [2] 15:13, | 197:15, | 169:13 |
| Hunter [3] | 18:10, 50:8, | 13:7, 13:21, | 24:9 | 198:17 | increasing [2] |
| 178:11, | 71:14, | 18:3, 18:11, | implements - | inconsistencies | 16:11, |
| 179:25, | 149:10, | 44:25, | 183:8 | - 107:8 | 209:20 |
| 180:3 | 206:17 | 45:10, | implicit [2] | inconsistency | incredibly - |
| Hunter's - | ideal - 65:24 | 139:16, | 55:20, 193:9 | - 112:10 | 155:22 |
| 180:8 | identified [2] | 140:17, | implies - | inconsistent - | incremental |
| hydrogeologists | 3:19, 59:8 | 140:20, | 193:11 | 214:22 | 193:21 |
| - 24:14 | identify [4] | 145:16, | importance - | incorporate - | independent - |
| hydrologic | 3:20, 7:8, | 145:22, | 16:2 | 153:22 | 190:21 |
| [38] 12:1, | 31:18, 96:23 | 151:13, | importantly | incorporated | indexes - |
| 12:3, 14:9, | ignore [4] | 153:14, | [3] 34:1, | [7] 52:9, | 180:4 |
| 15:7, 28:25, | 66:20, | 161:4, | 46:7, 170:25 | 53:9, 87:10, | indicated [5] |
| 29:18, 42:8, | 149:10, | 161:7, | importation - | 98:1, | 77:13, |
| 57:11, | 154:20, | 161:22, | 92:4 | 101:25, | 116:12, |
| 58:15, 84:9, | 154:23 | 162:6, | importing | 200:24, | 131:19, |
| 90:2, 94:21, | illegal [2] | 162:13, | 144:16 | 213:3 | 180:2, |
| 110:10, | 46:10, 61:2 | 162:22, | imports - | incorporates | 200:10 |
| 110:17, | illustrates - | 162:23, | 92:23 | [2] 153:8, | indicates |
| 110:20, | 22:18 | 166:9, | improper - | 199:23 | 98:11 |
| 111:2, | imagine [3] | 167:22, | 96:21 | incorporating | indicating [2] |
| 111:3, | 94:18, | 168:3, | inadmissible - | - 195:12 | 11:1, 77:11 |
| 111:4, | 112:20, | 168:9, | 24:7 | incorporation | indicator - |
| 114:2, | 177:18 | 171:23, | inapplicable - | - 138:12 | 185:23 |
| 114:20, | immeasurable | 172:21, | 26:11 | incorrect [4] | indices - |
| 115:11, | - 149:1 | 175:3, | incessantly - | 60:24, 80:1, | 180:3 |
| 115:22, | impact [19] | 181:14, | 144:3 | 81:2, 101:14 | indistinguishab |
| 116:25, | 12:1, 15:7, | 183:22 | include [10] | increase [35] | - 189:23 |
| 120:16, | 28:20, 29:1, | impairing [2] | 28:2, 80:13, | 15:21, | individual [4] |
| 121:3, | 41:3, 80:17, | 174:14, | 105:8, | 17:11, | 96:23, 99:7, |
| 123:11, | 84:13, | 174:15 | 133:18, | 17:12, | 103:15, |
| 124:25, | 84:23, | impairment | 145:25, | 39:15, | 103:21 |
| 128:24, | 110:16, | [20] 37:18, | 152:4, | 39:16, | individually - |
| 151:9, | 122:3, | 44:10, | 153:19, | 39:21, 40:4, | 103:12 |
| 151:16, | 124:22, | 45:13, | 171:22, | 142:6, | indulgence |
| 152:21, | 126:20, | 140:23, | 204:13, | 142:20, | 216:1 |
| 162:4, | 159:8, | 149:7, | 209:11 | 148:21, | influenced - |
| 187:1, | 159:13, | 151:14, | included [13] | 158:18, | 37:12 |
| 187:2, | 178:8, | 157:6, | 28:2, 28:14, | 158:20, | inform [2] |
| 193:3, | 178:24, | 157:18, | 29:1, 32:23, | 159:3, | 8:11, 113:13 |
| 193:4, | 183:23, | 158:8, | 75:4, 80:24, | 164:14, | information |
| 193:5, | 183:24, | 161:10, | 81:4, 82:3, | 164:17, | [15] 11:10, |
| 209:19 | 184:10 | 163:19, | 96:10, | 165:12, | 19:17, |
| hydrological - | impacted [4] | 164:18, | 96:19, | 165:14, | 65:10, |
| 28:15 | 113:8, | 168:6, | 97:23, | 167:11, | 90:15, |
| hydrologist | 116:17, | 171:24, | 132:24, | 167:14, | 96:20, |
| [6] 43:6, | 122:1, | 171:25, | 207:14 | 167:19, | 114:16, |
| 43:7, 90:14, | 189:17 | 173:15, | includes [5] | 168:25, | 114:18, |
| 148:14, | impacts [21] | 174:5, | 82:4, 82:9, | 171:2 | 116:10, |
| 179:21, | 12:3, 13:17, | 183:17, | 96:4, | 175:15, | 120:25, |
| 180:21 | 14:10, 16:7, | 196:5, | 112:17, | 176:4, | 121:2, |
| hydrology [2] | 28:4, 52:14, | 198:10 | 147:21 | 187:10, | 152:24, |
| 27:9, 84:10 hypothesis [2] | 84:1, $90: 24$, | impairments | including [15] | 187:15, | 168:20, |
| hypothesis [2] 165:11, | $94: 22$, $111: 3$, | [4] 146:19, $157: 23$, | 36:13, 36:21, | 187:16, | $184: 20$, 200:9, $214: 8$ |
| 201:18 | 112:22, | 163:6, 163:8 | 52:14, 82:5, | 188:25, | informed [2] |
| hypothetical | 114:2, | impartial - | 86:3, 86:5, | 189:1 | 59:22, |
| [5] 78:17, | 115:20, | 190:21 | 88:5, 121:2, | 189:10, | 185:20 |
| 112:20, | 128:25, | impermissible | 131:22, | 189:21, | informs |

237

| 139:13 | 7:25 | issuance [5] | 126:21, | 59:9, 62:2, |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| inherent - | interject - | 49:4, 59:7, | 128:13, | 62:12, 63.4 | K |
| 157:13 | 139:5 | 80:4, | 128:15, | 62:20, 63:4, |  |
| initial [4] | intermittent - | 206:15, | 142:23, | 69:1, 69:19, | Kafka-esque - |
| 48:4, 75:12, | 37:4 | 207:3 | 152:5, | 71:11, 72:6, | 21:6 |
| 132:18, | International | issue [114] | 154:8, | 75:20, | Kalispell [2] |
| 168:5 | [2] 31:22, | 6:8, 6:24, | 157:18, | 94:18, | 4:17, 65:16 |
| initially [2] | 32:15 | 7:7, 7:12, | 157:18, | 98:21, 99:8, | keeps [2] |
| 48:21, | interpretation | 7:16, 10:11, | 158:17, | 100:3, | 166:3, |
| 161:11 | - 60:18 | 12:5, 14:13, | 158:19, | 108:15, | 205:21 |
| injunction - | interpreted | 23:6, $25: 11$, | 163:17, | 131:10, | key [4] 47:15, |
| 14:6 | [3] 126:2, | 25:23, 26:7, | 163:24, | 138:7, | 99:18, |
| input-85:19 | 153:1, 153:2 | 27:16, | 166:1, | 138:20, | 142:21, |
| insects - | interpreting | 30:21, 31:5, | 169:5, | 140:10, | 143:14 |
| 172:16 | [2] 130:22, | 33:4, $33: 21$, | 170:4, | 140:12, | kinds - 97:7 |
| insert [6] | 156:11 | 35:5, 35:5, | 171:4, | 141:24, | knowing - |
| 131:18, | interrupt - | 39:18, | 172:20, | 162:10, | 133:8 |
| 131:24, | 99:20 | 39:25, | 172:21, | 162:11, | knowledge - |
| 134:23, | intersection - | 40:11, | 172:25, | 190:12, | 58:10 |
| 202:19, | 159:20 | 40:20, | 173:8, | 204:4 | known [2] |
| 202:23, | Intervenors | 51:23, | 176:9, | issuing [6] | 66:15, 66:22 |
| 203:3 | [4] 7:10, | 53:16, | 177:7, | 57:4, | knows - |
| insight - | 31:21, | 54:16, | 184:7, | 116:11, | 149:23 |
| 125:25 | 108:19, | 55:16, | 184:13, | 140:20, |  |
| insignificant - | 109:14 | 55:19, 57:8, | 186:8, | 161:13, | L |
| 189:14 | introduce | 57:16, | 188:7, | 200:10, | $\pm$ |
| insistent - | 32:13 | 59:15, | 195:7, | 200:10 | lack[2] 6:11, |
| 71:13 | intuitive - | 60:10, 61:1, | 195:11, | items - | 6:24 ${ }^{\text {a }}$, |
| instances [2] | 195:25 | 61:18, | 199:25, | 199:13 | $\text { laid - } 59: 2$ |
| 34:9, 200:3 | inundated - | 61:22, 62:3, | 201:23, | itself [5] | language [51] |
| instead - | 33:10 | 62:5, 62:5, | 205:5, | 23:2, 123:8, | 105:1, |
| 212:10 | inventing - | 62:7, 62:8, | 208:24 | 124:11, | 108:20, |
| instructed | 154:17 | 63:10, | issued [5] | 165:22, | 108:22, |
| $180: 9$ integrity [3] | invite [3] | 64:12, | 61:23, 67:1, | 194:21 | $109: 5 \text {, }$ |
| integrity [3] $18: 9,24: 23$, | 145:8, | 68:24, 69:8, | 79:20, |  | 114:1, |
| 18:9, $24: 23$, $184: 14$ | 157:7, | $70: 19$, $70: 24,72: 6$, | $79: 23$, $145: 23$ | J | 114:2, |
| 184:14 ${ }_{\text {intended }}$ [2] | involved [2] | 70:24, $72: 6$, | issues [61] |  | 114:5, |
| 118:13, | 21:11, 21:22 | 74:12, | 10:14, | $\begin{aligned} & \text { Jackson - 2:14 } \\ & \text { JD-86:16 } \end{aligned}$ | 116:22, |
| 162:25 | involves - | 74:17, | 12:23, | jettison - | 118:4, |
| intense - | 58:10 | 76:25, | 12:25, | 130:24 | 118:12, |
| 20:16 | ionic [2] | 77:13, | 12:25, 13:1, | job [4] 20:25, | 119:7, |
| intent [4] | 30:25, | 77:17, | 13:2, 18:17, | 21:2, 27:21, | 120:2, |
| 150:13, | 143:18 | 78:18, | 23:21, | 154:13 | 123:16, |
| 154:3, | iron-31:5 | 80:18, | 25:24, | jobs - 32:19 | 123:25, |
| 195:16, | irrelevant [7] | 83:17, 85:3, | 26:21, 31:2, | John [8] 1:18, | 124:3, |
| 196:3 | 17:18, | 87:16, | 33:1, 33:2, | 2:12, 4:12, | 124:9,' |
| interact [5] | 39:23, | 88:20, 89:3, | 33:3, $34: 9$, | 7:9, $31: 20$, | 124:14, |
| 28:4, 28:8, | 72:19, | 89:7, 89:9, | 34:12, | 69:7, 69:12, | 125:5, |
| 28:23, 29:2, | 160:5, | 89:12, | 34:13, | 156:18 | 125:12, |
| 80:18 | 160:15, | 91:22, 95:9, | 34:23, | joined [2] | 127:1, |
| interaction [7] | 161:1, | 96:8, 96:11, | 34:24, $35: 6$, | 3:18, 24:13 | 129:22, |
| 84:14, 85:2, | 181:12 | 103:1, | 47:16, | Judge - | 131:24, |
| 90:3, $90: 19$, | isn't [12] | 109:20, | 48:14, | 160:10 | 132:1, |
| 90:25, | 22:13, 44:4, | 109:25, | 48:14, | judgment [3] | 132:4, |
| 91:11, 98:3 | 60:7, 149:1, | 111:8, | 48:15, | 34:17, | 132:7, |
| interagency - $82: 16$ | 149:15, | 112:9, | 50:15, | 34:22, 83:19 | 132:11, |
| $82: 16$ interested - | 158:9, | 113:15, | 51:12, | judicial [2] | 132:13, |
| interested $49: 3$ | 158:10, | 115:21, | 51:16, | 105:12, | 132:16, |
| 49:3 | 172:20, | 115:23, | 52:10, | 190:22 | 134:18, |
| interesting [2] 110:8, | 175:2, | 116:13, | 52:13, | jurisdiction | 134:23, |
| 110:8, 159:18 | 181:12, | 116:25, | 52:22, 53:2, | [2] 12:16, | 134:24, |
| 159:18 interestingly - | 181:18, | 117:1, | 53:17, | 160:13 | 144:18, |
| $\begin{aligned} & \text { interestingly - } \\ & \text { 159:14 } \end{aligned}$ | 187:8 isolation - | $117: 16$, $117: 21$, | 54:12, | justice [2] 19:10, $21: 23$ | 150:13, |
| interests - | isolation - 23:16 | 125:12, | 56:24, 59:3, | 19:10, 21:23 | 150:14, |


