BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

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ADMINISTRATIVE LAW JUDGES JESSICA T. HECHT and MARCELO POIRIER, co-presiding

Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Southern California Gas Company with Respect to the Aliso Canyon storage facility and the release of natural gas, and Order to Show Cause Why Southern California Gas Company Should Not Be Sanctioned for Allowing the Uncontrolled Release of Natural Gas from its Aliso Canyon Storage Facility. (U904G)	)	EVIDENTIARY HEARING Investigation 19-06-016

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I N D E X

VIRTUAL PROCEEDING

MAY 3, 2021 - 10:01 A.M.

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ADMINISTRATIVE LAW JUDGE HECHT: We'll be on the record. The Commission will please come to order.

This is Monday, May 3rd, and it is day, I want to say, 13 of evidentiary hearings in the Aliso Canyon OII that is I.19-06-016. We are picking up after approximately a three-week break in which I hope everybody was able to do whatever preparations they needed to do. We're going to do a few housekeeping things this morning, and then we're going to go, I believe, right into witness Neville. We'll start with swearing him in and having attestations, then we'll get going.

Just before I call on anybody for the housekeeping items, I would like to remind everybody we went through a lot of ground rules last time. I'm not going to reiterate all of them. The most important ones are to please speak slowly and clearly for the benefit of the court reporter. State and spell your name the first time you speak. We are not starting from scratch here, so transcriptwise this will come immediately

after our last transcript from three weeks ago, but it feels a little bit like there has been a gap, so err on the side of being careful and identifying yourself.

Judge Poirier, do you have anything to add before I ask for housekeeping items?

ALJ POIRIER: Nothing right now. Thank you.

ALJ HECHT: Great. Thank you.

Then we are going to go for a couple of housekeeping items. I understand that the attorney for SED, Mr. Gruen, would like to address something on the record.

So, Mr. Gruen.

MR. GRUEN: Thank you, your Honor. I want to be sure I'm off mute. Can you hear me, your Honor?

ALJ HECHT: Yes.

MR. GRUEN: Thank you. Your Honor, SED is aware of your Honors', the Administrative Law Judges', ruling granting SoCalGas' motion for partial reconsideration dated April 28, 2021. At this time SED requests to renew its motion to quash SoCalGas' notice of deposition of Mr. Andy Holter. SED requests to make several points on the record in support of its motion to quash.

May we be heard on that matter?

ALJ HECHT: Yes, please go ahead.

MR. GRUEN: Okay. Thank you.

Your Honor, SoCalGas' deposition of Mr. Holter as a percipient witness provides nothing of value. We would note every time Mr. Holter observed the SS-25 incident at Aliso, the Aliso Canyon natural gas storage facility, he was accompanied by someone from SoCalGas.

Every time he was at a meeting at Aliso discussing the incident, someone from SoCalGas was there. SoCalGas controls access to the Aliso Canyon natural gas storage facility with a security entrance. Mr. Holter had to check in at the entrance every time he entered Aliso Canyon natural gas storage facility, and SoCalGas escorted him during his visits when the SS-25 leak was ongoing. In short, Mr. Holter observed the incident -- when he observed the incident, SoCalGas had someone with him observing it as well.

As the ALJ's March 5, 2021, ruling, granting SED's motion to quash made clear, this deposition of nontestifying advisory Commission staff is unprecedented. Deposing Mr. Holter as a percipient witness would be asking him about his observations at the time

he was advisory staff.

Also, the March 5, 2021, ruling denied SED's motion to cross-examine the third-party contractors involved with the scanning of files of SS-25 and any SoCalGas employees who oversaw the work of these third-party contractors. These are all percipient witnesses as well, and the ALJs should not allow SoCalGas' request to depose Mr. Holter in order to be consistent with denying SED's request to depose these scanners and these overseers of the scanners.

However, if the ALJs, the administrative law judges, choose to depart from this precedent by allowing SoCalGas to depose Mr. Holter as a percipient witness, then Safety and Enforcement Division should be allowed to cross-examine and depose SoCalGas' scanners of SoCalGas' well files and any SoCalGas employees who oversaw the work of these third-party contractors all as percipient witnesses.

SED made a motion to compel the appearances of these individuals, which the March 5, 2021 ruling denied, and several reasons show that allowing SED to depose and cross-examine these percipient witnesses is more compelling than allowing SoCalGas to

depose Mr. Holter.

First, whereas SoCalGas was present with Mr. Holter to observe the Aliso Canyon leak, SED was not present to observe the scanning of SoCalGas' hard-copy well files or the actions of those who supervised them.

Second, none of the violations in this proceeding rely on Mr. Holter's observations. However, in contrast, SoCalGas' reply testimony of Mr. Healy, Chapter 9, page 6, directly referenced third-party vendors who scanned the individual well files, the scanned copies of which SoCalGas disputes SED properly reviewed or discussed. This relates directly to the recordkeeping violations which are Violations 327 through 330.

SED asked questions of Mr. Healy during cross-examination about his claim that SoCalGas carried out a deliberative process that SoCalGas used to produce an accurate and complete electronic version of the hard-copy well files to SED and his claim that electronic production of the hard-copy well files was conducted by an experienced third-party vendor who scanned them in the ordinary course of business and was unable to answer them. To date, SoCalGas has refused

to even provide SED with the name of the scanners or their supervisors, with any of those names.

So to that end, at this time SED moves that the ALJs reconsider -- it -- well, to that end, we would request that the ALJs deny the request to depose Mr. Holter. But in the event that the ALJs grant the request, SED would move to reconsider the denial of SED's motion to compel appearance of the SoCalGas third-party contractors involved with the scanning of files for SS-25 and any SoCalGas employees who oversaw the work of these third-party contractors.

All of these individuals should be crossable and subject to SED depositions in the event that percipient witnesses are now fair game. We have a request. If your Honors are considering granting the motion, we would have a request for some limiting instructions as well.

First of all, in the instance that your Honors grant the deposition of Mr. Holter as a percipient witness, SoCalGas should be required to do data requests of Mr. Holter's observation instead. That would be the first thing we'd ask if you're still considering granting the motion.

In her June 10, 2002, ruling on a pre-trial motion in an Order Instituting Investigation related to Pacific Bell and Verizon California, Incorporated, ALJ Sarah Thomas allowed for the taking of ORA depositions only after she determined that ORA did not provide a reasonable response to Pacific Bell's discovery.

To SED's knowledge, SED has not received specific data requests about Mr. Holter's observations about Aliso Canyon. SED offered to respond to data requests of Mr. Holter as an alternative to a deposition, and SoCalGas stated in response on October 23, 2020, when this issue was going on that, quote, "SoCalGas does not agree to SED's proposal to conduct more written discovery in lieu of deposition of Mr. Holter," end quote.

In that e-mail, SoCalGas espoused the view that a deposition would be more efficient than discovery, but SoCal did not dispute that data requests would achieve the same result as a deposition. Also, with regards to limiting instructions, SED would request, if a deposition is granted, that Mr. Holter's deposition be limited to 90 minutes. This is consistent with Commission

precedent.