|  |  | 238 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 154:24, | 108:8, | 196:14, | led - 195:8 | 36:12, | 68:4, 68:8, |
| 166:6, | 108:14, | 196:17, | legal [22] | 37:23, | 68:17, |
| 193:10, | 109:3, | 197:25, | 13:4, 14:20, | 37:23, $39: 1$, | 70:12, |
| 196:2, | 109:6, | 198:16, | 15:25, 33:1, | 40:5, 40:19, | 70:20, |
| 200:2, | 109:9, | 198:19, | 33:2, 45:1, | 40:19, | 70:23, 71:3, |
| 201:9, | 110:2, | 201:5, | 45:24, | 41:23, 43:4, | 71:9, $71: 12$, |
| 202:10, | 110:8, | 203:1, | 48:23, | 65:5, 65:19, | 71:20, |
| 204:18, | 110:11, | 207:7, | 66:20, | 137:8, | 73:11, |
| 205:21, | 111:20, | 208:1, | 87:18, 96:8, | 137:9, | 74:12, 75:9, |
| 207:1, | 114:8, | 208:13, | 99:19, | 138:2, | 75:13, |
| 207:11, | 126:15, | 208:16, | 100:3, | 138:8, | 75:17, 77:8, |
| 207:12, | 127:20, | 208:23, | 101:14, | 157:1, | 77:12, |
| 207:23, | 127:22, | 209:13, | 101:23, | 157:10, | 77:15, 78:1, |
| 208:12, | 127:23, | 210:24, | 103:3, | 157:22, | 78:4, 78:8, |
| 214:23, | 128:2, | 211:15, | 151:17, | 158:19, | 79:21, |
| 215:1 | 131:13, | 211:23, | 151:20, | 166:23, | 79:23, 80:5, |
| largely [3] | 131:14, | 212:6, | 161:15, | 179:5, | 87:10, |
| 41:16, $42: 1$, | 131:16, | 213:19, | 164:4, | 198:11, | 87:15, 88:6, |
| 181:12 | 131:21, | 215:17 | 205:16, | 199:4, | 91:3, 92:2, |
| later [6] 5:1, | 132:24, | lawful-19:16 | 208:11 | 204:2, | 92:4, 92:21, |
| 18:16, | 133:2, | lawns - 37:13 | legally [5] | 205:1, | 92:23, |
| 43:18, | 133:5, | laws [2] | 17:18, | 210:15 | 97:25, |
| 49:13, | 133:13, | 46:14, 146:5 | 21:18, | letter-114:8 | 138:8, |
| 68:21, 72:18 | 133:15, | lawsuits - | 60:18, | level [3] | 138:13 |
| latest - 5:9 | 133:17, | 115:7 | 66:18, 96:21 | 74:5, | limit [10] |
| LAURIE [3] | 133:20, | lawyer [3] | legislation - | 153:23, | 7:23, 16:17, |
| 1:23, 217:5, | 133:22, | 58:12, | 154:3 | 187:8 | 51:11, |
| 217:19 | 133:25, | 149:22, | Legislature | levels [12] | 52:17, |
| law [139] 2:3, | 134:7, | 162:9 | [3] 58:4, | 15:21, 17:2, | 100:2, |
| 2:4, 2:13, | 134:17, | lawyer's - | 58:19, | 17:15, | 112:6, |
| 8:25, 9:5, | 134:21, | 24:11 | 154:19 | 52:16, | 143:8, |
| 9:8, $9: 11$, | 136:12, | lawyers [7] | Lehnherr [29] | 159:19, | 148:8, |
| 12:9, 13:11, | 136:23, | 20:19, | 1:20, 5:19, | 159:21, | 148:10, |
| 18:14, | 137:13, | 21:13, 24:5, | 5:25, 83:9, | 163:25, | 149:12 |
| 21:10, | 137:16, | 32:12, 73:5, | 83:10, | 177:17, | limitation |
| 21:10, | 138:16, | 184:6, | 83:14, | 186:1, | 23:4 |
| 21:25, 22:3, | 138:18, | 190:10 | 86:13, | 189:16, | limitations |
| 22:7, 25:10, | 139:8, | lay - 190:3 | 86:14, 87:4, | 189:17, | 142:16 |
| 25:14, | 139:20, | layer-196:8 | 91:16, | 209:20 | limited [3] |
| 25:14, 26:1, | 141:4, | lays [2] 8:16, | 91:19, | Lewis [2] | 52:10, |
| 29:16, 42:1, | 146:4, | 8:21 | 91:20, | 217:4, 217:6 | 99:16, |
| 46:15, | 149:24, | lead-18:5 | 127:14, | liability - | 173:12 |
| 49:15, | 151:5, | leading - $34: 5$ | 128:1, | 115:7 | limiting [3] |
| 49:24, 50:5, | 151:22, | leap - 133:21 | 128:18, | lies [2] | 51:15, |
| 50:11, | 152:2, | least [12] | 129:6, | 106:17, | 51:16, 69:1 |
| 51:20, | 152:6, | 30:15, | 129:13, | 107:5 | limits - 123:9 |
| 51:21, | 152:10, | 70:20, | 137:3, | likely [9] | Lindsay [4] |
| 51:22, 52:1, | 152:10, | 71:17, 82:7, | 137:7, | 121:6, | 3:5, 8:3, |
| 53:5, 54:25, | 153:1, | 82:12, | 176:18, | 122:25, | 65:1, 143:10 |
| 58:5, 58:5, | 153:2, | 118:10, | 176:21, | 157:13, | lines [9] 38:3, |
| 58:6, 79:16, | 153:19, | 132:20, | 191:4, | 157:15, | 172:10, |
| 87:9, 87:25, | 155:15, | 141:18, | 191:10, | 157:23, | 182:24, |
| 88:20, 92:6, | 156:9, | 144:8, | 191:17, | 201:19, | 183:2, |
| 96:2, 96:5, | 160:23, | 191:25, | 192:12, | 202:1, | 184:16, |
| 99:11, | 161:2, | 206:3, | 192:14, | 202:17, | 200:5, |
| 101:5, | 163:22, | 206:17 | 214:5, | 203:23 | 202:16, |
| 101:16, | 168:13, | leave [11] | 215:6, | limine [51] | 202:20, |
| 102:1, | 169:17, | 5:1, 5:3, | 215:11 | 25:18, | 203:1 |
| 106:9, | 170:3, | 5:7, 5:13, | length [3] | 25:19, | link-146:16 |
| 106:12, | 170:8, | 5:21, $70: 13$, | 46:23, | 47:20, 51:6, | listed [2] |
| 106:20, | 191:20, | 95:5, 98:3, | 171:25, | 51:23, 52:8, | 161:4, |
| 106:22, | 191:25, | 102:25, | 194:1 | 53:6, 53:7, | 194:20 |
| 107:17, | 192:25, | 126:4, | let's [30] | 53:19, 54:2, | listing - |
| 108:2, | 194:13, | 180:16 | 10:3, 33:6, | 54:4, 59:8, | 183:17 |
| 108:5, | 194:19, | leaving - | 34:16, | 64:10, 66:3, | litigants - |
| 108:8, | 194:24, | 207:18 | 35:17, | 67:1, 67:22, | 48:17 |


| litigate - | 32:22, 43:1, | 190:9, | 77:21, | 201:7, | MAPA [5] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 76:23 | 45:2, 56:18, | 191:9, | 78:12, | 201:15, | 48:7, $49: 18$, |
| litigation [5] | 57:2, 60:3, | 191:12, | 81:17, 83:6, | 202:12, | 74:15, |
| 20:9, 20:22, | 61:21, | 191:15, | 91:25, | 204:5, | 97:12, |
| 30:22, 32:3, | 73:19, | 197:1, | 92:19, | 206:1, | 117:17 |
| 38:22 | 73:22, | 197:4, | 93:10, | 206:2, | maps [2] |
| lives - 133:16 | 77:21, | 197:7, | 94:23, | 207:15, | 84:9, 84:9 |
| LLP - 2:13 | 78:11, | 200:14, | 95:10, | 211:18, | March - |
| load [2] 14:4, | 78:12, | 200:16, | 95:18, | 212:11, | 217:22 |
| 146:1 | 79:12, 80:8, | 200:23, | 97:16, | 213:16, | Mark [2] 2:7, |
| loading [4] | 81:21, | 207:15, | 98:10, | 214:5 | 127:4 |
| 23:12, | 83:11, | 207:18, | 98:19, 99:6, | magnitude [6] | Martin [49] |
| 39:14, 40:3, | 86:17, 87:4, | 208:24, | 101:1, | 39:13, | 2:12, 7:5, |
| 40:9 | 90:1, 95:10, | 209:14, | 103:17, | 39:25, | 7:9, 7:9, |
| local [3] 4:6, | 95:13, 98:6, | 209:22, | 104:10, | 169:5, | 24:15, |
| 31:21, 32:18 | 98:10, | 210:4 | 104:20, | 170:23, | 31:15, |
| located - | 104:10, | Lucas's [6] | 105:15, | 170:24, | 31:20, |
| 194:5 | 104:19, | 81:14, | 106:10, | 181:16 | 31:20, |
| logical - | 109:1, | 81:18, | 107:3, | mainstays - | 40:14, |
| 66:10 | 109:9, | 127:5, | 109:1, | 40:21 | 42:14, |
| longer [4] | 113:24, | 131:17, | 109:18, | maintain [4] | 43:11, |
| 39:22, | 116:4, | 147:11, | 113:24, | 18:8, | 45:25, |
| 73:12, | 117:22, | 167:7 | 117:5, | 132:17, | 46:22, |
| 116:24, | 119:2, | lunch [5] | 124:6, | 181:23, | 57:12, 60:3, |
| 169:15 | 119:18, | 64:1, 64:5, | 125:14, | 209:5 | 83:6, 83:12, |
| looking [22] | 120:4, | 64:17, | 128:8, | major - | 83:13, |
| 8:6, 16:6, | 120:6, | 64:21, 64:23 | 129:15, | 110:13 | 83:14, |
| 24:25, 37:1, | 124:1, |  | 130:9, | majority [2] | 83:17, |
| 47:19, | 124:6, | M | 130:25, | 164:2, | 97:16, |
| 47:25, | 124:17, |  | 131:12, | 214:24 | 97:19, 98:6, |
| 51:19, 52:3, | 124:21, | macroinvertebra | 132:17, | makes [8] | 98:17, |
| 54:4, 77:24, | 128:8, | [5] 172:12, | 136:11, | 22:25, 37:8, | 98:19, |
| 78:2, 78:5, | 129:23, | 172:14, | 137:3, | 53:19, 72:9, | 109:18, |
| 78:9, 108:1, | 130:25, | 185:22, | 138:10, | 117:8, | 117:5, |
| 145:1, | 131:3, | 186:4, | 139:10, | 130:3, | 129:15, |
| 165:24, | 131:25, | 186:18 | 140:13, | 195:25, | 132:5, |
| 173:2, | 132:5, | macroinvertebra | t142:1, | 204:22 | 132:7, |
| 173:7, | 141:25, | [12] 19:6, | 147:9, | making [15] | 156:16, |
| 187:22, | 142:1, | 41:18, | 151:8, | 15:14, | 156:22, |
| 191:5, | 143:9, | 41:20, | 151:25, | 19:10, | 156:24, |
| 196:3, 214:8 | 143:12, | 43:20, 97:2, | 153:15, | 19:15, | 156:25, |
| looks [3] | 147:8, | 175:2, | 156:16, | 19:18, | 161:19, |
| 84:19, | 150:16, | 181:11, | 156:25, | 22:25, | 163:9, |
| 190:23, | 151:15, | 181:15, | 164:6, | 40:10, 56:7, | 176:19, |
| 194:3 | 152:9, | 182:17, | 165:8, | 78:20, | 176:22, |
| lose [2] | 164:6, | 183:1, | 170:4, | 88:18, | 177:12, |
| 89:14, 113:7 | 164:10, | 183:16, | 174:10, | 118:19, | 179:8, |
| losing - 185:2 | 164:22, | 186:5, | 175:11, | 133:21, | 185:7, |
| loss - 157:14 | 165:4, | Madam [101] | 176:18, | 150:3, | 185:10, |
| lost [4] 67:5, | 165:9, | 6:13, 10:7, | 181:3, | 180:19, | 191:10, |
| 75:15, 167.3 | 169:20, | 11:9, 20:1, | 181:5, | 195:17, | 191:14, |
| 97:14, 167:3 | 171:20, | 31:15, | 181:8, | 195:25 | 194:25, |
| lots - 47:12 | 172:3, | 42:17, | 181:20, | Manager [2] | 201:7, |
| lower [10] | 174:12, | 47:10, | 182:21, | 4:6, 32:15 | 201:13, |
| 36:24, 37:6, | 175:7, | 48:13, | 185:8, | managing - | 205:8, 206:1 |
| 37:12, | 175:22, | 52:24, 54:3, | 190:6, | 20:8 | Martin's - |
| 37:19, | 175:24, | 56:2, $56: 18$, | 191:4, | mandated - | 147:12 |
| 45:13, | 181:5, | 58:22, | 192:2, | 150:13 | material [117] |
| 142:10, | 182:3, | 59:12, | 192:23, | manifestly [3] | 15:8, 15:14, |
| 157:22, | 182:15, | 63:21, | 194:16, | 54:11, | 23:23, 30:1, |
| 157:23, | 182:21, | 64:18, | 197:1, | 69:18, 71:21 | 30:2, $30: 8$, |
| 173:16, | 187:1, | 65:22, | 197:13, | manner [4] | 30:10, |
| 177:22 | 187:16, | 68:13, | 198:15, | 42:9, $75: 1$, | 34:23, 36:4, |
| Lucas [92] | 187:24, | 72:14, 73:1, | 199:15, | 170:23, | 36:17, |
| 2:7, $20: 1$, | 188:13, | 73:14, | 199:22, | 171:17 | 38:14, |
| 31:13, | 188:22, | 73:19, | 200:17, | map-37:1 | 41:21, |


|  |  |  | 240 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 60:14, | 156:2, | 47:16, 75:8, | 7:21, 26:2, | 86:13, | 160:17, |
| 60:20, | 160:2, | 80:24, | 30:13, 34:4, | 86:14, 87:4, | 160:20, |
| 60:22, 61:6, | 162:3, | 86:19, | 36:7, 47:25, | 91:16, | 163:1, |
| 109:24, | 166:2, | 99:15, | 49:10, | 91:20, | 164:8, |
| 110:20, | 166:11, | 100:2, | 50:15, | 91:25, | 164:13, |
| 111:3, | 166:14, | 108:24, | 51:12, 56:3, | 92:10, | 165:12, |
| 111:18, | 169:17, | 141:23, | 56:8, 57:24, | 92:19, | 171:10, |
| 111:19, | 169:21, | 143:11, | 58:20, 59:8, | 95:18, | 171:13, |
| 111:21, | 170:8, | 168:23, | 59:9, $70: 20$, | 95:19, | 171:21, |
| 112:16, | 170:15, | 190:22 | 70:25, | 95:20, | 172:20, |
| 113:4, | 170:18, | meaningful - | 71:14, 72:6, | 96:12, | 174:11, |
| 114:3, | 170:22, | 56:9 | 73:6, 79:24, | 98:12, 99:1, | 175:11, |
| 115:3, | 171:5, | means [13] | 108:19, | 99:23, | 175:13, |
| 115:5, | 171:6, | 11:25, 12:8, | 109:14, | 101:1, | 176:18, |
| 117:14, | 171:8, | 35:10, | 125:16, | 102:4, | 176:21, |
| 117:20, | 171:16, | 44:11, | 127:10, | 102:9, | 177:10, |
| 117:23, | 172:5, | 44:14, 82:6, | 127:11, | 102:11, | 181:8, |
| 117:25, | 172:22, | 130:14, | 162:16, | 102:23, | 181:21, |
| 118:8, | 173:10, | 144:5, | 164:12, | 103:17, | 186:24, |
| 118:9, | 174:6, | 156:14, | 195:2, 207:4 | 103:18, | 187:22, |
| 118:21, | 185:20, | 162:16, | MEIC's [6] | 103:19, | 188:8, |
| 121:11, | 186:21, | 162:21, | 27:21, | 104:2, | 188:14, |
| 121:13, | 191:19, | 181:2, | 72:18, 90:6, | 104:12, | 188:20, |
| 121:23, | 193:4, | 189:15 | 91:7, 97:21, | 104:20, | 191:4, |
| 121:24, | 193:16, | meant [4] | 194:19 | 105:18, | 191:17, |
| 122:4, | 193:17, | 76:22, 97:7, | Melissa [4] | 106:23, | 191:24, |
| 122:5, | 194:22, | 118:15, | 1:20, 108:6, | 107:3, | 192:2, |
| 122:10, | 195:18, | 179:23 | 123:12, | 108:10, | 192:12, |
| 122:24, | 195:20, | measurability | 206:8 | 119:1, | 192:14, |
| 123:1, | 197:9, | - 168:19 | Melissa's - | 119:22, | 192:17, |
| 124:13, | 200:11, | measurable | 205:23 | 119:25, | 192:19, |
| 124:19, | 201:6, | [3] 38:6, | member [209] | 120:5, | 192:23, |
| 124:24, | 203:18, | 39:21, | 3:13, 5:4, | 123:14, | 194:16, |
| 127:17, | 204:10, | 168:22 | 5:8, 5:18, | 124:7, | 195:10, |
| 127:24, | 207:22, | measured - | 5:25, 6:13, | 125:12, | 197:13, |
| 128:10, | 209:18, | 149:1 | 6:17, 10:7, | 127:14, | 197:23, |
| 128:15, | 210:2, 210:9 | measuring - | 19:23, | 128:1, | 198:15, |
| 129:2, | materially [2] | 41:20 | 48:13, | 128:9, | 198:21, |
| 130:19, | 128:5, 172:9 | meet [7] | 51:24, | 128:18, | 199:9, |
| 130:19, | materials [2] | 27:22, 36:3, | 52:24, 53:8, | 129:6, | 199:12, |
| 135:22, | 8:2, 10:25 | 112:23, | 53:14, 54:3, | 129:13, | 199:15, |
| 136:4, | matter [20] | 112:25, | 55:6, 55:10, | 130:15, | 199:16, |
| 139:3, | 1:4, 4:19, | 113:2, | 55:12, | 131:8, | 199:18, |
| 139:11, | 5:14, 40:1, | 144:5, | 55:13, 56:2, | 131:12, | 199:22, |
| 139:14, | 45:14, | 164:16 | 57:20, | 134:9, | 200:17, |
| 139:21, | 70:13, 77:5, | meeting [10] | 58:22, | 134:11, | 200:22, |
| 140:12, | 79:16, | 10:23, | 58:25, | 134:25, | 201:1, |
| 142:22, | 82:15, | 10:23, | 59:13, 60:8, | 135:9, | 201:15, |
| 143:20, | 92:16, | 10:24, 13:7, | 61:19, | 135:16, | 202:12, |
| 144:21, | 99:15, | 13:13, | 62:17, | 136:11, | 202:15, |
| 146:6, | 107:7, | 13:22, | 63:21, | 136:16, | 203:8, |
| 147:6, | 142:24, | 64:25, | 63:24, 64:4, | 136:19, | 203:13, |
| 147:17, | 158:14, | 87:24, | 65:4, 65:23, | 137:3, | 204:5, |
| 147:21, | 160:3, | 148:6, | 67:25, 68:2, | 137:7, | 205:1, |
| 147:24, | 170:6, | 165:23 | 69:6, 69:9, | 137:17, | 205:6, |
| 150:4, | 175:19, | meetings - | 69:11, | 138:10, | 205:11, |
| 150:17, | 194:18, | 72:11 | 69:14, | 138:15, | 205:15, |
| 150:19, | 194:23, | meets [7] | 69:24, 70:3, | 140:13, | 205:24, |
| 150:22, | 212:4 | 18:24, | 70:6, 70:8, | 140:24, | 206:2, |
| 152:3, | matters [3] | 43:21, | 72:14, 73:1, | 141:9, | 206:20, |
| 152:8, | 70:14, | 43:25, | 73:4, 74:21, | 142:2, | 206:24, |
| 153:6, | 70:14, | 44:18, | 76:7, 76:9, | 147:9, | 208:2, |
| 153:17, | 161:10 | 48:23, | 77:9, 78:13, | 147:13, | 208:17, |
| 154:10, | maximum - | 132:8, 143:2 | 79:5, 79:11, | 151:8, | 208:20, |
| 154:13, | 14:3 | MEIC [32] | 79:14, 80:8, | 153:15, | 208:21, |
| 154:14, | maybe [11] | 2:2, 4:18, | 83:9, 83:10, | 156:21, | 209:10, |

241

| 209:23, | 148:2, 193:1 | 181:14, | 150:7, | 183:5, | 164:3, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 210:5, | Metcalf - 1:11 | 194:5 | 150:18, | 190:15 | 172:17, |
| 211:1, | method [2] | mine's - | 150:24, | mischaracterize | 175:3, |
| 211:4, | 180:10, | 144:13 | 152:16, | - 25:17 | 177:20, |
| 211:18, | 184:8 | mined [2] | 155:13, | mischaracterized | d 177:23, |
| 211:20, | methodologies | 191:8, | 155:24, | - 188:16 | 178:14, |
| 212:8, | [2] 180:23, | 191:13 | 156:3, | misleading [2] | 179:2, |
| 212:21, | 180:24 | Miners - | 157:5, | 42:25, 97:4 | 180:6, |
| 212:23, | methodology - | 31:23 | 157:19, | misled [2] | 183:18, |
| 212:25, | 185:16 | minimize - | 158:23, | 81:2, 184:3 | 186:7, |
| 213:2, | methods [3] | 130:17 | 158:24, | misrepresentatio | - 194:4, |
| 213:13, | 47:4, | minimum - | 159:9, | - 164:20 | 194:7, |
| 213:16, | 182:18, | 12:15 | 159:10, | misrepresentati | - 194:8, |
| 214:2, | 184:14 | mining [106] | 159:12, | - $42: 21$ | 217:2, $217: 7$ |
| 214:5, | metric [2] | 3:24, 12:3, | 159:23, | misses - | month - 33:15 |
| 214:7, | 19:5, 19:8 | 12:8, 12:9, | 159:24, | 22:16 | moot [2] |
| 214:18, | metrics - | 12:17, | 160:3, | mistake - | 73:5, 73:11 |
| 215:6, | 180:5 | 13:17, | 160:14, | 21:7 | moreover [2] |
| 215:11 | MFSA - 114:6 | 13:18, 15:9, | 161:4, | misunderstandin | gl 9:3, 175:1 |
| members [37] | Michigan [2] | 15:14, | 162:21, | - 177:13 | morning [4] |
| 1:18, 3:10, | 19:11, 19:14 | 15:19, | 163:25, | misunderstood | 3:19, 65:17, |
| 3:14, 4:14, | microphone - | 15:22, 18:4, | 166:7, | - 197:5 | 140:10, |
| 4:21, 5:2, | 99:22 | 18:14, 28:5, | 166:7, | modified - | 144:15 |
| 5:10, 6:3, | miles [2] | 29:2, 29:11, | 166:10, | 9:15 | mostly - |
| 6:20, 8:12, | 90:13, 90:19 | 34:2, 36:18, | 167:11, | modify [4] | 114:19 |
| 11:3, 19:21, | mill - 20:21 | 37:20, | 168:9, | 9:5, 131:21, | motion [97] |
| 20:2, 20:3, | minable - | 38:17, | 169:9, | 134:20, | 5:17, 6:6, |
| 21:2, 31:16, | 191:7 | 38:25, | 170:7, | 209:13 | 6:8, 6:12, |
| 42:18, | mind [8] | 40:18, | 172:22, | modifying | 6:24, 7:3, |
| 47:13, | 39:4, 72:1, | 46:11, | 173:19, | 87:7 | 7:6, 7:12, |
| 52:19, | 111:8, | 52:14, | 174:4, | molecule [3] | 7:14, 8:9, |
| 64:25, | 114:25, | 59:17, | 175:14, | 39:20, | 25:18, |
| 65:14, | 141:18, | 59:22, | 175:17, | 162:22, | 25:18, |
| 91:22, 94:1, | 155:25, | 62:11, | 175:21, | 167:19 | 34:17, |
| 102:2, | 164:11, | 66:19, | 176:5, | molecules | 34:22, 35:9, |
| 102:16, | 190:7 | 75:24, | 176:6, | 168:1 | 51:23, |
| 102:24, | mine [38] 1:6, | 76:19, | 186:1, | moment [9] | 53:19, 54:1, |
| 118:24, | 5:16, 12:12, | 77:20, | 193:23, | 31:17, | 59:8, 68:8, |
| 134:5, | 14:7, 14:24, | 80:14, | 194:9, | 37:17, 63:2, | 70:12, |
| 135:3, | 15:2, 15:3, | 80:17, | 195:23, | 77:23, 83:8, | 70:12, |
| 186:22, | 15:5, 15:9, | 81:16, | 196:4, | 84:7, 117:6, | 70:19, |
| 194:14, | 18:2, 28:2, | 81:24, | 214:11, | 177:8, | 70:23, 71:3, |
| 196:11, | 29:20, | 81:25, 82:2, | 214:13 | 199:25 | 71:9, $71: 12$, |
| 198:13, | 32:17, | 82:5, 82:5, | minor [4] | Monday - | 71:20, |
| 211:6, | 32:19, | 82:8, 82:9, | 83:3, 85:5, | 215:10 | 73:11, |
| 214:16, | 59:23, | 82:10, | 189:24, | Montana [40] | 74:12, |
| 215:4, | 60:20, 81:4, | 82:18, | 201:7 | 1:2, 1:13, | 75:13, 80:5, |
| 215:13 | 82:11, | 94:22, $95: 9$, | minute [7] | 4:7, 4:11, | 83:19, 87:9, |
| memo [2] | 82:13, | 110:13, | 8:4, 8:5, | 4:17, 8:18, | 87:15, 88:6, |
| 8:13, 8:16 | 90:16, | 110:16, | 11:13, | 11:10, | 92:1, 92:8, |
| memos - | 90:22, | 110:19, | 18:20, | 12:12, | 92:11, |
| 82:16 | 94:17, | 124:22, | 143:11, | 12:13, | 92:17, |
| mention - | 113:4, | 128:4, | 174:10, | 12:18, 16:6, | 92:21, |
| 151:11 | 142:15, | 129:8, | 198:11 | 47:25, | 92:23, |
| mentioned [4] | 143:2, | 140:18, | minutes [8] | 48:15, 65:9, | 92:25, 93:8, |
| 30:20, 46:5, | 146:16, | 142:14, | 7:24, 11:11, | 65:16, | 97:24, |
| 54:17, 127:5 | 155:4, | 144:22, | 14:18, | 125:25, | 102:6, |
| mere - 182:12 | 158:9, | 145:2, | 42:16, | 152:4, | 102:8, |
| merits [2] | 159:20, | 146:21, | 112:7, | 153:6, | 102:12, |
| 12:25, 13:1 | 161:10, | 148:22, | 143:8, | 154:11, | 102:13, |
| message - | 161:16, | 149:17, | 166:21, | 155:2, | 102:21, |
| 25:3 | 165:24, | 149:19, | 167:8 | 155:10, | 105:9, |
| met [5] | 167:23, | 150:1, | misallocation | 157:21, | 105:23, |
| 43:10, | 172:9, | 150:2, | - 50:25 | 160:5, | 106:8, |
| 44:24, | 172:14, | 150:5, | mischaracterizat | t 160:7, | 106:12, |
| 87:17, | 173:15, | 150:5, | [3] 25:1, | 162:13, | 106:14, |



243

| 157:5, | 96:23, | 71:2, 71:16, | 213:22 | 55:10, | [2] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 163:10 | 128:21, | 71:21, | orderly - | 94:13, | 20:4, 33:14 |
| obviously [9] | 141:21 | 71:25, 74:3, | 192:6 | 109:12, | participation - |
| 10:21, 41:5, | Oort-24:15 | 79:5, 94:24, | orders [2] | 192:15 | 85:6 |
| 47:12, | Oort's - 40:14 | 95:14, | 105:2, 138:7 | pages [18] | particular [9] |
| 122:12, | open [3] | 164:21, | organizations | 11:23, | 7:16, 36:11, |
| 129:22, | 70:13, | 176:2 | - 4:19 | 22:22, 28:6, | 36:21, |
| 130:7, | 108:24, | opposed [15] | original - | 28:19, | 77:25, |
| 142:15, | 140:11 | 93:3, 106:6, | 112:24 | 33:22, | 101:18, |
| 159:11, | Opencut - | 135:15, | OSM [3] | 33:23, | 112:2, |
| 173:23 | 3:24 | 137:1 | 150:9, | 33:24, $35: 1$, | 121:7, |
| occur [12] | opened [3] | 137:24, | 160:4 | 46:6, 58:17, | 146:5, |
| 75:22, | 29:12, | 138:25, | 167:17 | 63:11, 86:4, | 175:25 |
| 113:17, | 87:24, | 157:2, | others [3] | 86:5, 88:12, | Particularly - |
| 113:19, | 140:14 | 189:11, | 72:2, 84:8, | 118:18, | 206:6 |
| 117:14, | opening - | 196:20, | 182:24 | 206:7, | parties [17] |
| 121:23, | 190:16 | 198:3, | otherwise [4] | 209:12, | 7:20, 7:20, |
| 122:5, | operate [2] | 199:2 | 26:1, 62:22, | 217:12 | 19:20, 49:3, |
| 122:10, | 122:9, | 210:19, | 96:2, 121:1 | paint-173:22 | 70:17, |
| 122:12, | 129:25 | 211:11, | ought - 71:14 | painted - 91:4 | 101:2, |
| 122:25, | operating [4] | 213:12, | ourselves [2] | paragraph | 102:17, |
| 123:1, | 4:6, 31:22, | 215:20 | 3:19, $110: 6$ | [34] 55:3, | 105:5, |
| 163:7, | 32:15, | opposing - | outcome [8] | 95:4, | 107:6, |
| 204:21 | 165:24 | 42:20 | 21:7, 25:13, | 107:21, | 108:18, |
| occurred [3] | operation [11] | opposite [2] | 73:12, | 108:3, | 109:17, |
| 70:22, | 12:3, 12:4, | 23:17, 208:6 | 89:20, | 109:20, | 110:5, |
| 177:13, | 15:2, 28:4, | option [8] | 114:24 | 109:21, | 112:4, |
| 195:13 | 110:18, | 9:2, 9:3, | 121:5, | 115:13, | 118:25, |
| occurring [2] | 110:19, | 9:7, 10:18, | 121:7, 145:6 | 115:24, | 139:6, |
| 122:15, | 128:4, | 72:3, 72:13, | outline [2] | 116:7, | 140:12, |
| 164:1 | 155:25, | 72:23, 134:5 | 14:14, 15:1 | 118:1, | 216:1 |
| offer [12] | 161:5, | options [5] | outlined | 118:2, | partners |
| 28:10, | 174:6, | 8:19, 8:21, | 68:7 | 125:19, | 7:22 |
| 28:11, 64:9, | 183:24 | 9:17, 13:25, | outside [9] | 125:24, | pass - 168:15 |
| 68:14, 71:2, | operations [9] | 69:3 | 109:6, | 126:12, | passage - |
| 74:3, 74:4, | 15:19, | oral [8] 1:9, | 110:20, | 126:13, | 118:4 |
| 112:19, | 15:23, 18:4, | 7:19, 7:23, | 111:4, | 127:10, | passes [2] |
| 125:16, | 36:18, | 8:23, 11:6, | 124:25 | 139:9, | 138:1, 139:3 |
| 130:9, | 149:17, | 33:9, 47:11, | 162:4, | 139:21, | past [10] |
| 185:7, | 155:13, | 140:9 | 182:20, | 139:23, | 5:12, 16:18, |
| 207:16 | 156:3, | orange [2] | 193:5, | 139:25, | 17:16, |
| offered [3] | 158:9, 166:8 | 15:10, 16:25 | 193:16 | 184:18, | 90:13, |
| 94:24, | operative [2] | order [35] | 209:19 | 184:18, | 121:16, |
| 105:5, 109:3 | 8:18, 51:22 | 5:17, 6:8, | overall [3] | 185:13, | 148:7, |
| offers - 77:4 | opine - 23:20 | 9:2, $9: 6$, | 15:5, | 185:19, | 148:10, |
| Office [4] | opining - 75:5 | 22:9, 36:19, | 183:12 | 186:2, | 150:7, |
| 15:13, | opinion [4] | 47:19, 51:6, | 183:16 | 200:6, | 168:13, |
| 29:10, | 6:5, 61:23, | 51:7, 52:8, | overarching - | 202:25, | 174:17 |
| 150:1, | 91:16, | 53:6, 54:1, | 24:5 | 203:15, | path [8] 68:5, |
| 152:16 | 126:12 | 54:4, 59:8, | oversee | 204:15, | 74:15, |
| Officer [5] | opinions [2] | 64:10, | 15:12 | 206:10, | 86:19, |
| 51:11, | 47:22, | 66:25, 68:4, | overstepped - | 210:3, | 86:23, 87:5, |
| 51:15, | 194:15 | 68:8, 69:15, | 195:2 | 211:23, | 91:4, 168:7, |
| 52:16, 69:4, | opportunity | 70:12, | overturned | 213:22, | 173:22 |
| 191:21 | [27] 47:13, | 70:19, 71:9, | 49:25 | 215:2 | Patrolman |
| Officer's [2] | 49:3, 54:7, | 71:20, 75:9, | oxygen - | paragraphs | 170:1 |
| 98:9, 191:25 | 55:16, 56:9, | 77:12, | 52:15 | [4] 107:17, | Peak [7] |
| offshoot - | 56:10, 59:2, | 77:14, 79:1, |  | 112:11, | 25:23, 26:5, |
| 39:19 | 62:19, | 91:3, 92:2, | P | 192:4, | 89:4, |
| offsite - 42:8 | 62:23, 64:7, | 92:3, 92:5, |  | 211:25 | 122:22, |
| Oftentimes - | 64:13, | 92:24, | p.m-216:6 | parameter - | 123:2, |
| 56:22 | 66:11, | 108:11, | P.O[2] 2:9, | 107:22 | 144:23, |
| one-to-one - | 68:11, | 138:13, | 2:14 | paraphrase | 170:12 |
| 189:3 | 68:18, | 213:21 | packet [8] | 204:9 | Peggy - |
| ones [4] | 70:13, | ordered [2] | 8:13, 8:17, | pardon [2] | 178:11 |
| 11:24, | 70:18, 71:1, | 211:24, | 8:20, 52:2, | 8:10, 94:23 | Penny-180:8 |