Limiting depositions of ORA witnesses to 90 minutes per deposition, which would follow the precedent, again by ALJ Thomas' June 10, 2001, ruling -- and the investigation number is 01-09-002 at page 5 of the ruling.

Given that SoCalGas observed the leak when Mr. Holter did and that SoCalGas was present at each meeting at Aliso Canyon that Mr. Holter attended, this should be more than adequate time to do an exercise of staff that has never experienced such an exercise before and, unlike the other witnesses that SoCalGas and SED have offered in this proceeding, did not volunteer to answer questions in this fashion.

Nonetheless, this should be plenty of time to inform SoCalGas of the purpose of the ALJ's ruling, which is to inform a basis to request additional hearings. It's limited to that.

SED also requests, just to ensure timing in the event that a deposition is granted, that SoCalGas be required to depose Mr. Holter within three weeks of the end of hearings and bring its motion for additional dates of formal hearings within one week of

the completion of the deposition. That should allow SoCalGas sufficient time to do its deposition and pursue additional hearings in the event that the request for a deposition is granted.

That's all we have to say as part of our motion, your Honor. Thank you.

ALJ HECHT: Thank you very much.

I am guessing that SoCalGas would like to respond to that. I could also give a brief response and then return to SoCalGas.

Does SoCalGas have anything that they want to say immediately?

MR. STODDARD: Yes, your Honor. We'll try to keep it brief. I think the threshold point we're going to make here may help shorten it.

The judge's ruling directed -- you know, generally it's somewhat unusual to have another motion to quash in this instance when this issue has been fully briefed, frankly, a number of times, both in SED's motion for protective order, also a motion to quash, and I believe there are also some pending motions to compel that address this issue as well.

The ALJ's ruling specifically allowed SED to file a motion -- to renew its motion to quash to be filed and served with a

detailed explanation addressing potential privilege arguments. Although a number of points were raised by counsel of SED just now, I don't believe any of those points related to privilege and, instead, seemed to be an offer of compromise.

On that basis, I believe that the motion that SED just presented exceeds the scope of the motion as permitted by the ALJ ruling, which was appropriately narrow because of the fact that this issue has been so extensively briefed a number of times.

I would further note that some of the kind of compromised proposals that SED has just proposed were already raised in prior filings, including the idea that data requests could somehow displace the need for a deposition, which would be the most efficient path for obtaining this discovery.

And then there are also a number of other points, frankly, if we need to go point by point to respond to SED's arguments, that we would like to present. Given that SED appeared to be reading this into the record, we think that the procedure that should be followed here is as instructed by the ALJs, which is the motion should be filed and served, and SoCalGas, to the degree that it's

appropriate because new arguments are being raised, including some of the arguments that SED raised just now, should be permitted an opportunity to respond with a response that would be filed and served at a time determined by the administrative law judges.

Your Honors, I will pause now for comments from your Honors. However, to the degree that we need to address the other arguments, we would ask for an opportunity to do so in writing.]

ALJ HECHT: Thank you. All right. Is there any other comment before I talk about this and then move forward? Doesn't look like it.

MS. BONE: Yes, your Honor.

ALJ HECHT: Yes.

MS. BONE: Cal Advocates -- Traci Bone for Cal Advocates. And we do support the SED motion.

ALJ HECHT: Thank you. All right. With that, I will first go back to the SED motion from last October. That motion did contemplate a situation in which its motion to quash were not granted, that many of the compromised provisions that were just stated should be put in place including the 90-minute limit and other things like that.

All of those proposals have been considered.

We are finding that according to Rule 10.1 on discovery from parties, the subject matter is relevant to what is involved in the proceeding and is either itself admissible in evidence or appears reasonably calculated to the discovery of admissible evidence. What we asked for in our ruling was discussions about privilege. What specific privilege beyond, we don't just do that. You would claim -- and you are certainly welcome to file a ruling if that provides that sort of information -- provide a motion -- sorry -- that provides sort of information contemplated in the ruling. I would refer at this time back to SED's original motion from October 27th, which had a section called Deposition from a Non-Testifying Advisory Staff Person should be the exception not the rule. This is the exception. So that is where we are.

If you want to file a ruling -- file a motion, you are very welcome to do that, and the motion should include specific arguments about privilege.

MR. GRUEN: Your Honor, I'm seeing you pause. Do you want to continue? I just want to be sure I'm tracking you and waiting until

your Honor is done. Or do you want a response from SED? What would your druthers be?

ALJ HECHT: I think a response from SED would be fine at this point. I don't expect to have a prolonged discussion on this this morning, but you are welcome to respond.

MR. GRUEN: Thank you, your Honor. I appreciate that. I would just say in terms of SoCalGas' characterization that this is a compromise, I would dispute that. SED -- this is -- this was part of our motion, and it was considered as an alternative. I appreciate your Honor's noting the observations and calling this an exception.

Your Honors, the only thing we contemplate here -- this is the motion we are focusing on preparing for hearings and don't intend to file anything on Wednesday. We prepared oral talking points to see if we could have an oral discussion, an oral argument. What we would ask is just that if -- since it sounds like your Honors are considering this is the exception, we would then renew our motion that your Honors also reconsider allowing SED to depose both the scanners as well as the individuals who oversaw the scanners. Those indeed are

percipient witnesses as well. SoCalGas should be required to turn over the names of all of those individuals to SED so SED can move forward forthrightly.

And we would ask as well if, just for clarity, about -- that the limiting instructions, which your Honor noted, were provided in SED's October motion, that all of those be granted as well so that we can move through the discovery properly. If we can do that, the data requests, and if not, that there be appropriate limiting instructions for the deposition itself. I appreciate it and thank you, your Honor. Appreciate it.

ALJ HECHT: All right. I will say that I have not heard anything as yet that is new beyond what was in the original motion to quash. We have reconsidered the motion to quash and issued the ruling that we issued. Without hearing something due specifically with regard to privilege, it is unlikely that we're going to make a change here. We can discuss some of these other subsidiary issues, but what the ruling states is that Mr. Holter -- unless you prevail in a renewed motion with, I might add, new information, that Mr. Holter can have a deposition. It will not be limited to 90 minutes. And it

will be as a percipient witness, which, as far as I was concerned, was the main provision requested by SED. The other issues are not, strictly speaking, relevant to this. But out of an abundance of caution, I'm going to take us off the record in a minute, and my cosigned ALJ and I will discuss it, and then we can get back to you after a short break.

Before I do that, is there anything that either Mr. Gruen or Mr. Stoddard would like to say to inform that discussion?

Mr. Stoddard.

MR. STODDARD: Yes, your Honor. The one other item, which I didn't address before, but to the degree that its being considered as part of this discussion, SED's motion to quash included a request, I suppose, that related to the scanners, and I would simply note that Mr. Gruen noted both a deposition as well as an appearance at hearings. This is not procedurally appropriate for a motion to quash. And the prior request from SED on that is simply for the scanners to appear at hearings. It wasn't for a deposition. So this is a new request. There's no deposition that's been noticed. There's no pending motion to compel on this issue. SoCalGas would oppose that

request for the grounds that it previously opposed it.