244

| people's - | 57:4, 57:5, | persist - | 121:15 | 179:11, | 119:11, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 110:8 | 57:6, 58:8, | 167:24 | piece - 21:14 | 185:3, | 125:7, |
| per-169:14 | 58:13, | perspective - | piecemeal [4] | 188:19, | 125:23, |
| perceived [2] | 60:19, | 97:21 | 152:11, | 190:25, | 128:21, |
| 99:18, 114:5 | 66:12, | persuasion [2] | 155:9, | 196:17, | 132:21, |
| percent [33] | 66:16, | 49:8, 50:13 | 156:13, | 198:25, | 141:17, |
| 15:22, | 110:13, | petitioner [5] | 167:16 | 205:8, | 141:20, |
| 142:13, | 110:21, | 78:15, | Pinto [17] | 206:9, | 144:10, |
| 143:16, | 111:5, | 95:16, | 17:24, | 207:17, | 146:7, |
| 146:7, | 112:14, | 118:7, | 26:13, 45:2, | 210:16, | 147:3, |
| 148:21, | 116:12, | 204:20, | 144:9, | 215:18 | 149:24, |
| 148:22, | 125:1, | 209:1 | 144:9, | pleasure [2] | 152:7, |
| 149:1, | 126:9, | petitioner's - | 145:12, | 191:19, | 155:14, |
| 149:2, | 126:17, | 57:15 | 145:14, | 199:7 | 155:17, |
| 149:16, | 126:25, | petitioners | 145:20, | plural - 44:11 | 155:19, |
| 149:18, | 140:21, | [37] 11:9, | 148:11, | point [103] | 156:19, |
| 150:8, | 141:21, | 21:4, 21:8, | 148:25, | 5:12, 13:3, | 159:16, |
| 155:24, | 144:8, | 22:2, 22:9, | 149:3, | 14:21, 17:9, | 161:20, |
| 159:5, | 144:11, | 23:20, | 151:19, | 26:18, 27:6, | 164:24, |
| 167:14, | 144:14, | 23:21, | 153:3, | 28:9, 30:7, | 166:12, |
| 167:14, | 148:13, | 25:12, | 153:14, | 33:11, 34:7, | 166:20, |
| 167:19, | 149:5, | 25:17, | 156:10, | 36:6, 36:13, | 169:16, |
| 168:25, | 161:14, | 26:13, 28:6, | 173:23, | 39:12, | 177:3, |
| 174:14, | 162:4, | 28:12, | 195:1 | 39:13, | 177:15, |
| 175:15, | 171:7, | 28:16, | Pit [2] 16:7, | 39:18, | 180:16, |
| 175:20, | 173:24, | 35:12, | 44:24 | 40:15, 45:2, | 201:8, |
| 175:22, | 189:18, | 35:18, | placed - 20:21 | 46:23, $50: 8$, | 204:2, |
| 176:4, | 193:6, | 36:19, | places [4] | 55:16, 59:2, | 211:16, |
| 176:6, | 193:16, | 36:23, | 50:20, 76:4, | 59:5, 60:3, | 212:4, 215:3 |
| 176:8, | 200:10, | 37:25, 40:7, | 114:22, | 60:8, 60:9, | pointed [10] |
| 176:24, | 200:11, | 40:22, | 125:10 | 61:21, | 19:11, |
| 188:9, | 203:18, | 41:19, 48:8, | plain [3] | 61:21, 62:6, | 43:12, |
| 188:25, | 204:9, | 53:21, | 16:6, 80:19, | 62:24, $63: 9$, | 55:18, |
| 189:1, | 206:15, | 95:13, | 125:12 | 63:9, 63:11, | 63:19, |
| 189:4, | 207:3, | 101:6, | plainly [2] | 63:17, 64:1, | 69:21, |
| 189:4, | 207:21, | 106:17, | 23:1, 95:5 | 66:1, 66:24, | 73:25, |
| 189:21, | 209:17, | 146:3, | plaintiffs - | 67:19, | 76:20, |
| 190:1, 190:2 | 209:19, | 146:24, | 127:2 | 67:21, | 107:7, |
| perfect [2] | 209:24, | 164:12, | plan [4] 5:21, | 68:12, | 117:22, |
| 71:10, 184:7 | 210:1, | 172:7, | 6:3, 14:3, | 68:21, | 169:12 |
| perfectly - | 210:7, 210:8 | 173:1, | 163:5 | 68:22, $70: 4$, | pointing [4] |
| 6:14 | permits [3] | 184:15, | plant [2] | 70:9, 70:21, | 89:8, 89:16, |
| perhaps [8] | 142:14, | 187:20, | 37:15, 155:5 | 70:24, | 155:23, |
| 30:25, | 144:4, | 188:15, | plate [2] | 72:17, 73:6, | 158:10 |
| 33:25, | 173:24 | 188:23, | 105:1, 114:8 | 73:16, | points [10] |
| 39:12, 58:3, | permitted [9] | 189:9, 207:4 | play [3] | 78:15, 81:3, | 33:12, |
| 100:22, | 28:11, 82:9, | Ph.D-23:14 | 12:20, $70: 8$, | 81:18, | 38:21, 46:3, |
| 109:16, | 82:11, | PHC [8] | 123:16 | 82:19, | 85:5, 96:9, |
| 187:1, 195:1 | 89:22, | 33:23, | players - | 83:10, | 96:18, |
| period [9] | 161:4, | 35:23, | 20:19 | 84:21, | 96:21, |
| 16:12, 17:1, | 176:5, | 54:18, 81:3, | pleas - 152:10 | 85:15, | 125:11, |
| 17:14, | 193:15, | 83:22, | please [29] | 85:22, 86:7, | 167:10, |
| 33:17, | 202:3, | 83:23, 86:4, | 3:6, 7:5, | 86:10, | 215:13 |
| 39:22, 60:5, | 203:25 | 89:21 | 7:8, 11:12, | 87:13, | pointy-headed |
| 66:16, | permittee - | phenomenon - | 31:18, | 87:17, | - 162:8 |
| 169:15, | 48:5 | 39:9 | 31:25, | 93:23, 95:3, | policy [3] |
| 206:16 | permitting | phrase - | 42:18, | 95:6, 95:8, | 24:9, 145:5, |
| permission - | [12] 16:9, | 171:14 | 58:23, 65:8, | 97:20, | 173:6 |
| 147:14 | 25:11, | physical [2] | 77:23, | 100:20, | pollutant [6] |
| permit [56] | 25:25, | 172:11, | 79:21, 93:1, | 101:6, | 13:12, |
| 4:10, 4:13, | 27:13, 29:7, | 182:25 | 101:8, | 103:10, | 26:18, |
| 14:1, 14:12, | 30:12, 33:8, | physically - | 106:4, | 107:14, | 45:10, |
| 27:22, 30:8, | 48:5, 89:4, | 79:15 pick-65.19 | 138:23, | 108:11, | 145:16, |
| 38:6, 38:13, | 89:13, | pick - 65:19 | 143:8, | 110:7, | 145:21, |
| 48:3, 49:4, | 94:20, | pickup [2] | 166:16, | 116:22, | 194:20 |
| 49:9, 56:19, | 158:16 | 115:5, | 171:11, | 117:8, | pollutants [3] |

245

| 140:17, | 175:16 | preponderance | 124:12, | 203:23 | 53:18, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 163:21, | potential [2] | [5] 22:4, | 124:24, | probable [16] | 104:18, |
| 171:24 | 54:21, 119:5 | 116:9, | 125:6, | 27:9, 28:24, | 190:12 |
| polluted - | potentially - | 116:24, | 127:24, | 57:11, | proceedings |
| 168:15 | 125:3 | 200:8, | 129:5, | 58:15, | [7] 1:9, 3:1, |
| pollution [16] | power-155:5 | 207:25 | 129:22, | 110:15, | 190:11, |
| 13:14, 14:5, | practitioners - | presence [2] | 130:13, | 114:20, | 216:5, |
| 16:2, 16:4, | 21:24 | 41:17, | 130:13, | 114:24, | 217:8, |
| 26:17, | prairie [10] | 182:12 | 130:17, | 115:11, | 217:10, |
| 45:15, | 157:20, | present [16] | 130:18, | 115:22, | 217:13 |
| 45:17, | 162:12, | 3:10, 3:15, | 131:6, | 116:25, | proceeds |
| 100:5, | 164:2 | 22:4, 40:8, | 131:7, | 117:16, | 170:20 |
| 126:9, | 177:20, | 65:1, 65:16, | 132:1, | 120:16, | process [29] |
| 139:16, | 177:23, | 113:7, | 163:20, | 121:3, | 8:15, 25:11, |
| 142:11, | 178:14, | 113:15, | 165:25, | 123:11, | 25:25, |
| 142:17, | 186:7, | 113:18, | 207:22, | 124:21, | 27:13, 29:8, |
| 146:16, | 186:12, | 146:10, | 209:18, | 130:1 | 30:12, |
| 153:13, | 194:2, 194:3 | 172:18, | 210:2, 210:9 | probably [17] | 35:20, |
| 155:12, | pre-mine - | 202:1, | preventative - | 5:1, 8:2, | 35:20, 36:5, |
| 175:5 | 40:16 | 203:16, | 122:7 | 11:16, | 48:5, 57:13, |
| pop - 115:25 | pre-mining [2] | 203:23, | preventing - | 12:21, | 58:3, 58:9, |
| population [2] | 41:13, 178:2 | 207:19, | 85:18 | 17:12, | 58:18, |
| 178:12, | precautionary | 209:16 | previous [6] | 86:19, | 58:19, 68:1, |
| 178:13 | - 122:7 | presentat | 28:5, 54:17, | 107:13, | 68:7, 74:2, |
| portion [6] | precedent - | 42:22 | 150:5, | 111:25, | 81:12, 84:6, |
| 36:25, 37:6, | 123:5 | presentations | 176:6, | 118:12, | 85:23, 89:4, |
| 59:23, | preceding | - $42: 24$ | 201:10, | 132:19, | 89:13, |
| 119:14, | 128:3 | presented | 201:22 | 141:22, | 94:20, |
| 139:12, | precise - | [10] 23:11 | previously [8] | 164:2, | 95:15, |
| 162:12 | 159:17 | 24:1, 35:11, | 54:12, | 166:6 | 97:10, 99:7, |
| position [11] | precisely [4] | 40:12, | 69:19, 71:1, | 192:10, | 196:6, 196:7 |
| 15:11, 26:2, | 21:21, | 79:25, | 72:8, | 197:10, | produce - |
| 63:9, 77:14, | 33:19, 39:7, | 112:20, | 142:14, | 204:24, | 158:6 |
| 99:14, | 79:4 | 113:11, | 158:8, | 215:9 | produces |
| 117:9, | predecessor | 126:17, | 176:5, | probative [2] | 21:15 |
| 117:19, | [2] 170:13, | 126:24, | 209:12 | 22:19, 24:7 | product [2] |
| 125:21, | 170:14 | 168:20 | primacy - | problem [7] | 115:7, 186:1 |
| 127:8, | predecessor's | preserve [4] | 160:12 | 16:5, 24:5, | professional - |
| 132:18, | - 170:13 | 74:18, | primary | 26:10, | 24:16 |
| 176:17 | predicament - | 100:14, | 142:7 | 101:18, | professionalism |
| possibility | 22:24 | 103:1, 103:5 | printed - | 165:20, | - $216: 2$ |
| [10] 118:8, | predicaments | preserved - | 215:7 | 190:24, | professionals |
| 118:9, | - 24:19 | 87:14 | printout - | 206:9 | [2] 22:10, |
| 118:17, | predicted [2] | pressed - | 137:4 | problematic - | 25:5 |
| 122:12, | 148:21, | 168:22 | prior [10] | 200:14 | program [11] |
| 132:12, | 167:13 | presumably - | 18:4, 25:20, | problems [3] | 4:10, 4:13, |
| 201:19, | predominantly | 10:11 | 60:5, 67:2, | 71:22, | 12:13, |
| 202:2, | - 193:23 | pretrial [3] | 75:13, | 108:7, 201:3 | 12:15, |
| 202:5, | prefer - 177:9 | 67:10, | 76:18, | procedural [5] | 24:14, |
| 202:18, | preference - | 67:15, 76:24 | 156:8, | 10:6, 10:8, | 28:13, |
| 202:22 | 83:15 | prevail [2] | 200:12, | 12:25, 13:2, | 143:25, |
| possible [5] | prehearing - | 36:19, | 206:3, 206:5 | 72:15 | 147:5, |
| 28:23, | 27:1 | 129:23 | probability | procedurally - | 160:6, |
| 154:4, | prejudicial [2] | prevails - | [14] 27:11, | 53:2 | 183:7, 183:8 |
| 194:18, | 31:7, 190:25 | 130:8 | 28:24, | procedure [4] | prohibit - |
| 195:3, 215:8 | preliminary | prevent [29] | 118:15, | 8:12, 9:11, | 140:20 |
| post [5] | [2] 67:10, | 110:19, | 118:18, | 103:8, 133:8 | prohibited [2] |
| 82:25, | 67:15 | 111:19, | 118:20, | procedures | 161:13, |
| 91:15, | premise - | 111:20, | 120:16, | 11:3 | 162:24 |
| 96:19, | 151:22 | 113:4, | 123:1, | proceed [6] | prohibits |
| 96:20, | prep - 24:20 | 115:5, | 130:2, | 10:6, 10:25, | 161:2 |
| 168:20 | prepare [3] | 116:13, | 132:12, | 11:5, 51:10, | project [15] |
| post-mine - | 31:6, 81:20, | 117:24, | 201:21, | 100:24, | 80:18, |
| 40:16 | 140:22 | 118:22, | 202:5, | 192:3 | 85:19, |
| post-mining | PREPARED - | 121:11, | 202:19, | proceeding [4] | 116:13, |
| [2] 167:13, | 1:23 | 122:14, | 202:23, | 48:19, | 117:24, |

246

| 118:22, | 18:19, | 203:4, | 120:10, | qualifications | 149:2, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 121:11, | 18:25, 19:1, | 203:24, | 123:21, | - 23:20 | 149:6, |
| 122:14, | 19:4, 38:19, | 212:1, | 126:1, | qualified - | 149:7, |
| 124:12, | 182:8 | 212:15, | 129:24, | 121:14 | 149:8, |
| 124:24, | proper [3] | 212:17, | 213:21 | qualify - | 149:13, |
| 126:19, | 49:9, 50:21, | 213:20, | public [22] | 88:13 | 152:4, |
| 131:5, | 130:5 | 213:24 | 1:24, 4:2, | qualitative [2] | 152:23, |
| 131:6, | properly [7] | proposing [2] | 4:14, 4:22, | 146:12, | 152:24, |
| 142:4, | 34:15, 67:6, | 127:16, | 6:3, 24:16, | 185:23 | 153:3, |
| 170:19, | 73:8, 75:1, | 150:17 | 33:13, | qualitatively - | 153:8, |
| 193:24 | 75:2, 76:12, | proposition - | 33:16, 46:3, | 165:15 | 153:9, |
| projecting - | 102:7 | 145:14 | 46:12, 56:8, | quality [113] | 153:12, |
| 115:20 | Properties - | prospective | 58:2, 65:14, | 2:8, 13:8, | 153:16, |
| projection [2] | 31:24 | [2] 30:2, | 66:10, 85:6, | 13:9, 13:13, | 154:1, |
| 159:5, 159:5 | proposal - | 30:10 | 85:9, 85:10, | 13:15, | 154:6, |
| prolong [3] | 127:5 | protect [2] | 85:15, | 13:22, | 154:11, |
| 93:11, | propose - | 146:3, | 85:19, | 13:23, | 154:15, |
| 97:10, 99:6 | 100:1 | 184:14 | 113:16, | 14:11, | 154:25, |
| proof [53] | proposed [62] | protected - | 217:6, | 14:16, | 155:6, |
| 27:6, 27:23, | 8:24, 9:4, | 181:17 | 217:20 | 15:20, | 165:21, |
| 28:10, | 12:4, 12:24, | protection [3] | PUD [2] | 16:14, | 165:23, |
| 28:12, 36:1, | 18:2, 22:17, | 17:21, 29:9, | 173:3, 182:6 | 16:17, | 166:4, |
| 36:9, 36:11, | 23:7, 28:25, | 156:13 | pull [7] 9:24, | 16:20, | 168:10, |
| 47:19, | 49:16, | protective [3] | 23:15, | 16:21, | 169:22, |
| 47:21, | 50:19, 53:9, | 153:7, | 116:6, | 17:11, 18:6, | 169:24, |
| 47:23, 48:4, | 72:9, 75:21, | 154:4, 154:4 | 119:22, | 18:18, | 170:6, |
| 48:7, 48:14, | 77:7, 87:8, | protocol - | 124:9, | 18:24, 19:1, | 170:9, |
| 48:18, | 92:5, 92:22, | 178:22 | 124:15, | 19:4, $38: 7$, | 170:10, |
| 50:14, | 92:24, | protocols - | 170:1 | 40:23, 42:8, | 170:25, |
| 50:22, | 95:14, | 185:17 | punches - | 42:10, | 171:15, |
| 50:25, 51:3, | 99:10, | prove [9] | 9:24 | 43:25, | 172:23, |
| 66:19, 74:3, | 99:17, | 35:15, | punted - | 44:19, | 173:4, |
| 74:4, 77:4, | 100:10, | 63:17, | 199:25 | 44:23, 45:5, | 173:12, |
| 98:14, | 100:12, | 117:3, | purely - 33:4 | 45:6, $45: 8$, | 174:15, |
| 106:13, | 103:3, | 117:20, | purpose [6] | 45:11, | 174:19, |
| 106:15, | 103:21, | 118:8, | 18:7, | 45:17, | 176:7, |
| 106:17, | 104:3, | 164:12, | 119:10, | 45:18, | 177:4, |
| 106:22, | 109:2, | 165:9, | 150:14, | 45:21, | 180:10, |
| 107:1, | 110:18, | 188:24, | 150:14, | 45:23, 48:1, | 181:22, |
| 108:13, | 115:14, | 204:20 | 150:21, | 48:2, 100:6, | 181:25, |
| 108:16, | 115:17, | provide [6] | 156:9 | 100:6, | 182:4, |
| 110:2, | 115:24, | 31:11, 57:3, | purposes [9] | 112:14, | 182:11, |
| 112:2, | 116:4, | 58:6, | 17:19, | 112:17, | 182:13, |
| 113:3, | 116:7, | 132:13, | 17:20, | 113:9, | 183:8, |
| 113:14, | 126:19, | 133:11, | 18:13, 24:1, | 116:15, | 184:11, |
| 116:20, | 128:3, | 201:17 | 110:1, | 128:11, | 195:13, |
| 117:18, | 129:7, | provided [3] | 173:14, | 139:17, | 195:20, |
| 123:17, | 131:3, | 57:22, | 183:18, | 140:3, | 202:2, |
| 125:18, | 131:17, | 75:25, | 184:24, | 141:22, | 203:24 |
| 131:10, | 131:25, | 185:15 | 192:17 | 142:13, | quantitative |
| 136:8, | 132:8, | provides [5] | pursuant [2] | 142:23, | [3] 183:21, |
| 136:15, | 134:18, | 58:2, 95:16, | 87:15, 91:10 | 143:1, | 184:12, |
| 136:20, | 146:23, | 122:1, | pursue [3] | 144:5, | 184:20 |
| 137:10, | 153:5, | 125:24, | 70:13, | 146:18, | quantity [2] |
| 160:1, | 164:24, | 127:11 | 145:7, | 146:25, | 128:11, |
| 200:1, | 165:25, | proving - | 145:10 | 147:2, | 129:2 |
| 200:20, | 169:22, | 117:10 | pushed - | 147:7, | questioning |
| 201:25, | 169:23, | provision [6] | 201:14 | 147:18, | 74:9 |
| 203:22, | 170:20, | 36:14, | putting [2] | 147:22, | quibble [2] |
| 207:1, | 173:11, | 104:7, | 107:2, | 147:24, | 98:13, |
| 208:5, | 182:23, | 120:3, | 152:14 | 147:25, | 150:25 |
| 212:5, | 189:2, | 128:9, |  | 148:4, | quibbled [2] |
| 214:19, | 189:15, | 160:11, | Q | 148:6, | 50:18, 98:22 |
| 214:25 | 190:5, | 199:23 |  | 148:7, | quibbling - |
| propagation $\text { [7] } 14: 16,$ | $190: 18$, 202:11, | ```provisions [6] 119:9,``` | $\begin{aligned} & \text { QA - } 121: 16 \\ & \text { QC }-121: 16 \end{aligned}$ | $\begin{aligned} & 148: 9 \\ & 148: 24, \end{aligned}$ | $\begin{array}{r} 118: 5 \\ \text { quick }- \end{array}$ |

247

| 109:18 | 104:22, | 38:23, | 64:23, | 76:18, | 87:11, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| quickly [2] | 108:4, | 40:15, 41:1, | 93:13, | 77:25, | 88:24, 89:1, |
| 103:11, | 109:13, | 41:2, 42:18, | 166:22 | 78:15, | 138:12, |
| 160:4 | 109:14, | 42:19, | reclamation | 78:16, | 188:10, |
| quiet - 129:14 | 208:24 | 47:23, 57:7, | [4] 12:8, | 78:18, | 188:11, |
| quite [9] | raises - 45:2 | 84:22, | 12:12, | 78:22, | 199:24, |
| 48:16, 64:8, | raising [5] | 88:19, | 36:18, 166:8 | 79:15, | 200:24, |
| 64:11, | 27:2, 34:10, | 90:23, | recognize - | 79:16, 80:6, | 205:19, |
| 80:24, 81:9, | 62:12, | 91:21, | 153:5 | 81:8, 83:1, | 213:3 |
| 85:7, 91:12, | 104:7, | 107:13, | recognized - | 83:2, 84:24, | referred [3] |
| 126:6, 196:8 | 197:20 | 121:5, | 180:21 | 85:15, | 41:14, |
| quorum - 5:11 | ran - 142:16 | 130:16, | recognizes - | 86:11, | 131:25, |
| quotation - | range [4] | 151:21, | 122:8 | 87:14, 88:8, | 178:6 |
| 65:24 | 39:6, | 157:2, | recollection | 88:15, | referring [2] |
| quote [4] | 143:17, | 162:6, | 80:6 | 88:20, 89:5, | 120:2, |
| 15:17, 66:8, | 143:17, | 165:17, | recommended | 89:8, 89:23, | 175:22 |
| 189:15, | 189:22 | 187:2, | [4] 49:4, | 96:1, 96:15, | refers [3] |
| 189:16 | ranges - 39:8 | 192:24, | 211:14, | 97:20, | 87:3, |
| quoted - 41:5 | rather [9] | 195:14, | 211:22, | 100:14, | 132:11, |
| quotes - | 20:9, 54:20, | 207:24 | 213:18 | 101:11, | 144:3 |
| 152:14 | 59:13, | realms - | reconfigure | 101:20, | refined - |
| quoting [2] | 72:22, 94:9, | 24:17 | [2] 131:16, | 101:22, | 190:13 |
| 28:3,166:5 | 97:6, | reason [13] | 134:16 | 103:14, | reflects - |
|  | 132:12, | 24:4, 28:14, | reconvene [5] | 142:5, | 23:17 |
| R | 162:2, 165:4 | 36:21, 57:2, | 3:5, 10:22, | 142:5, | reg - 125:5 |
|  | rational | 79:3, 84:4, | 64:22, | 143:1, | regard [4] |
| rain - 39:9 | 24:8 | 84:12, | 64:24, | 146:17, | 23:5, $26: 21$, |
| raise [12] | $\operatorname{Re}[7] 16: 3$, | 84:25, | 166:23 | 165:19, | 47:21, 80:1 |
| 56:24, | 46:20, | 86:12, | record [99] | 175:20, | regarding [5] |
| 63:10, | 130:14, | 104:21, | 3:9, 9:12, | 176:1, | 86:25, |
| 64:13, 71:1, | 130:18, | 152:1, | 17:9, $23: 17$, | 176:12, | 98:15, |
| 71:2, 72:7, | 154:8, | 204:16, | 31:19, 34:4, | 176:16, | 108:15, |
| 85:3, 89:3, | 156:10, | 208:22 | 34:7, 42:20, | 176:16, | 169:17, |
| 89:6, | 181:24 | reasonably - | 44:1, $46: 1$, | 178:6, | 185:16 |
| 103:25, | reach [5] | 121:4 | 49:21, | 179:13, | regardless [3] |
| 104:4, | 43:21, | reasoned [3] | 51:12, | 182:20, | 181:15, |
| 104:15 | 121:12, | 19:10, | 52:11, | 187:21, | 181:16, |
| raised [42] | 163:23, | 19:15, 19:17 | 52:18, | 188:16, | 194:9 |
| 12:24, 33:8, | 172:19, | reasoning - | 52:22, | 188:23, | regime [2] |
| 53:3, 53:5, | 186:7 | 162:15 | 52:23, | 191:2, | 162:1, |
| 53:13, | reached - | reasons [4] | 53:23, | 191:2, | 163:11 |
| 53:16, | 54:25 | 51:13, | 54:13, | 214:6, | regulate - |
| 53:17, | react [2] | 103:13, | 55:18, 59:5, | 214:15, | 12:17 |
| 54:13, | 177:16, | 166:9, | 59:11, | 217:13 | regulated |
| 60:25, 61:7, | 177:21 | 197:15 | 59:18, 61:8, | recorded - | 143:24 |
| 61:14, | reading [5] | rebuttal [4] | 61:11, | 67:6 | regulation |
| 65:25, | 55:8, | 7:25, 11:12, | 62:22, 63.9 | recording - | [20] 29:11, |
| 68:22, | 118:14, | 31:9, 42:16 | 62:24, 63:9, | 67:10 | 39:24, |
| 68:25, | 120:10, | rebuttals | 63:12, | records [3] | 114:10, |
| 69:20, 75:1, | 131:3, 204:7 | 141:15 | 63:18, | 147:2, | 114:10, |
| 75:20, | readings - | rebutted - | 63:20, | 147:5, | 119:4, |
| 76:12, | 130:4 | 141:18 | 63:23, 64:6, | 173:13 | 119:10, |
| 76:23, 77:5, | reads [3] | recalling - | 64:16, 65:8, | recuse-5:21 | 119:15, |
| 77:12, 78:8, | 119:19, | 33:25 | 65:24, | red [2] | 119:20, |
| 79:24, 80:6, | 131:3, | receive | 67:11, | 168:20, | 119:23, |
| 80:21, | 201:16 | 33:19 | 67:20, | 170:21 | 120:2, |
| 87:16, | ready [3] 3:4, | received [3] | 68:10, 69:2, | redirect - | 120:21, |
| 89:12, 91:1, | 121:16, | 8:17, 22:23, | 69:20, | 24:22 | 122:16, |
| 95:8, $96: 10$, | 198:14 | 33:20 | 70:21, | Reeders - 2:4 | 129:18, |
| 96:11, | real [3] 29:5, | receiving [2] | 71:15, | refer [4] | $130: 6$, |
| 96:17, | 116:22, | 142:8, | 74:11, | 12:21, | 130:15, |
| 100:3, | 122:20 | 142:10 | 74:14, | 13:19, | 130:23, |
| 101:25, | reality [2] | recent-114:7 | 74:16, | 114:22, | 204:8, |
| 102:5, | 36:15, 80:20 | recently - | 74:18, | 126:3 | 204:17, |
| 103:22, | really [25] | 19:11 | 75:24, | reference [12] | 204:19, |
| 104:13, | 20:7, 27:6, | recess [3] | 76:10, | 52:9, 53:9, | 214:22 |