Separately, as to the limiting items, SoCalGas opposes limitations on this deposition both as to time and as to -- you know, again, we're not going to be deposing Mr. Holter as an expert in any context. So it would be deposing him as a percipient both as to the league as well as to work he did related to the league. To the degree that, you know -- as noted by your Honor, to the degree that there are any objections as to specific questions, they can be raised at the deposition.

ALJ HECHT: Thank you. And I'm assuming that Mr. Gruen would like to respond to that before we take our break.

Go ahead, please.

MR. GRUEN: Thank you, your Honor. I just note that this is putting form over substance. What SED's request is is to be able to depose the scanners. It is a motion to be able to both depose and cross-examine the scanners and the overseers of the scanners. They are percipient witnesses just like Mr. Holter is. So we are putting a motion at this time to have access to the scanners, have SoCalGas identify them in

order to facilitate whether SoCalGas properly recorded and -- electronically recorded the records, the safety-related records that SoCalGas says was part of its well files. We should be allowed to do that as well.

Thank you, your Honor.

ALJ HECHT: Any other comments?

Yes, Mr. Stoddard.

MR. STODDARD: Thank you, your Honor. Briefly as to the scanners, Mr. Gruen characterizes form over substance, however, legal procedure is important. And in this instance, he's seeking SoCalGas -- you know, he's asking SoCalGas essentially to compel the appearance of individuals who worked for a third-party vendor. The Commission and its staff and SED has the authority to compel appearances of third-parties. To the degree that SED wants to seek discovery from an entity, they can do so. And there's a procedure for doing that, and it is not form over substance. It is legal procedure. SoCal -- doing it through SoCalGas is neither appropriate nor procedurally proper and nor is it the most efficient way to do it.

To the degree that's necessary, however, again, you know, this is beyond the scope -- this subject is simply beyond the

scope of the ALJs' ruling which directed SED to file a limited renewal of its motion to quash.

And again, SED appears to be turning this into kind of a negotiation for compromise rather than simply addressing the substance of their previously alleged privilege claims.

Thank you, your Honor.

ALJ HECHT: Yes, Mr. Gruen.

MR. GRUEN: Your Honor, this is not a negotiation. This is SED asking that the rules be applied the same way. And with regard -- so that SED be allowed to depose percipient witnesses. With regards to Mr. Stoddard's suggestion that SED should have to go around SoCalGas, depose its own contractor separately, that also flies in the face of case law. SoCalGas obviously has provided -- it provided Boots & Coots, another contractor.

With regards to examinations under oath, its providing for its intended witnesses as well. There are -- there is case law on point, which I believe is Schneider. And the entire case name fails me at the moment, but this was Supreme Court -- California Supreme Court precedent that

applies the same rules to SoCalGas and other utilities' contractors as it does to SoCalGas. And my understanding of the rationale for it is that SoCalGas and others cannot contract its way out from under the rules. This is no different than if SoCalGas had its own employees scanning the documents. We would ask SoCalGas to produce them as well. To suggest that it's not procedurally appropriate is frankly not appropriate on SoCalGas' part. They should be required to produce their own contractors for deposition and the scanners.

Thank you, your Honor.

ALJ HECHT: I'm going to repeat something that I think I said a couple minutes ago and that is that I don't see these requests as necessarily being connected. The motion for reconsideration and that ruling has been addressed. Questions about scanners or other third-party contractors would be addressed on their merits. I think it's fairly clear in the ruling that we put out last week that if SoCalGas were to find any information that they believe is relevant and would require hearings that they would need to file a separate motion to request those hearings,

and we would examine that motion on its own merits. So that's what we're looking at.

Any brief responses before I take us off the record?

(No response.)

ALJ HECHT: Okay. I'm not seeing any. So I am going to take a 10-minute break, and we'll come back at 10:38. We'll be off the record.

(Off the record.)]

ALJ HECHT: We'll be back on the record.

We are back after our ten-minute break in which Judge Poirier and I consulted on this issue.

These -- the motion for reconsideration was considered in great detail, and -- and the ruling that we issued had a great deal of thought go into it. In the absence of new information, I do not see that ruling changing. If SED would like to provide specific arguments related to privilege, SED can provide those arguments either orally, at some point, or preferably, in writing by Wednesday, and it should be something specific beyond simply advisory staff people don't testify, because, as I noted from -- from SED's motion in the first

place, it is the exception, not the rule; and it is not the rule. And this particular situation was considered in great detail to get here. So if you want to provide that, you are very welcome to provide that. It is as a percipient witness, which is one of the main things that SED asked for as a condition. There will not be a 90-minute time limit. It is my experience with these hearings that we can argue about a single objection for half an hour. So I just don't see that as being a useful timeframe. So that's pretty much where we are.

As far as the issues with the scanning and the third-party contractor, that is a separate issue, and if you would like to submit that or resubmit that as a motion, it would be something that we would look at on its own merits. And what I'm looking at is Rule 10.1, any party may obtain discovery from any other party regarding any matter not privileged that is relevant to the subject matter involvement in the proceeding, if the matter is either itself admissible in evidence or appears reasonably calculated to lead to the discovery of admissible evidence, unless the burden, expense or intrusiveness clearly outweighs the likelihood that the

information sought will lead to discovery.

So that is what we would be doing. The ruling okay's a deposition. It does not say that we will necessarily have hearings. That depends on what, if anything, is found in that deposition. And other motions, including for people who scan documents or something else, would be assessed on their own merits, which would have to have something to do with what I just read.

Are there any other questions on this issue?

(No response.)

ALJ HECHT: All right. With that resounding silence, I'm going to ask: Are there any other housekeeping matters or anything that people would like to address before we get started with our new witness?

(No response.)

ALJ HECHT: Okay. That being the case, it is time to call Witness Neville, I believe. And we will swear in that witness, we will have him give his direct, and then we can pick up with the cross-examination.

I am going to, for a moment, go off the record. So off the record.

(Off the record.)

ALJ HECHT: We'll be back on the

record.

Now that we're back on the record, I am going to swear you in, and ask you to agree to a number of attestations, which we have had all of the witnesses agree to, so far. The attorneys have given similar largely overlapping attestations that they have made and have agreed to abide by. I think the attorney doing your direct has already made those, so that's not an issue. But, anyway, I'm going to read a list of a number of different things, and ask you, at the end, whether you agree. And then you can tell me.