248

| regulations | 174:24, | 56:8 | 92:1, 95:3, | 136:25, | 112:16, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| [9] 25:20, | 181:1 | represents - | 100:4, | 137:14, | 114:3, |
| 29:15, 42:4, | remain [2] | 32:18 | 101:12, | 137:20, | 119:21, |
| 82:1, 85:24, | 141:5, 210:3 | request - | 101:15, | 137:23, | 121:13, |
| 119:12, | remained - | 132:9 | 101:23, | 137:25, | 129:1, |
| 120:10, | 34:24 | requested - | 103:20, | 138:21, | 130:5, |
| 123:6, 160:5 | remaining - | 184:21 | 104:25, | 138:24, | 130:20, |
| regulators - | 6:14 | require [2] | 108:12, | 139:1, | 149:16, |
| 150:2 | remand [4] | 115:2, | 115:13, | 143:6, | 152:22, |
| regulatory [6] | 72:4, | 204:20 | 139:14, | 146:9, | 157:15, |
| 22:17, | 126:11, | required [5] | 146:24, | 147:11, | 171:3, |
| 26:11, | 126:14, | 22:3, 78:23, | 150:5, | 147:12, | 174:6, |
| 114:1, | 126:23 | 121:22, | 157:17, | 166:25, | 176:4, |
| 123:21, | Remanding - | 162:2, 178:4 | 157:22, | 167:2, | 193:4, |
| 143:2, | 69:3 | requirement | 164:7, | 181:6, | 193:10, |
| 161:21 | remarks - | [3] 19:9, | 177:14, | 182:22, | 193:11, |
| rehash - 76:8 | 42:12 | 121:24, | 188:3, | 190:3, | 193:15, |
| reiterate [2] | remedial - | 193:9 | 197:16 | 196:15, | 200:11 |
| 104:11, | 14:3 | requirements | respected - | 196:19, | return - 17:20 |
| 214:19 | remediated - | [3] 26:12, | 24:24 | 196:21, | reverse |
| reiterated - | 145:18 | 36:3, 49:17 | respectfully | 197:19, | 66:19 |
| 68:21 | remedies [4] | requires [6] | [2] 10:2, | 198:2, | review [15] |
| reject - 9:7 | 78:25, 79:2, | 80:17, | 78:19 | 198:23, | 1:1, 9:12, |
| rejected [6] | 104:17, | 97:12, | respecting - | 199:1, | 10:19, |
| 15:11, | 173:25 | 124:12, | 190:17 | 199:3, | 10:22, 12:2, |
| 34:21, 47:3, | remedy - | 160:23, | respond [6] | 209:9 | 46:1, 46:4, |
| 47:9, 105:5, | 140:23 | 183:11, | 30:15, 61:5, | 210:18, | 49:21, 56:6, |
| 125:22 | remind [2] | 199:24 | 81:17, | 210:20, | 56:9, 57:18, |
| rejection - | 8:11, $35: 8$ | requiring - | 131:1, | 211:7, | 66:11, |
| 24:25 | remove [2] | 46:18 | 147:10, | 211:10, | 78:22, |
| rejects - | 205:12, | research - | 167:7 | 211:12, | 105:12, |
| 180:18 | 212:13 | 149:23 | responded [8] | 213:7, | 215:8 |
| rejoinder [2] | removing | reserve [2] | 60:17, | 213:11, | reviewed [4] |
| 68:14, | 212:19 | 11:11, 74:14 | 60:17, 61:1, | 214:7, | 10:25, 34:8, |
| 130:10 | repeat [3] | reserved | 61:3, 61:15, | 215:15, | 50:10, 59:19 |
| related [2] | 92:17, | 31:9 | 62:14, | 215:19, | reviewing [2] |
| 140:17, | 129:19, | residential - | 75:10, 91:12 | 215:21 | 56:1, 74:11 |
| 176:5 | 134:11 | 37:13 | Respondents - | responses [3] | revised - |
| relationship | repeated [5] | resolution [2] | 35:13 | 34:2, 35:24, | 137:4 |
| [2] 193:12, | 20:18, | 7:7, $215: 2$ | responds - | 163:9 | revision |
| 193:19 | 77:16, | resolve [2] | 139:18 | responsibility | 110:14 |
| relevance [6] | 109:21, | 91:22, 195:4 | response [72] | [2] 88:11, | revisions |
| 51:23, 52:4, | 144:24, | resolved [3] | 4:23, 6:22, | 160:7 | 215:7 |
| 52:7,138:2, | 157:8 | 7:15, 34:24, | 10:17, 11:4, | rest [10] | rewriting |
| 138:6, | repetition - | 34:25 | 40:14, 51:4, | 72:21, | 116:5 |
| 138:20 | 85:22 | resolves - | 60:7, 60:9, | 72:24, | richness |
| relevant [4] | replace - | 113:12 | 61:2, 61:3, | 73:15, | 186:14 |
| 22:16, 52:9, | 118:17 | resounding | 61:16, | 115:1, | rifle - 59:13 |
| 67:14, | reply - 24:3 | 24:25 | 61:17, | 120:13, | rights [3] |
| 106:12 | report [6] | respect [43] | 62:14, | 133:6, | 74:19, |
| reliable [6] | 41:15, | 13:5,18:18, | 63:14, | 197:9, | 87:15, |
| 19:7, 19:9, | 178:4, | 21:23, | 65:12, 66:2, | 210:3, | 116:16 |
| 122:13, | 178:5, | 22:10, | 67:7, 67:21, | 215:23, | rise - 74:5 |
| 123:9, | 178:6, | 23:18, 25:4, | 67:24, | 215:25 | risk - 85:21 |
| 183:19, | 186:10, | 42:20, 43:1, | 68:16, 71:2, | restore - 18:8 | River - 37:10 |
| 184:7 | 186:17 | 43:2, 43:2, | 71:12, | rests [2] | road [4] |
| reliably - | reported - | 49:8, $50: 10$, | 75:11, | 49:9, 207:4 | 72:11, 74:8, |
| 23:25 | 217:10 | 50:14, | 84:24, 86:6, | result [28] | 79:9, 142:25 |
| relied [2] | Reporter [5] | 50:14, | 92:13, | 8:22, 14:10, | Robert's - 6:7 |
| 19:7, 43:7 | 1:24, 3:22, | 60:15, 71:6, | 92:15, 93:2, | 15:8, $38: 14$, | Roger [2] |
| relief - 73:9 | 166:19, | 71:22, | 93:4, 94:5, | 39:15, | 4:16, 65:15 |
| rely [3] | 217:5, | 74:10, 76:2, | 102:19, | 45:24, | role [3] |
| 19:16, | 217:20 | 76:25, | 106:5, | 111:3, | 21:24, |
| 174:21, | represent - | 77:19, | 106:7, | 111:18, | 123:16, |
| 181:2 | 79:10 | 78:25, | 135:4, | 111:21, | 160:9 |
| relying [2] | represented | 85:14, 90:5, | 135:14, | 112:14, | roll - 3:5 |

249

| rolled - | 189:2, | 187:15, | 155:23, | 179:14, | 184:5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 121:15 | 189:15, | 187:17, | 166:13, | 180:18, | scope - 75:16 |
| Roman - | 190:5, | 188:4, 194:6 | 167:15, | 185:4, | score - 17:8 |
| 11:19 | 190:18, | salts [2] | 168:13, | 185:5, | scratching - |
| room [6] | 201:10, | 158:25, | 176:10, | 190:5, | 56:11 |
| 1:11, 3:18, | 201:22, | 159:3 | 178:18, | 190:18, | screen [2] |
| 3:20, 20:12, | 202:6, | salty [2] | 196:18, | 195:19, | 14:25, |
| 58:11, 65:7 | 205:16 | 17:4, 17:4 | 198:1, | 200:6, | 134:19 |
| rooting - | rulings - | sampled - | 198:25, | 204:8, | se - 169:14 |
| 20:14 | 109:3 | 186:15 | 210:17, | 214:11 | seal - 217:16 |
| Rosebud [9] | runoff [3] | samples [2] | 211:9, | Scalia [2] | search - |
| 1:6, 4:19, | 38:7, 38:10, | 168:24, | 213:10, | 19:10, 19:13 | 21:15 |
| 5:16, 32:19, | 169:8 | 168:24 | 215:18 | scene - 45:25 | secondary |
| 52:15, |  | sampling [3] | says [68] | schedules [2] | 142:9 |
| 94:11, | S | 172:13, | 15:14, 19:6, | 145:24, | seconded [7] |
| 94:17, |  | 182:17, | 21:14, 23:7, | 145:25 | 135:2, |
| 143:2, 158:9 | sad - 78:24 | 185:22 | 23:10, | science [34] | 135:12, |
| roughly [4] | safe - 103:3 | sandbagged | 23:12, 44:1, | 21:12, | 136:22, |
| 32:18, | sake - 181:10 | [4] 81:12, | 45:9, 46:13, | 21:15, | 137:19, |
| 33:22, 34:6, | salinity [15] | 87:20, | 55:4, 57:9, | 21:20, 22:1, | 192:21, |
| 37:7 | 13:5, 13:8, | 88:25, 89:2 | 60:19, | 22:11, | 203:11, |
| rounds - 34:1 | 33:4, 38:4, | sandbagging | 61:20, | 22:13, | 214:3 |
| RPR [3] 1:23, | 39:1, 39:6, | [8] 81:15, | 69:16, 82:2, | 22:18, | seconds - |
| 217:5, | 140:17, | 84:19, | 110:11, | 23:18, 24:6, | 212:3 |
| 217:19 | 142:7, | 86:25, 87:2, | 110:22, | 24:11, | section [44] |
| rule [13] | 157:12, | 88:22, | 111:18, | 24:24, | 26:14, |
| 26:6, 57:23, | 157:18, | 88:23, 89:1, | 111:19, | 32:23, | 29:22, 30:2, |
| 110:9, | 158:18, | 89:16 | 112:12, | 32:23, | 52:7, 94:16, |
| 110:22, | 159:21, | Sarah [14] | 112:15, | 37:21, 43:2, | 99:13, |
| 111:20, | 159:25, | 6:9, 8:5, | 113:2, | 43:3, 43:4, | 100:9, |
| 116:21, | 161:6, | 8:13, 10:9, | 114:2, | 43:5, 44:8, | 107:20, |
| 123:16, | 189:10 | 52:25, | 115:1, | 44:8, 44:25, | 107:24, |
| 124:1, | salmonid - | 52:25, 54:5, | 117:16, | 84:14, 85:1, | 107:25, |
| 127:20, | 158:4 | 54:9, 54:25, | 120:3, | 115:3, | 108:23, |
| 127:25, | salt [39] | 55:13, | 120:20, | 121:6, | 109:7, |
| 128:6, | 13:6, 13:18, | 108:11, | 126:14, | 122:13, | 110:2, |
| 151:11, | 13:21, | 128:20, | 127:23, | 123:9, | 111:10, |
| 154:23 | 13:21, | 205:6, | 127:23, | 129:25, | 121:25, |
| ruled - 78:9 | 13:22, | 205:10 | 128:2, | 169:6, | 129:6, |
| Rules [2] 6:7, | 15:21, | saturation [2] | 128:3, | 180:11, | 136:20, |
| 21:17 | 16:11, | 169:7, | 129:4, | 184:4, | 136:20, |
| ruling [38] | 16:13, | 169:10 | 129:7, | 184:6, | 137:10, |
| 22:17, 23:2, | 16:18, 17:2, | save - 83:11 | 130:12, | 184:15, | 138:6, |
| 23:7, 25:18, | 17:15, | saves - | 131:6, | 190:17 | 139:4, |
| 28:25, 29:3, | 17:17, | 155:21 | 142:4, | scientific [13] | 175:25, |
| 75:13, 77:7, | 18:11, | saying [39] | 143:25, | 21:23, | 183:10, |
| 87:8, 87:10, | 18:11, | 9:24, 28:7, | 145:20, | 22:10, | 197:9, |
| 88:6, 95:15, | 23:12, | 55:14, 61.5 | 147:20, | 22:15, 25:1, | 198:9, |
| 97:13, | 39:14, 40:2, | 60:21, 61:5, | 148:3, | 43:8, $43: 14$, | 199:24, |
| 105:10, | 40:9, 142:4, | 63:5, 80:3, | 148:18, | 44:15, | 200:2, |
| 114:6, | 148:13, | 80:10, | 148:25, | 44:20, | 200:4, |
| 114:7, | 148:22, | 81:15, 87:3, | 149:12, | 47:17, | 200:19, |
| 115:24, | 158:21, | 89:2, 89:9, | 150:11, | 162:9, | 200:19, |
| 122:23, | 161:3, | 93:1, 106:4, | 153:14, | 179:19, | 200:20, |
| 146:7, | 161:16, | 118:6, | 153:20, | 179:24, | 200:25, |
| 146:8, | 164:18, | 120:18, | 160:12, | 180:12 | 201:4, |
| 146:23, | 167:21, | 124:5, | 161:22, | scientifically - | 201:5, |
| 147:4, | 167:22, | 128:6, | 163:22, | 178:21 | 202:16, |
| 164:24, | 168:2, | 128:7, | 164:22, | scientist [4] | 205:12, |
| 169:23, | 172:4, | 130:16, | 164:25, | 23:15, | 205:13, |
| 173:11, | 174:13, | 135:12, | 167:17, | 43:15, | 205:19, |
| 182:23, | 174:14, | 136:24, | 167:25, | 117:2, | 207:14, |
| 185:3, | 187:4, | 137:22, | 169:18, | 179:20 | 212:6, |
| 185:3, | 187:6, | 138:23, | 171:17, | scientists [3] | 212:13, |
| 185:4, | 187:8, | 151:2, | 174:13, | 21:18, | 212:15, |
| 185:4, | 187:13, | 154:13, | 175:15, | 115:19, | 212:17, |