So as a witness, do you solemnly state under penalty of perjury that the testimony you give in the case now pending before this Commission shall be the truth, the whole truth and nothing but the truth, you attest that you will testify based on your own knowledge and memory, free from external influences and pressures, do you attest that you will adhere to all formal requirements of testifying under oath, including the prohibition against being coached, do you attest that you will only refer to materials provided by the parties, exhibits premarked and identified by the

parties and previously shared with the opposing party, do you attest that you will not make any recording of the proceedings, do you attest that you understand that any recording of the proceeding held by Webex, including screenshots or other visual copying of the hearing, is absolutely prohibited, do you attest that you understand that a violation of these prohibitions may result in sanctions, including removal from the evidentiary hearing, restricted entry to future hearings, denial of entry to future hearings, or any other sanctions deemed necessary for the Commission, and finally, do you attest that you will not engage in any private communications by phone, text, email, or any other mode of communication while under oath and (inaudible)?

DAN NEVILLE, called as a witness by Southern California Gas Company, having been sworn, testified as follows:

THE WITNESS: Yes, I do, your Honor.

ALJ HECHT: Thank you very much.

Then I will say you can pick up with direct.

MR. LOTTERMAN: Thank you, your Honor.

DIRECT EXAMINATION

BY MR. LOTTERMAN:

Q Mr. Neville, would you state your

full name for the record, and spell it?

A Dan Neville. D-a-n, last name is N-e-v-i-l-l-e.

Q What is your current business address?

A 12801 Tampa Avenue, Northridge.

Q Mr. Neville, have you testified before the CPUC before?

A I have not.

Q Okay. Well, what we do first -- and this is my first time, actually, too.

But, what we do first is we -- we'll mark your testimony, and then I will make you available for cross-examination.

Do you have your -- a copy of your testimony before you?

A Yes, I do.

Q All right. Let's turn to what's been marked as SoCalGas-01. Do you see that?

A Yes.

Q Okay.

And for the record, your Honor, SoCalGas-01 is entitled "Chapter 1 Prepared Opening Testimony of Dan Neville on Behalf of Southern California Gas Company, U904G," and in parens it says, "Operations and Maintenance Practices Pertaining to Well SS-25 at Aliso Canyon," and it's dated

November 22, 2019.

Mr. Neville, would you turn now to SoCalGas Exhibit-15?

A Okay.

Q Do you have that in front of you?

A Yes.

Q Okay.

And for the record, SoCalGas Exhibit 15 is entitled "Chapter 7 Prepared Reply Testimony of Dan Neville on Behalf of Southern California Gas Company, U904G," and it's dated March 20, 2020.

Let's turn to Exhibit 16, Mr. Neville.

A Okay.

MR. LOTTERMAN: Exhibit 16, for the record, are the Exhibits to Prepared Reply Testimony of Dan Neville dated March 20, 2020.

Q Turn to Exhibit 21, Mr. Neville.

A Okay.

MR. LOTTERMAN: Okay. And for the record, your Honor, Exhibit 21 is entitled "Chapter 1 Prepared Sur-Reply Testimony of Daniel Neville on Behalf of Southern California Gas Company, U904G," and that's dated June 30, 2020.

Q And finally, Mr. Neville, let's

turn to exhibit -- SoCalGas Exhibit-22.

A Okay.

MR. LOTTERMAN: And for the record, this -- these are the Exhibits to Prepared Sur-Reply Testimony of Dan Neville dated June 30, 2020.

Q Mr. Neville, were these documents prepared by you or compiled at your direction?

A Yes.

Q Do you adopt them as your testimony in this proceeding?

A Yes.

Q How long have you worked at SoCalGas?

A Since 1991; so that would be, what, 30 years.

Q Okay. And could you just briefly describe your general titles and capacities in those 30 years?

A So I started as a staff engineer in 1991, and then moved on to various positions within storage, including drilling and workover engineer, a storage field engineer, a storage operations manager, and a reservoir engineer manager. And that's my present title right now, is reservoir engineering manager.

Q And what is your educational background?

A I graduated in 1982, Texas A&M University, with a bachelor's in petroleum engineering.

MR. LOTTERMAN: Your Honor, Mr. Neville is available for cross-examination.

ALJ HECHT: All right. I think we're ready for Mr. Gruen. Go ahead.

MR. GRUEN: Thank -- thank you, your Honor.

CROSS-EXAMINATION

BY MR. GRUEN:

Q Good morning, Mr. Neville. It's -- it's been a little while, but I remember -- I remember you in the examination under oath that we did together several years ago.

And just to round out Mr. Lotterman's direct, just a couple of points with all the documents that were just marked, where you provide facts in those testimony, are those facts true and correct, to the best of your knowledge?

A Yes, they are, to the best of my -- my knowledge.

Q Okay. And where you provide opinions or conclusions, are those opinions or conclusions, both of those, based upon

your best -- best professional judgment?

A Yes, I would say that -- that's the case, yes.

Q Okay. Thank you. Okay. So with that, as her Honor mentioned, my name is Darryl Gruen. I'm an attorney on behalf of the Safety and Enforcement Division in this proceeding; just a couple of questions to -- to start maybe to lay a bit of a basis, and also establish common understanding of terms.

I want to ask you, first of all: Are you alone as you testify?

A Yes.

Q Okay. And are you able to communicate separately or privately with anyone while you communicate through the Webex connection you have to the hearings here today?

A No, I'm -- I'm not able to communicate with anyone.

Q Thank you. And do you consent to allow anyone to record or in any way transcribe your testimony in this proceeding other than the court reporters that have been approved by the California Public Utilities Commission?

A I do not.

Q Okay. Mr. Neville, if I press your

memory, please feel free to say you don't recall. And if you don't know, please let me know, and I will take that and move on. Do you understand?

A Yes.

Q Okay. And when -- just a couple of com -- terms to establish a basic understanding, if we could.

When we talk about Blade today, if you or I use that term, can we agree we're referring to Blade Energy Partners?

A Yes, we can.

Q Okay. And when we agree -- I'm -- excuse me.

When we talk about the Aliso Canyon natural gas storage facility, the Aliso Canyon facility or Aliso, can we agree that we're talking about Southern California Gas Company's Aliso Canyon natural gas storage facility?

A Yes.

Q Thank you. And when we use the term root cause analysis, or RCA, would you agree that we can -- can we agree that that refers to Blade's root cause analysis and supplemental reports issued in May of 2019?

A Yes, we can.

Q Thank you. And SS-25 refers to

Standard Sesnon 25 well, the Standard Sesnon 25 well at Aliso. Would you agree to that?

A Yes.

Q Okay. Thank you. All right. So -- and, oh, excuse me, one more.

With regards to the term, incident, would you agree when we use that term that refers to the release of gas from the SS-25 facility that was discovered beginning October 23rd, 2015? Would you agree to that understanding, as we use that term?

A Yes.

Q Thank you. All right. If we could turn to your -- to Exhibit SoCalGas-01, as Mr. Lotterman identified, your opening testimony, and go to the page with witness qualifications -- and I believe -- let me just enlarge my screen so I can see. And on there, we have, at the bottom, if we could go there just to read into the record the Bates number, SoCalGas-1.0010, and then turning to line 17, so we scroll down a little bit, there you say beginning in November 2015, you began providing assistance concerning various tasks related to the October 23rd, 2015 leak at SS-25. Do you see that?

A Yes.

Q At a high level, could you outline

those tasks, please?

A My tasks were related to the -- the -- the various data requests that we were receiving from different organizations, from different regulatory organizations. That was primarily my responsibility.]

Q And in order to provide data responses, how did you gather information in order to provide the response that you did?

A I would typically use the Aliso Canyon well files as a primary source.

Q Okay. Any other sources of information?

A Most likely our PI operations, computer software called "PI" that we use -- that we have operations data on.

Q Okay.

A And that's all I could think of right now.

Q Okay. Did you talk to anyone in order to inform the data responses that we provided?

A Over the time period -- yes, I did.

Q Can you recall who you talked to?

A Yes. I spoke with a number of different people within SoCalGas, some of the engineers that worked there in the field, and I did utilize an outside contractor for

support on one particular aspect of one data request.

Q Did you talk to any of the well-kill contractors or anyone who was responsible for doing well-kill operations in order to inform data responses?

A I did not, to my knowledge or memory, deal with well-kill responses.

Q And your --

A And the answer would be no, I don't recall.

Q You didn't -- okay. Just to be clear because I think we were maybe talking past each other -- you didn't talk -- your testimony is you didn't talk to anyone who worked on well-kill operations of Well SS-25 in order to inform the data responses that you provided; is that correct?

A That's correct.

Q Okay. Mr. Lotterman asked you on direct about -- clarified that you had not testified before the Commission before as I understood. I just wanted to elaborate on that. Have you testified before any other court or other tribunal before?

A No, I have not.

Q Okay. Mr. Neville, I'd like to explore your records management background

which underlies your testimony regarding SoCalGas' recordkeeping practices. Specifically, we'll turn to a page of your reply testimony, SoCalGas Exhibit 15 here. So if we could pull that up, and if we go to Bates stamp 15.0003, we have it up there. If we go to line 13, you state, if I'm reading correctly there:

> As demonstrated below, SoCalGas' recordkeeping practices provide an efficient means for the operation and maintenance of the Aliso Canyon gas storage facility and did not cause unsafe conditions. In addition to my experience with SoCalGas recordkeeping practices --

And then you continue on. Do you see that?

A Yes.

Q Okay. Are you familiar with the term "records management"?

A Yes.

Q What does the term "records management" mean?

A I think in a general sense it refers to how records and what types of records are stored in the various locations

for records to be kept.

Q Okay. I'm sorry, I didn't want to interrupt. Did you have more to add?

A No.

Q Okay. Let's turn to the next exhibit if we could.

And I'll just ask you, Mr. Zarchy, if you could -- yeah, if we could pull up -- all right, we'll start there, just leave it there for a second.

Are you familiar with an ISO standard from 2001 that defines records management as, quote:

> The field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use, and disposition of records, including a processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records.

A So was the question am I familiar with that ISO standard?

Q And the specific definition of records management that that standard provides, yes.

A I -- no, I'm not familiar with the standard. No.

Q Okay. Thank you. And when you talk about your experience with SoCalGas' recordkeeping practices, are you using any sort of standard in the industry such as the ISO standard I just mentioned that comes from 2001?

A So we're talking about the hard-copy well file system, you know, which was established quite early on in the operations of the field. I'm not familiar enough to know what that -- if there's a specific, you know, industry standard with regard to how well files are stored. I don't suspect they are -- there is, but I would probably be speculating by saying that.

Q Okay. Are you aware that in the San Bruno Recordkeeping Order Instituting Investigation, Ms. Margaret Felts was part of a team, including records managers who evaluated Pacific Gas and Electric, or PG&E's, records management including the recordkeeping?

A Am I aware that -- only from testimony provided in hearings of Mrs. Felts.

Q I see. Okay. Are you aware that PG&E itself provided a records manager who

evaluated PG&E's records management practices and testified to them?

A No.

Q Okay. Let's turn to the witness qualifications that you've included with your reply testimony, SoCalGas Exhibit 15, if we could. Your qualifications begin on the page with Bates Number 15.0021, so if we could go there.

It's toward the end of this document, I believe. If we could just scroll to the bottom of that page to be sure we have the right one. Thank you. Great.

So let's go to lines 5 through 9. There you talk about working in "Integrity Management and Strategic Planning." If I'm understanding that passage correctly, your responsibilities include "assisting SoCalGas in implementing both" D-O-G-G-R, or DOGGR, "and Pipeline and Hazardous Material Safety Administration," or P-H-M-S-A, or "PHMSA regulations at all of SoCalGas' natural gas storage facilities"; is that right?

A Yes.

Q I want to ask you about your role in implementing the PHMSA regulations at natural gas storage facilities. Are you familiar with Title 49 of the Code of Federal

Regulations, Part 192?

A I am not.

Q Okay. What about the rule related to underground natural gas storage that was recently added with regards to underground natural gas storage facilities from Aliso Canyon natural gas storage facility? That's the specific. As I understand it, it's called the "Mega Rule.

Have you heard about that before?

A I've heard the term "Mega Rule," yes.

Q Okay. What's your familiarity with the Mega Rule?

A To be honest, very little. It's just not something I've had involvement in other than hearing it mentioned within our --

Q Did you --

A -- work team.

Q I see. Did you understand that it related to pipeline safety and the safety of underground natural gas storage facilities?

A I don't honestly know that it related to both pipeline and underground storage.

Q Okay. So you wouldn't -- just to clarify, if we showed you a document of it, you've not seen a document of -- that shows

any part of the Mega Rule.

Am I understanding that correctly?

A Yes, that's correct.

Q Okay. Let me ask you if I can, are you familiar with the term "traceable, verifiable, and complete" when referring to gas safety records?

A It's not a term that I'm familiar with in my experience in an underground storage. I have heard the term most recently used. My understanding of the term is that it has relation to above-ground transmission piping so that's -- and that's kind of the limit to my understanding.

Q Okay.

Mr. Zarchy, if we could turn to Exhibit SED-231, if you have that handy. Great. This is a document -- just give me a second. Yeah. This is a document from the Federal Register. If we go to "Background," if you can look down under the background information there, yeah.

So, Mr. Neville, let me just ask you, have you ever seen this -- if you want to scan it, you can take a moment -- but have you ever seen this document before?

A I had a chance to scan it when it was supplied for the hearing here and that's

the only time I've seen it.

Q Okay. So if we turn to under the background piece several paragraphs down, and I'll just -- staying on the page, I believe -- can you scroll up one page, back up to the background section. Can you scroll up a little bit more if you could. So maybe you could turn the term "Background" at the top, so scroll to where the term "Background" is. Keep scrolling down. A little bit more. You see the term "Background"? If you could scroll to that term toward the top of the screen. "Background" is currently in the lower right-hand corner. There you go. Thank you.

If we turn to the top of the paragraph right under "Background," it says:

> On January 10, 2011, PHMSA issued Advisory Bulletin 11-01. This Advisory Bulletin reminded operators that if they are relying on the review of design, construction, inspection, testing, and other related data to establish MAOP and MOP, they must ensure that the records used are reliable, traceable, verifiable, and complete.