|  |  |  |  | 250 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 212:22 | served - | 170:18, | single [3] | 39:10 | 99:21 |
| sections [2] | 69:25 | 174:4 | 63:11, | solves - 206:9 | speaks [3] |
| 94:8, 94:9 | Setting - | 186:10, | 161:2, 161:3 | somebody | 27:16, |
| seeing [3] | 61:25 | 188:23, | sit [5] 81:9, | 178:18 | 39:25, 83:12 |
| 6:23, 119:9, | settle [3] 7:1, | 189:20 | 164:23, | somehow [2] | special [2] |
| 197:20 | 47:16, 47:24 | shuffle - | 184:25, | 85:18, | 2:8, 10:23 |
| seek [2] 49:5, | seventeen [2] | 97:15 | 190:24, | 129:23 | specific [11] |
| 105:11 | 90:13, 90:19 | Sierra - 11:11 | 200:18 | someone [10] | 53:1, 67:7, |
| seeks - | several - 94:8 | Signal [7] | sites - 186:15 | 20:22, | 97:13, |
| 105:11 | shake - 20:20 | 25:22, $26: 5$, | sitting - 142:3 | 20:23, | 100:21, |
| seem [2] | shall - 126:15 | 89:4, | situation [6] | 20:23, 31:5, | 106:11, |
| 50:7, 167:3 | share - 70:6 | 122:22, | 12:14, 18:2, | 89:3, 104:9, | 139:8, |
| seemed - | shared - | 123:2, | 60:25, | 122:18, | 159:16, |
| 126:22 | 160:6 | 144:23, | 80:21, | 127:16, | 189:8, |
| seems [13] | she's [7] | 170:12 | 148:8, | 155:17, | 204:16, |
| 54:24, 72:3, | 43:15, | signals - | 149:21 | 190:17 | 206:19, |
| 72:12, | 174:22, | 90:23 | situations | someplace - | 206:23 |
| 75:22, | 174:23, | significance - | 123:21 | 86:16 | specifically |
| 75:25, 80:3, | 174:24, | 168:19 | six [2] 34:6, | sometime | [10] 32:3, |
| 82:10, | 179:20, | significant [5] | 54:17 | 80:4 | 33:25, |
| 119:13, | 179:20, | 49:12, | Sixth - 1:12 | sorry [14] | 108:20, |
| 128:5, | 180:20 | 159:7, | skate - 79:8 | 79:7, 94:12, | 109:2, |
| 140:25, | sheet - 58:14 | 162:12, | slam - 71:8 | 99:20, | 119:16, |
| 153:19, | shield - 24:17 | 165:15, | sleeping - | 102:25, | 133:4, |
| 153:25, | shifting - | 176:25 | 20:11 | 109:23, | 133:14, |
| 192:5 | 208:25 | significantly - | slide [14] | 124:7, | 153:23, |
| sees - 125:25 | shifts [2] | 189:17 | 33:6, 33:11, | 125:14, | 154:6, |
| segment [2] | 36:7, 36:8 | signify [13] | 34:16, | 128:18, | 206:21 |
| 14:24, 15:4 | Shiloh [3] | 93:1, 106:4, | 35:17, | 139:20, | speculate - |
| self-inflicted | 2:3, 11:9, | 135:12, | 36:12, | 150:17, | 22:21 |
| [2] 22:24, | 99:24 | 136:24, | 36:13, | 156:1, | speculating - |
| 24:18 | shirt - 21:2 | 137:22, | 36:20, | 190:5, | 178:7 |
| send [2] 25:3, | short [4] | 138:23, | 36:21, | 199:6, | speculation - |
| 167:5 | 11:20, | 196:18, | 37:23, 39:1, | 201:14 | 157:2 |
| sense [13] | 12:22, 37:4, | 198:1, | 39:13, 40:5, | sort [12] | spending - |
| 17:3, 40:3, | 156:6 | 198:25, | 40:19, | 10:9, $30: 13$, | 24:4 |
| 53:19, | shortcut - | 210:16, | 148:20 | 41:8, 44 :9, | spoke - 46:22 |
| 122:6, | 107:18 | 211:9, | slides [5] | 56:16, | spoken - |
| 130:3, | shorthand - | 213:9, | 31:17, | 71:13, 84:5, | 95:21 |
| 151:10, | 217:10 | 215:18 | 41:23, | 123:20, | spot-15:10 |
| 151:16, | shot-84:18 | similar [5] | 148:18, | 128:2, | spread - 76:4 |
| 151:21, | shoulder - | 56:16, | 179:12, | 151:11, | spring - 39:10 |
| 174:20, | 36:10 | 186:15, | 179:12 | 160:2, 195:8 | SS - 217:3 |
| 175:4, | shouldn't [6] | 186:17, | SMCRA [12] | sounded - | stage [8] |
| 177:7, | 31:7, 46:11, | 209:24, | 12:7, 12:13, | 75:8 | 35:25, 36:2, |
| 195:25, | 46:12, 66:9, | 210:6 | 14:20, | sounds [3] | 48:21, 49:7, |
| 204:22 | 117:12, | Similarly - | 15:13, 16:5, | 12:7, 84:18, | 49:11, |
| separate [7] | 162:6 | 157:25 | 16:22, | 202:9 | 50:12, |
| 41:7, 92:1, | showed [6] | simplest - | 17:19, 45:7, | source [4] | 71:17, 84:6 |
| 96:23, 98:1, | 37:20, | 208:9 | 160:7, | 26:18, | stages - 48:18 |
| 136:20, | 57:12, | simply [16] | 160:8, | 144:10, | stake - $25: 2$ |
| 167:16, | 90:23, | 41:4, 41:8, | 160:11 | 146:19, | Staldine [2] |
| 199:13 | 157:12, | 46:20, | 182:1 | 151:14 | 4:12, 4:12 |
| sequence | 171:5, | 49:25, | Smith [2] 4:9, | sources - | stamina - |
| 66:5 | 172:15 | 91:12, | 4:9 | 157:24 | 185:1 |
| sequitur - | showing - | 158:21, | so-called [4] | speak [10] | stand [4] |
| 164:4 | 113:18 | 161:6, | 26:15, | 3:21, 6:3, | 44:3, 81:9, |
| series [2] | shown [2] | 161:13, | 146:1, | 21:18, 32:4, | 145:13, |
| 20:18, 83:23 | 127:2, | 162:24, | 147:1, | 39:25, | 184:17 |
| serious [3] | 193:19 | 166:3, | 173:13 | 93:17, | standard [50] |
| 16:5, 39:18, | shows [11] | 177:4, | Solem [3] | 123:3, | 18:22, 19:1, |
| 42:21 | 27:17, | 178:7, | 32:7, | 163:2, | 19:4, $27: 11$, |
| servants - | 37:21, 83:2, | 178:18, | 134:15, | 183:4, | 28:24, |
| 24:16 | 111:1, | 181:13, | 148:17 | 201:11 | 43:15, |
| serve [2] ${ }^{\text {2 }}$ | 143:2, | 181:17, | solids [3] | SPEAKER - 4:2 | 44:24, 45:7, |
| 15:18, 150:6 | 164:16, | 192:3 | 35:4, 39:7, | speaking - | 45:24, 50:2, |

251

| 50:4, | 45:17, | start [12] | 59:24, | 161:21, | 186:7, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50:21, | 45:18, | 5:20, 11:7, | 60:19, | 193:9, | 188:5, |
| 52:21, | 45:21, | 51:20, 52:6, | 60:19, | 196:3, | 189:1, |
| 71:12, | 45:23, | 74:7, 88:2, | 61:20, | 196:7, | 189:25, |
| 87:18, | 48:23, 50:9, | 88:4, 112:4, | 61:22, | 207:23, | 190:2, |
| 117:17, | 66:20, | 172:4, | 85:23, | 214:23 | 193:22, |
| 125:2, | 100:6, | 177:11, | 103:21, | stay - 5:10 | 194:3, |
| 125:18, | 100:7, | 192:6, 192:9 | 104:24, | steam [2] | 194:6, |
| 140:2, | 112:15, | started [5] | 114:5, | 189:5, 194:2 | 194:20 |
| 142:24, | 112:17, | 4:25, 27:2, | 114:12, | Steere - 32:16 | streams [14] |
| 143:1, | 113:10, | 93:15, | 115:1, | step [3] | 90:13, |
| 144:17, | 116:15, | 162:9, | 115:9, | 74:15, | 162:12, |
| 144:21, | 139:17, | 190:16 | 118:23, | 93:24, | 164:2, |
| 144:25, | 140:3, | starting [3] | 119:5, | 155:10 | 172:17, |
| 145:4, | 141:22, | 79:8, 94:7, | 119:11, | sterilized [2] | 177:20, |
| 147:22, | 143:3, | 192:9 | 121:20, | 44:17, 44:18 | 177:23, |
| 149:3, | 144:6, | startling - | 121:22, | Steve [2] 4:5, | 177:24, |
| 153:8, | 147:7, | 155:14 | 122:6, | 32:13 | 178:14, |
| 154:18, | 147:18, | starts [2] | 122:11, | stick [2] | 179:2, |
| 154:18, | 147:24, | 139:4, 200:6 | 122:20, | 89:18, | 180:7, |
| 154:19, | 148:1, | state [17] | 123:5, | 191:20 | 183:12, |
| 154:20, | 148:5, | 1:2, 4:7, | 123:10, | stood - | 186:7, |
| 155:3, | 148:6, | 12:15, | 123:19, | 126:25 | 186:12, |
| 162:5, | 148:7, | 12:16, 14:7, | 124:11, | stop [4] | 194:7 |
| 164:17, | 148:9, | 43:23, 58:5, | 124:11, | 151:12, | stretches - |
| 169:22, | 148:24, | 58:5, 58:6, | 124:14, | 151:13, | 37:4 |
| 169:24, | 149:6, | 65:8, 71:7, | 125:8, | 151:22, | strike [8] 7:4, |
| 170:6, | 149:7, | 74:13, | 125:9, | 197:7 | 7:13, 7:14, |
| 170:9, | 149:8, | 152:2, | 125:11, | strange - | 109:4, |
| 170:10, | 149:13, | 160:13, | 128:10, | 22:14 | 134:21, |
| 171:15, | 152:4, | 162:14, | 129:19, | stray - 162:9 | 202:18, |
| 172:23, | 152:23, | 217:2, 217:7 | 130:6, | stream [47] | 202:22, |
| 177:5, | 152:25, | stated [3] | 130:8, | 36:25, 37:3, | 212:14 |
| 178:13, | 153:3, | 67:20, 97:1, | 130:12, | 37:6, 38:18, | strike-out - |
| 181:25, | 153:10, | 211:22 | 130:16, | 38:20, | 131:17 |
| 182:10, | 153:12, | statement [9] | 130:23, | 38:24, | strike-through |
| 202:2, | 153:16, | 6:18, 23:15, | 131:4, | 39:11, 40:3, | [4] 115:14, |
| 203:15, | 154:1, | 46:13, | 132:2, | 41:2, 41:16, | 115:16, |
| 203:25, | 154:6, | 89:19, | 142:15, | 43:14, | 115:25, |
| 208:9 | 154:11, | 89:20, | 145:5, | 43:21, | 116:12 |
| standard's - | 154:15, | 99:11, | 147:19, | 44:12, | strikes - |
| 155:6 | 154:25, | 126:10, | 149:12, | 140:19, | 164:3 |
| standards [86] | 155:7, | 180:8, | 150:15, | 143:20, | striking [2] |
| 12:16, 13:8, | 165:23, | 190:16 | 150:21, | 146:16, | 131:21, |
| 13:9, 13:13, | 166:5, | statements | 156:10, | 146:20, | 206:10 |
| 13:15, | 168:10, | [2] 97:3, | 156:11, | 151:13, | strip [7] 1:6, |
| 13:22, | 171:1, | 169:12 | 156:14, | 157:14, | 5:16, 12:12, |
| 13:23, | 171:2, | states [6] | 160:7, | 157:14, | 94:22, |
| 14:11, | 173:4, | 12:10, | 169:17, | 157:20, | 110:13, |
| 14:16, | 174:15, | 26:19, | 174:19, | 158:21, | 128:4, 129:7 |
| 15:20, | 174:19, | 75:21, | 193:17, | 159:7, | striped - 21:2 |
| 16:14, | 176:7, | 123:2, | 195:16, | 159:25, | stripes - |
| 16:17, | 179:1, | 146:23, | 204:7, | 161:4, | 20:22 |
| 16:20, | 181:23, | 203:21 | 214:21 | 161:7, | strong [3] |
| 16:21, | 182:5, | stating [2] | statutes [4] | 161:17, | 88:3, 88:21, |
| 18:18, | 182:11, | 53:23, | 120:11, | 161:22, | 88:22 |
| 18:24, | 182:14, | 140:16 | 127:15, | 162:6, | stronger |
| 40:23, | 204:1 | statistically | 168:16, | 162:23, | 86:20 |
| 42:10, | standing - | [2] 159:7, | 173:20 | 166:8, | strongly - |
| 43:10, | 136:13 | 176:24 | statutory [14] | 172:2, | 77:18 |
| 43:22, | standings - | statute [63] | 36:14, 57:3, | 172:21, | structure [6] |
| 43:25, | 94:19 | 12:19, | 57:6, 104:6, | 179:16, | 25:19, 57:6, |
| 44:19, | stands - | 25:20, 36:3, | 114:1, | 181:14, | 123:5, |
| 44:23, 45:5, | 144:15 | 42:3, 56:17, | 119:6, | 183:13, | 124:11, |
| 45:7, 45:8, | Stanley - | 57:7, 57:9, | 125:5, | 183:17, | 125:9, |
| 45:11, | 20:15 | 57:14, 58:1, | 127:1, | 183:22, | 125:10 |


| struggle 195:10 | $\begin{gathered} 143: 13 \\ \text { suddenly }- \end{gathered}$ | $\begin{aligned} & 99: 3,101: 4, \\ & 101: 10, \end{aligned}$ | survey [8] $43: 19$, | $162: 13$, $164: 1$, | $\begin{aligned} & 180: 25 \\ & \text { testify }-28: 17 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| struggling [2] | 27:2 | 101:22, | 43:22, | 164:14, | testimony |
| 195:6, | sue - 145:8 | 185:24, | 43:23, | 169:14, | [10] 40:14, |
| 195:14 | suffering - | 186:11 | 178:17, | 170:7, | 43:11, |
| stuck [3] | 100:2 | supporting [2] | 178:23, | 177:8, | 43:12, 44:4, |
| 45:14, 58:1, | suffice [4] | 158:2, 183:2 | 185:15, | 177:11, | 44:5, 51:8, |
| 79:3 | 34:20, $40: 7$, | supports [2] | 185:17, | 177:15, | 51:16, |
| studies - 86:6 | 41:6, 84:10 | 46:18, | 186:4 | 177:17, | 141:16, |
| stuff [3] | sufficient [3] | 195:12 | suspect - | 177:21, | 159:15, |
| 44:22, | 146:14, | supposed [8] | 118:14 | 185:25, | 177:19 |
| 82:23, | 182:13, | 25:14, 31:3, | sustain [2] | 186:1, | tethered |
| 150:19 | 201:17 | 67:12, | 206:14, | 186:21, | 78:17 |
| sub [2] 103:4, | sufficiently | 120:11, | 207:6 | 189:16, | text - 202:21 |
| 120:22 | [2] 77:6, | 190:10, | Swan - 163:18 | 189:17, | thank [68] |
| sub(31-82:2 | 103:13 | 190:11, | swimming - | 191:19, | 5:13, 11:8, |
| Sub(a - | suggest [5] | 190:11, | 158:3 | 199:5, | 19:18, |
| 211:24 | 63:25, | 190:13 | system [3] | 199:6, | 19:19, 20:1, |
| subheadings - | 101:10, | supposedly [2] | 21:22, | 199:14, | 20:3, 20:7, |
| 96:24 | 101:20, | 33:1, 87:14 | 187:4, | 199:23, | 31:9, $31: 13$, |
| subject [5] | 192:3, 206:8 | Supreme [12] | 187:13 | 200:20, | 31:15, 32:6, |
| 34:13, | suggested [6] | 48:1, 48:15, | systems [2] | 201:5, | 42:13, |
| 34:14, | 57:22, | 103:10, | 128:12, | 206:19, | 42:14, |
| 40:12, | 79:19, 97:5, | 125:25, | 129:12 | 206:21, | 47:10, |
| 57:17, 123:8 | 130:15, | 144:16, |  | 206:23, | 55:24, |
| submit [3] | 137:12, | 150:11, | T | 207:13, | 58:21, |
| 45:19, | 209:14 | 150:12, |  | 207:14, | 65:11, |
| 46:12, 88:9 | suggesting [3] | 152:17, | table [2] | 209:20 | 65:18, |
| submitted [5] | 152:11, | 167:17, | 30:23, 79:18 | technical [3] | 65:22, |
| 49:16, | 159:24, | 173:3, | taken [7] | 11:22, | 68:15, |
| 59:20, | 159:25 | 173:25, | 64:23, | 82:23, 162:9 | 74:19, |
| 81:20, 82:6, | suggestion [3] | 182:5 | 74:17, | technically - | 74:20, |
| 185:17 | 46:19, | surface [31] | 77:14, | 82:24 | 78:12, |
| submitting - | 81:14, | 12:8, 12:9, | 93:13, | telephone [2] | 79:10, 83:5, |
| 46:2 | 207:16 | 15:13, | 117:17, | 4:15, 4:22 | 87:5, 91:18, |
| suboptimal - | suite - 154:11 | 18:13, | 166:22, | telling - | 94:15, |
| 58:2 | Sullivan [4] | 29:11, 35:3, | 217:8 | 174:20 | 95:17, |
| subparagraphs | 4:16, 4:17, | 37:24, 38:8, | takes [2] | tells - 146:8 | 98:10, |
| - 213:23 | 65:15, 65:15 | 38:14, 90:5, | 92:1, 206:25 | temperament - | 104:18, |
| subsection [6] | summary [4] | 90:18, | taking [7] | 190:22 | 104:19, |
| 111:16, | 34:17, | 128:11, | 74:15, | ten-166:21 | 105:21, |
| 114:13, | 34:22, | 129:11, | 74:23, | tend - 194:17 | 113:24, |
| 128:24, | 83:19, 86:21 | 143:23, | 117:19, | tendency [2] | 117:4, |
| 202:10, | Supervisor - | 143:24, | 152:11, | 36:23, 48:16 | 118:23, |
| 202:15, | 28:13 | 144:10, | 174:18, | tens [6] 17:5, | 125:13, |
| 212:12 | supplement - | 148:19, | 176:9, | 17:12, | 128:16, |
| subsections | 185:8 | 150:1, | 203:20 | 17:17, | 129:13, |
| [2] 120:22, | supplemental | 150:2, | talks [3] | 18:12, 23:5, | 130:8, |
| 210:11 | - 72:9 | 152:16, | 52:8, | 167:25 | 131:7, |
| subset - | supply [2] | 159:3, | 128:10, | tenure - 86:15 | 135:20, |
| 159:11 | 122:2,122:3 | 160:14, | 170:23 | term [6] 16:2, | 140:24, |
| substantial | support [8] | 161:24, | taxa [5] | 16:4, 87:1, | 142:1, |
| [12] 9:9, | 101:19, | 162:18, | 44:12, | 118:22, | 147:7, |
| 49:22, 96:1, | 153:25, | 163:12, | 44:13, | 131:14, | 147:8, |
| 96:14, | 172:8, | 167:12, | 46:24, | 193:10 | 156:15, |
| 96:17, | 173:5, | 168:9, | 186:6, | terms [6] | 156:25, |
| 98:16, | 176:16, | 177:1, | 186:14 | 38:1, 38:10, | 160:15, |
| 98:25, 99:2, | 193:14, | 177:2, | TDL's - | 58:2, | 160:16, |
| 99:4, 101:4, | 193:20, | 188:2, | 193:22 | 115:20, | 165:4, |
| 101:11, | 208:4 | 188:11 | TDS [34] | 171:1, 188:1 | 165:8, |
| 101:22 | supported | surprise [2] | 142:13, | testament - | 166:18, |
| substantive - | [12] 49:22, | 31:6, 54:23 | 143:16, | 47:6 | 171:9, |
| 9:11 subsumed - | 88:12, | surprising - | 146:11, | testified [4] | 174:7, |
| subsumed - | 95:25, | 54:16 | 146:14, | 97:6, | 181:2, |
| 101:15 | 96:14, | surrounding - | 158:21, | 178:10, | 181:8, |
| succinct - | 98:16, 99:1, | 123:6 | 159:19, | 179:18, | 185:6, |