Do you see that?

A Yes.

Q Okay. Have you followed any of those terms to apply them to underground natural gas storage facility records?

A "Reliable, traceable, verifiable, and complete." The terminology there has in my experience not been applied to subsurface underground piping, underground storage.

Q Okay. Let's turn to your testimony page 21, lines 6 through 8 if we can. I think it's --

Mr. Zarchy, if you could go back to -- I believe it's the opening testimony. I'm sorry, I think it's the testimony that had his background again, and I apologize. I think it's -- it's page 21. It's either the opening or the reply.

MR. LOTTERMAN: I believe it's the reply, Mr. Gruen.

MR. GRUEN: Thank you. I appreciate that, Mr. Lotterman.

Q So let's go to the reply, which is Exhibit 15, SoCalGas 15.

ALJ HECHT: We'll be off the record just to find our place.

(Off the record.)

ALJ HECHT: We'll be back on the

record. We just found our place in this exhibit.

Please proceed, Mr. Gruen.

MR. GRUEN: Thank you, your Honor.

Q So page 21, lines 6 through 8 we have up on the screen. There you say:

> I'm also a member of the Pipeline Research Council International underground storage community, a community of pipeline companies seeking to research and improve global energy pipeline systems.

Do you see that?

A Yes, I do. Yes.

Q Does Southern California Gas Company operate pipelines at Aliso Canyon natural gas storage facility?

A Yes.

Q And SoCalGas operates, to your knowledge, a system of transmission and distribution lines as well; is that right?

A Yes.

Q Okay. Let's go to the next exhibit, which is Exhibit SoCalGas-01. Let's go back to the opening testimony. While we're going there, just to clarify, I'd like to get some clarification on portions of your testimony that state, "There were no

confirmed leaks on Well SS-25 prior to October 23, 2015," just as kind of an overview, just tagging it.

With that in mind, if we could go to page with Bates Number 1.0002. Thank you. That's the Bates number there. If we go to lines 9 through 12, you state:

> SoCalGas monitoring, inspection, and testing program successfully tested and monitored wells, identified well conditions, and addressed and repaired casing leaks. SoCalGas operated and maintained SS-25 consistent with these practices and procedures and there was no indication of a leak at SS-25 prior to October 23, 2015.

Do you see that?

A Yes, I do.

Q Okay. Let me just ask -- and I understand you may have limited knowledge, but just to clarify -- after SoCalGas contracted with Boots & Coots to kill Well SS-25, did SoCalGas communicate with Boots & Coots that there was no indication of a leak at SS-25 prior to October 23, 2015?

A Yeah, I wouldn't know that. I

never did communicate with Boots & Coots.

Q Okay. Understood. Is it your testimony that there was no records -- just with clarification of the sentence we just read, moving on, is it your testimony that there was no record of any holes of any sort in the SS-25 2 7/8-inch tubing or the 7-inch production casing prior to October 23, 2015?

A I'll have to take that one at a time. The 2 7/8 tubing had -- I don't know if you'd call it a hole, but it was a crossover port right above the packer, which allowed for casing flow, so that is sort of a hole because it's a through point in the tubing. So the production casing, I would say that, yes, prior to October 23, 2015, the incident, there was not a hole in the production casing.

Q And so, therefore, because your testimony is no hole and so no indication -- because there was no hole; therefore, no indication of a leak on production casing of SS-25 prior to October 23, 2015.

Do I have that correct?

A Well, there were anomalies. Certainly there were some anomalies in the history of the well. But upon review of those anomalies and the investigations that

were done at the time, the conclusions then -- and I believe today -- was that there was no hole in the production casing.

Q Okay. And just with regards to the subsurface safety valve crossover ports that you mentioned, I think you mentioned that those -- you described them as holes just so -- because it's a term that I'm not familiar with. I've seen SoCalGas provide it in the response, but just to clarify what that means, those -- are those holes in the tubing, the crossover ports? Would you agree to that terminology?

A Yeah, they could either be slots or perforated holes, circle holes or slots, but they provide a meth -- a way for the gas, you know, during withdrawal, to come up through a short section of tubing which landed in a packer, and then the gas flow goes through those slots or holes and into the casing so that the well can be flowed up the casing.

Q Okay. That's --

A It's an integral part of the downhole components of the tubing.

Q So the -- I'm still a step behind you, I think. So just the slots are another kind of hole. Would that be a fair characterization in your view?

A Yeah. And I'd say there were holes. They could very well have been a slot. I just -- I don't know, but there's some geometry in the bottom of the well just above the packer that allows for the flow to cross over from the tubing to the casing to provide --

Q And -- okay. And just with the term "crossover" because I'm not entirely clear, it means that through a hole or a slot, gas is able to escape from the tubing into the casing.

Would that be an accurate way to state it?

A Well, it's designed -- I don't know about escape. Escape means it's a different thing to me, but I would say that it is -- the holes or slots are designed to accommodate casing flow.

Q Okay.

A It provides a flow path for the gas.

Q Maybe if we could -- I'm still -- maybe if we could agree on this term: The flow of gas could mean, or does mean, would you agree, the movement of gas from the casing to the tubing, would that -- through the slots or holes -- would you agree with

that characterization?

A Yes, but from the -- in the case of flow, it would be from the tubing to the casing.

Q Thank you. Okay. If I used the terms "slots" or "holes" in the tubing instead of "crossover ports," would you understand what I meant in using that terminology?

A Sure.

Q Okay. Thank you. So specifically, let me just, if I understand right, the crossover ports, those slots, are those slots related to the subsurface safety valve that was installed in the tubing?

A Yes, they are --

Q Are you familiar with that term?

A Yes.

Q I'm sorry, I think we talked over each other and I think that may have been my fault. The crossover ports or slots or holes are related to the subsurface safety valve; is that right?

A Yes, that's correct.

Q Thank you. And if SoCalGas had records of those subsurface safety valve slots or holes prior -- in the tubing prior to October 23, 2015, where were those records

kept?

A They would be in the well file and specifically the component of the well file called the Well History File. It would be a part of the workover record associated with the installation of the tubing with those components in it. So I would go to the final workover program -- or, I'm sorry, the final workover Well History Report.

Q Okay. And to your knowledge, were those records produced to Safety and Enforcement Division?

A To my knowledge, they were, although -- to my knowledge, they are. I don't -- it's -- you know, to be honest, it's hard for me to know -- I wasn't involved with the production from SoCalGas to SED, so I don't know if I would be the one to say they were provided. They would be in the well file, and to the extent the well file was provided, then those histories would be provided.

Q Okay. And since you're not familiar with the production of the documents that were provided to SED, who would you suggest could answer that question?

A Our data requests centered around Mr. Greg Healy and the legal team, so when we

would get a data request, it would come from him, his group, and we would provide them with -- in a general sense, you know, certain aspects of the data request. And then how that was then transmitted to SED is beyond what I would know.

Q Okay. Thank you. I want to just maybe clarify a piece of your testimony further under this line. So part of your testimony is that SoCalGas' monitoring, inspection, and testing program did not find any leaks on well SS-25 prior to October 23, 2015.

Do I have that right?]

A Yeah.

Q Okay. And are you familiar with temperature surveys?

A Yes.

Q And what are those?

A Oh. A temperature survey is a particular data collection that's done in a well. It involves the lowering of a temperature probe from the surface to the top of the storage zone -- actually, through the storage zone. The expectation is that the temperature response will correlate to a geothermal gradient. And the idea is that if there is a deviation from that gradient that

would be defined as an anomaly, and that anomaly would -- could be a potential leak.

Q Thank you. I think that's consistent with your opening testimony, if I remember. And just with regards to the thermal zones, your use of that term, how do you -- does SoCalGas typically go with the temperature surveys into a well?

A I'm sorry. How does SoCalGas go?

Q I'm sorry. How deep? When -- if I understood correctly, you had mentioned that the temperature survey goes through thermal zones. And I believe the thermal zones, as I understand it, are at a certain depth in a well. So this is regards to depth. How deep do the temperature surveys go when they are placed -- when they are used to examine the well or survey a well?

A So the temp surveys are run into the storage zone itself passed the top of the storage zone, below the caprock and into the storage zone and typically all the way to the bottom of the well, not always but typically. And when you say the word "thermal zones," in reality, there's a geothermal gradient which is just kind a linear increase in temperature from the surface to the bottom of the well. It's -- so there's not any particular, you

know, zone that's hotter than the other. It's just that a normal gradient from surface to the bottom.

Q And if I'm understanding that correctly, it means that under typical circumstances, without anomalies, you would see -- as the survey moved deeper into the well, you would see a gradual increase in the showing of temperature?

Is that an accurate characterization?

A Yes. That's accurate. That's exactly what we see. However, when we get to the top of the storage zone itself, the storage zone is at a lower temperature than the geothermal gradient. It's actually been cooler -- cooled by the storage gas. So we see what's called a temperature break at the top of the storage zone.

Q Okay. Okay. And you know where the storage zones are -- where those temperature -- those gradient breaks are; is that right?

A Yes, we do.

Q Okay. Let's turn to noise logs, if we can. Are you familiar with noise logs?

A Yes.

Q And in a similar level of detail to

what you described -- you did to describe temperature surveys, could you describe noise logs? What are those?

A Sure. A noise log is also data collection within a wellbore usually from the top to the bottom. However, instead of a continuous grading -- continuous gradient, noise logs have to be stopped at different stations. And basically, every time the logging tool is stopped -- you know, we're basically at the microphone, and we're listening for anything that -- that we might hear.

Q Okay. And when you say "microphone," essentially, might give credit to Mr. Lotterman for this, but essentially, he used the analogy, if I recall correctly, of a microphone being slowly dropped down the well to hear noise that's picked up by the microphone. Would be an accurate characterization?

Apologies if I'm misstating Mr. Lotterman's terminology, but it was useful for purposes of understanding for me.

A Yeah, that's correct. It's a microphone that listens to four specific frequencies. I'm sorry. It's a microphone, yes, but the printout on the log is four

specific frequencies.

Q That are all picked up by the microphone?

A Right.

Q Okay. Can these surveys, the temperature surveys and noise logs together, identify potential leaks?

A They can. And that's what they are used for, to investigate anomalies and to confirm whether or not, in fact, there is a leak in the well.

Q And can these -- the temperature surveys and noise logs confirm leaks?

A We tend to -- by confirmation of a leak, it's confirmed to the point that now the next step is to bring in a workover rig. And a workover rig then can help confirm -- you know, offer more data to even make a more positive confirmation. But to the extent I use the word "confirmed" with the noise intent log, they are confirmed enough to go to the next step, and that's to bring a workover rig in.

Q Okay. And so the workover rig, when you say it can offer more data to make an even more positive confirmation, does the workover rig provide confirmation? Can it provide -- excuse me. Let me restate the

question.

Can the workover rig provide positive confirmation of an actual leak in a well?

A Yes, it can.

Q Okay. And just so I'm clear, is it your testimony that none of the surveys or noise logs performed on SS-25 prior to October 23rd, 2015 identified potential leaks or possible leaks in Well SS-25?

A I think the earlier noise logs -- I recall in the 1980s there was some discussion about noise, and the noise that was associated with that particular noise log -- you know, when I look back in the record at the noise logs, the noise did not occur above the top of the caprock. It was all within the storage zone itself. So I think when the words used, potential or probable -- I saw on noise logs where those words were used -- the -- at the end of the day, the noise -- all of the investigation, the noise logs, the temperature surveys and even a radioactive tracer survey, based on all of those logs and the fact that there was not noise above the top of the storage zone meant that there was not a leak -- and we're not really talking a casing leak. We're talking a shoe

leak, which is a leak through a microannulus in the cement around the storage zone. So it's -- there were notations, if possible, but at the end of the day, there was not noise above the storage zone to make a conclusion -- a confirmation that there was a leak.

Q Okay. I just want to be sure you're done with your answer. I don't want to interrupt. It's -- do you have anything else you want to add to that?

A No.

Q Okay. So there was a lot there. I want to unpack that a little bit, if I can. I think one of the things I understood -- and correct me -- is that the noise and temperature surveys, and you added tracer logs, did not show a leak at the shoe of the well.

Am I tracking that correctly?

A They showed a possible leak at the shoe. But there was a -- an -- I think one of the final noise logs that was run at that time frame showed that the noise did not go above the top of the caprock, and I could point out that Aliso Canyon storage zone is made up of multiple zones, and some of them may be a -- different permeabilities and

pressures. So we do see -- and we have seen crossflow between the various sands within the storage zone.

So to the extent that there was noise within the storage zone, I believe that those -- running those logs -- and I would come to the same conclusion -- believe that the noise that was heard was crossflow within the independent sand of the storage zone and not a shoe leak. A shoe leak we would expect to do -- hear the noise around the caprock and above the caprock, and that just wasn't the case here.

Q Okay. Let me ask a couple of other clarifications about what you said. As I understand it, when you use the term "storage zones," you're talking about areas along the well that are above the shoe; is that correct?

A In the case of -- I can't remember where they are in SS-25. But the storage -- when we talk about the storage zone, it's somewhat complicated. There's an S1 sand, there's an S2 sand, an S4, an S6, an S8 and a frew. They are all independent sands, and we call them "the storage zone." The -- we typically say, "The top of the storage zone is the top of the S4 sand." So I'm sorry.

Maybe I've lost track of the question.

Q I think it's helpful. Let me move on and keep going with the cross. I think I have enough to move on, and I appreciate your insight.

So I think -- let me see if I can just sum this up. I think your testimony is -- and correct me -- that none of SoCalGas' records showed leaks on Well SS-25, the casing, prior to October 23rd, 2015. In light of what you just testified, am I tracking that correctly?