253

| 186:20, | 155:23, | 142:22, | touchstone - | 217:13 | 192:23, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 191:17, | 163:3, | 150:8, 170:4 | 45:4 | truly - $24: 17$ | 195:3, |
| 196:25, | 171:23, | threw - | tough [6] | trust - 149:22 | 197:13, |
| 198:8, | 172:3, | 182:16 | 21:8, 21:9, | truth - 21:16 | 197:23, |
| 201:1, | 173:23, | throughout [4] | 21:10, | turn [2] | 198:15, |
| 202:6, | 174:12, | 11:25, | 21:10, | 93:25, $94: 1$ | 199:15, |
| 208:10, | 174:13, | 12:10, | 21:11, 25:15 | turned - | 199:18, |
| 214:15, | 174:23, | 114:21, | tougher - | 82:15 | 199:22, |
| 215:11, | 175:4, | 123:10 | 21:12 | turning - | 200:18, |
| 215:25 | 180:23, | throw [2] | toward [3] | 42:23 | 200:22, |
| Thanks - | 180:24, | 23:15, | 118:19, | turns - 178:9 | 201:1, |
| 93:19 | 181:1, | 116:23 | 201:8, | Tweeten [95] | 201:15, |
| themselves | 181:21, | thrust - 39:2 | 201:15 | 1:19, 34:17, | 202:12, |
| [3] 57:25, | 181:22, | thus [3] | town [3] 90:8, | 48:13, | 202:15, |
| 79:5, 155:23 | 181:23 | 66:14, | 90:20, | 52:24, 53:8, | 205:1, |
| theories - | they've [8] | 70:20, | 157:25 | 53:14, 54:3, | 206:2, |
| 28:17 | 25:8, 71:17, | 126:14 | track [2] | 55:13, | 206:20, |
| theory - 39:20 | 113:10, | timeline | 48:11, | 58:22, | 206:24, |
| there's [6] | 144:13, | 33:8 | 109:10 | 58:25, | 208:17, |
| 13:16, | 165:10, | timely [2] | train - 78:3 | 59:13, 60:9, | 209:10, |
| 14:25, | 170:8, | 64:13, 75:1 | transcribed - | 62:17, 63:2, | 209:23, |
| 103:9, | 173:24, | timing - 54:6 | 217:11 | 63:21, | 210:5, |
| 111:6, | 173:25 | title - 121:3 | transcript | 63:24, 64:4, | 211:18, |
| 164:4,182:2 | thing [22] | TMDL [8] | [10] 1:9, | 64:19, | 211:20, |
| thereafter - | 26:9, 29:5, | 140:23, | 28:19, 35:2, | 65:23, | 212:8, |
| 85:12 | 39:3, 40:25, | 145:22, | 59:6, 59:14, | 67:17, | 212:23, |
| therefore [10] | 41:8, 43:5, | 153:23, | 61:10, 67:4, | 67:23, | 213:2, |
| 29:25, | 49:1, 69:4, | 161:8, | 75:15, | 67:25, 68:2, | 213:16 |
| 30:21, | 78:4, 84:5, | 163:4, | 75:18, 77:11 | 70:8, 72:23, | Tweeten's [3] |
| 43:21, | 93:20, | 181:17, | transcription - | 73:1, 73:4, | 65:21, |
| 87:17, | 104:23, | 188:2, | 217:11 | 76:9, 79:6, | 67:14, 214:7 |
| 96:20, | 118:7, | 194:21 | translates - | 79:11, | twelve - |
| 187:9, | 128:6, | TMDL's [2] | 188:25 | 79:14, 80:8, | 168:24 |
| 200:6, | 142:22, | 145:18, | trashed - | 83:18, 84:8, | type [2] |
| 200:7, | 143:1, | 161:25 | 149:11 | 91:25, | 24:25,58:18 |
| 211:24, | 145:11, | today [22] | treatment - | 92:19, | types [2] |
| 213:22 | 147:17, | 5:14, 8:12, | 37:15 | 95:18, | 44:12, |
| therein - | 150:12, | 8:22, $10: 12$, | trial [10] | 95:19, | 153:23 |
| 87:10 | 164:11, | 10:20, 11:3, | 22:25, | 95:20, |  |
| thereof [2] | 195:14, | 21:24, | 24:20, 27:1, | 96:12, | U |
| 21:24, 24:12 | 204:25 | 22:20, | 31:2, $31: 4$, | 98:12, $99: 1$, |  |
| they'd - 85:16 | thinks [2] | 24:13, | 34:15, 42:7, | 100:25, | ultimate [8] |
| they're [44] | 141:14, | 32:16, | 176:14, | 101:1, | 21:19, |
| 22:11, 28:6, | 145:7 | 34:10, | 177:19, | 102:11, | 38:15, |
| 29:16, | third [2] 9:7, | 49:13, 66:4, | 189:6 | 102:23, | 41:24, 42:5, |
| 30:20, 31:2, | 49:17 | 70:10, | tribunal - | 103:17, | 53:18, |
| 33:1, $34: 10$, | thirty [4] | 82:14, | 21:21 | 103:18, | 116:19, |
| 36:17, | 33:16, | 140:15, | tried [2] | 103:19, | 192:24, |
| 40:10, | 85:11, 86:1, | 141:15, | 183:6, 190:2 | 104:2, | 205:20 |
| 45:14, | 130:10 | 141:17, | triggered - | 104:12, | ultimately [4] |
| 45:15, | though [9] | 142:24, | 141:21 | 104:20, | 76:14, |
| 45:16, 63:6, | 9:20, 56:16, | 194:1, | truck [3] | 105:15, | 201:24, |
| 89:8, 95:25, | 67:13, | 200:17, | 115:6, | 105:18, | 203:21, |
| 99:9, 108:2, | 109:24, | 216:2 | 121:15, | 106:23, | 215:1 |
| 111:24, | 120:20, | tons [3] | 121:16 | 131:12, | unable - |
| 115:8, | 123:6, | 167:21, | true [13] | 134:9, | 71:17 |
| 121:20, | 140:5, | 167:23, | 32:12, | 134:25, | unambiguous - |
| 122:9, | 180:20, | 168:2 | 37:21, 41:4, | 136:11, | 167:12 |
| 124:2, | 195:24 | topics - 72:16 | 69:22, | 136:19, | unbiased - |
| 140:7, | thoughtful - | toss - $21: 5$ | 74:17, | 137:17, | 6:19 |
| 148:7, | 129:17 | total [4] 14:3, | 74:24, 75:6, | 138:10, | uncertainty - |
| 148:23, | thoughts [6] | 22:3, 35:4, | 149:17, | 138:15, | 67:2 |
| 149:18, | 5:24, 48:12, | $39: 7$ totally | 157:6, | 175:11, | unconfirmed |
| 154:21, | 55:25, 69:7, | totally [2] | 160:25, | 175:13, | 146:19 |
| 155:18, | 91:23, 102:3 | 88:23, | 161:9, | 192:2, | underground |
| 155:22, | threshold [3] | 182:16 | 170:21, | 192:17, | [6] 12:12, |


| 110:13, | 181:15, | 173:5, | 19:14, | 169:21, | 69:11, |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 128:4, | 182:1, | 173:5, | 47:25, | 170:5, | 74:13, 95:2, |
| 128:12, | 206:16, | 182:4, | 129:1, 129:9 | 170:9, | 110:7, |
| 129:7, | 207:3 | 182:4, | via - 185:22 | 171:16, | 125:15, |
| 129:12 | unlawfully [2] | 182:11, | view [4] | 195:13, | 127:14, |
| underline - | 27:23, 81:24 | 193:10 | 41:25, | 195:20 | 166:12, |
| 36:15 | unless [13] | using [9] | 69:22, 71:6, | violations [4] | 167:6, |
| underlying [5] | 10:5, 14:8, | 27:3, 43:20, | 87:19 | 16:20, | 214:6, |
| 7:7, 7:12, | 49:20, | 62:10, | violate [11] | 29:23, | 214:14, |
| 10:13, | 60:20, | 63:16, | 13:15, | 146:25, | 214:18 |
| 165:17, | 101:17, | 122:13, | 13:23, | 173:12 | wanting [2] |
| 166:13 | 110:14, | 172:19, | 15:20, | visibility - | 68:12, |
| undermines | 110:25, | 180:23, | 113:9, | 126:20 | 191:20 |
| 150:20 | 113:7, | 186:7, | 142:23, | Volume - | wants [4] |
| undersigned - | 114:14, | 217:11 | 142:25, | 28:18 | 19:25, |
| 54:14 | 120:23, | usually [2] | 168:10, | voluminous - | 30:13, |
| understand | 145:23, | 9:19, 179:1 | 168:11, | 46:4 | 177:7, 185:5 |
| [10] 38:19, | 161:20, | usurp - | 169:23, | volunteering - | warning - |
| 57:19, 67:5, | 204:10 | 100:13 | 176:7, 177:4 | 20:4 | 11:13 |
| 80:12, 97:9, | unlike - 62:4 | utilized - | violated [6] | vote [19] | Washington - |
| 169:6, | unobjectionable | 185:21 | 22:6, 42:11, | 92:16, 93:6, | 173:4 |
| 174:11, | - 131:13 |  | 116:16, | 102:22, | waste - 146:1 |
| 177:14, | unquestionably | V | 170:11, | 106:2, | waters [2] |
| 190:21, | [3] 42:2, |  | 202:3, | 135:6, | 18:9, 159:3 |
| 200:12 | 46:10, | vacuous | 203:25 | 135:18, | watershed - |
| understanding | 154:19 | 165:10 | violates [3] | 196:13, | 140:19 |
| [5] 108:23, | unreliable - | valid [4] | 19:9, | 196:23, | ways [2] |
| 115:1, | 19:17 | 47:5, | 131:14, | 197:21, | 89:11, |
| 121:6, | update - | 151:20, | 139:17 | 198:6, | 173:21 |
| 160:23, | 144:14 | 161:20, | violating [3] | 198:6, | we'd [7] 20:7, |
| 176:3 | updated [2] | 181:11 | 100:5, | 203:12, | 84:23, |
| understandingly | 185:22, | validate - | 172:22, | 203:21, | 86:11, 99:9, |
| - 187:12 | 186:3 | 160:22 | 174:15 | 204:24, | 117:20, |
| understood | upon-70:5 | valley - | violation [42] | 209:3, | 171:7, |
| 201:10 | Upper [9] | 128:12 | 9:10, 13:9, | 210:15, | 206:17 |
| undisputed [8] | 36:24, | value [2] | 14:10, | 210:22, | we'll [16] 7:6, |
| 15:21, | 36:24, | 22:19, $24: 7$ | 16:14, | 215:1, | 11:5, 31:14, |
| 142:5, | 37:22, | Van [2] | 16:19, | 215:14 | 33:5, 37:16, |
| 146:8, | 142:9, | 24:15, 40:14 | 16:23, | voted [7] | 64:21, |
| 146:21, | 157:10, | variability [4] | 16:24, 18:5, | 136:6, | 85:25, |
| 148:2, | 157:12, | 143:18, | 40:23, 45:6, | 137:11, | 89:13, |
| 152:9, | 157:17, | 159:6, | 45:8, $45: 10$, | 197:6, | 92:16, |
| 174:4, | 158:2, | 161:11, | 45:16, | 204:15, | 139:3, |
| 175:20 | 173:16 | 189:22 | 45:19, | 208:22, | 166:20, |
| unfair [3] | upset - 30:17 | variable - | 45:19, | 209:4, | 167:4, |
| 71:19, 72:1, | upstream - | 39:5 | 45:21, | 214:25 | 197:21, |
| 85:17 | 37:1 | variables | 45:23, | voting [3] | 203:12, |
| unfairly - | Urban - | 90:16 | 100:6, | 107:11, | 213:15, |
| 64:12 | 183:13 | variation - | 112:14, | 197:4, | 215:24 |
| unfolds - | useful - | 143:17 | 147:6, | 204:23 | we're [73] |
| 72:22 | 132:14 | varies [2] | 147:18, |  | 3:4, 3:8, |
| unheard - | uses [21] | 39:11, 53:15 | 147:21, | W | 8:14, $20: 11$, |
| 54:16 | 38:18, | various [7] | 147:23, |  | 25:3, 28:24, |
| Union [2] | 38:23, 42:9, | 33:12, | 148:23, | Wade - 32:16 | 30:11, |
| 31:22, 32:15 | 116:14, | 33:12, | 149:4, | wading - | 30:14, |
| unique [3] | 116:14, | 48:18, | 149:7, | 158:3 | 31:17, |
| 61:17, 152.5 | 131:14, | 50:20, 53:2, | 152:22, | wait [3] | 34:21, |
| 152:1, 152:5 | 153:20, | 53:13, 86:6 | 152:25, | 60:16, | 36:21, |
| unit [2] 42:8, | 154:5, | vegetation - | 153:3, | 60:23, 83:15 | 37:25, |
| 42:11 | 154:5, | 157:15 | 153:7, | waiting - | 40:21, 52:3, |
| United [2] | 158:1, | verdict [2] | 153:12, | 134:10 | 56:4, 58:19, |
| 12:10, 26:19 | 158:3, | 35:10, | 155:6, | walk [3] 31:4, | 60:14, |
| UNKNOWN - | 171:18, | 164:16 | 155:11, | 32:20, 33:7 | 63:15, |
| 4:2 | 171:22, | version-9:15 | 165:21, | wanted [15] | 63:25, 69:1, |
| unlawful [5] | 172:6, | versus [5] | 166:4, | 8:9, 11:17, | 73:23, 74:7, |
| 24:6, | 173:2, | 19:11, | 166:10, | 47:14, 51:9, | 74:23, |

$255$