A Yes, you are.

Q Okay. But as the SoCalGas records manager, your testimony is that there was a hole in the SS-25 tubing prior to October 23rd, 2015.

Am I tracking that correctly as well?

A Only that I guess I wouldn't say that I'm, you know, the SoCalGas records manager, but there was this hole that we discussed earlier that provided for casing flow in the tubing as you say.

Q Okay. Thank you. That's helpful. Let me just ask. Let's say that there were records showing leaks on Well SS-25, for the sake of discussion, at the time of the

incident, where would SoCalGas keep those records?

A They would be in the temperature survey file, which is a -- one of the component files of what we call the well file. We have a survey file. The temperature survey file has chronological temperature surveys. So a leak, if it had existed, would have been noticed in the temperature survey file, and if that leak were actually -- you know, if it were a confirmed leak, there would be a record of a pressure -- of a workover done on that well in the well history file.

Q Okay.

A So that's where -- you used the two files together to asses the leak itself, and then the confirmation that -- you know, an actual leak was confirmed, and then the workover work done to deal with the -- address the leak.

Q And when you say, "We use the two files together," is that the temperature survey file and the well history file or the well history file and the well file?

A The -- I would use the two -- I would use the well history file and the temperature survey file to look back for

leaks in a well -- confirmed leaks. Both files.

Q Okay.

A The well file is the -- is the kind of -- is the term used that covers the subcomponent files called the -- the well history file is a -- it's just one of four files in what we call the well file.

Q And just keeping that organizational structure you described in mind, if I understood right, the temperature survey file is a subcomponent then of the well history file?

Am I tracking that correctly as well?

A Well, the temperature survey file is a subcomponent of the well file. The well file is the general -- is the file which consists of four subs.

Q That's helpful. Thank you.

A Yeah.

Q Yeah. Let's go to Exhibit SoCalGas 15, your reply testimony. And if we go to the page with the Bates-stamp SoCalGas 15.0005. Thank you. And starting at line 13 -- maybe 13 toward the top. That's great. Yeah. Thank you. You say:

SoCalGas utilized PI Historian,

(or PI), for collecting and maintaining operational data for the entire Aliso Canyon facility including for the individual storage wells. It served as a source for personnel to access operating data at the facility including on-off times in storage wells, gathering line flowing pressures, weekly pressure readings on storage wells, daily reservoir pressure, gas inventory, expected flow by well choke type and size. PI provided users the opportunity to track or trend operating data over time. For example, weekly pressure of wells could be compared and plotted over time with PI. This made it a superior repository for operational information and data, parenthesis -- you have it in parentheses -- (versus including the data in the hardcopy well file).

Do you see that?

A Yes.

Q Okay. So during the incident, if

there were records showing leaks on Well SS-25, would they be found in PI Historian?

A No, they would not. They would be in the well file.

Q Hardcopy?

A They would be in the hardcopy well file. I will point out that we were transitioning to a software system called Wellview which contained more recent workovers, but the temperature surveys were all in the hardcopy well file. So the short answer to your question is yes. One would go to the hardcopy well file and not to PI for evidence of leaks.

Q Thank you. Okay. Let -- if I can, turning to a slightly different line, I'd like to ask you some questions about the purpose of the packer in Well SS-25, if you have that in mind.

A Yes.

Q So let's go to the opening testimony with that introduction, which is SoCalGas Exhibit 1, and you're a step ahead of, Mr. Zarchy. I appreciate it. The Bates No. 1.0004 at the bottom. And if we scroll back to line 5, you say there that the flow path per casing was from the storage zone perforations. You have in parentheses, (8510

feet to 8748 feet) close paren, into the 7" casing below the production packer into the tubing at 8496 feet through a crossover port at approximately 8451 feet into the 2-7/8" by 7 -- X 7" annulus into the wellhead at -- at the surface."

And I'll stop there and just ask if you -- if I've read that correctly, and please correct me if I've misstated it.

A No, that's correct.

Q Okay. And let's turn to the previous page of your testimony, Bates No. 1.003, and look at that diagram that you have there, the subsurface diagram of Well SS-25, and that shows the tubing running through the production packer toward the middle of the diagram. Is that -- is that correct?

A Yes.

Q Okay. So the packer you've referred to, if we can describe it on the set -- on that diagram -- and maybe -- I don't know if it's possible to show the cursor there, but if it is -- it's the set of rectangles with those Xs through them that span across the casing of the well.

And maybe, Mr. Zarchy, could we zoom in slightly. Okay. Thank you.

Do you see the set of rectangles with the Xs through them that span across the casing of the well?

A Yes, I do.

Q Would that be accurate to call that the packer?

A That is the packer.

Q Okay. And does the -- and there -- the packer that -- the -- I don't know how to better describe it than maybe a knife. It looks like there's -- the packer is running through another set of lines there in the middle of the well. Is that the tubing?

A Right. The lines that go all the way to the top, those two parallel lines, yes, that is the --

Q Right. Okay. And just to clarify, is the packer actually -- I recognize the packer here is shown as going through the tubing, but in the well itself, is the packer crossing through the tubing?

A There is -- typically there is a short section of tubing that goes through the packer, and it -- it does depend on the type of packer used, but there is a small -- in any packer situation, there's a small amount of tubing or pipe that goes below the packer. It's a very --

Q Understood. Sorry for the interruption. So that is to say that the tubing goes through the packer but the packer doesn't go through the tubing; is that correct?

A Correct.

Q Okay. What was the purpose of having a packer in Well SS-25?

A Well, a packer provides a -- a place for the tubing to be landed, and it provides a -- the combination of which will offer a point to do various functions within a well. It allows you to circulate fluid in a well. It -- it allows for a downhole mechanical isolation in the well, you know, and more specifically, I guess, when you have the packer and -- when you have the tubing landed in the packer, there's a profile that's denoted by those solid triangles in the packer itself or above the packer. That provides a place for a mechanical plug. So it offers the -- it offers SoCal the ability to isolate the tubing in the casing downhole by just simply running a mechanical plug.

Q Let me -- I appreciate that answer and the technical nature of it. Let me see if I can unpack that. With my lay understanding, I'll try.

So does part of the packer -- part of the purpose of the packer then is to enable the tubing to run down through the well and into the reservoir or near the reservoir?

A Well, one could run tubing in a well without a packer. So that isn't its primary purpose because it can -- tubing can be run in into well without a packer. It would just be hanging there. But when a packer is run and the tubing is stabbed into the packer, now you have a way of isolating the wellbore which includes tubing and casing from the storage zone pressure. So if you didn't run a packer, you wouldn't have that ability.

Q Okay. So the casing is separated by the packer from the reservoir; is that correct?

A Yeah. That's correct. Yeah, that -- the packer offers that -- the seal between the annulus -- the tubing annulus and the casing. It provides the seal there.

Q Okay. And -- but it allows gas to run -- run the tubing -- because the tubing runs through the packer, gas can get from the surface to the reservoir through the packer and back from the reservoir to the surface as

well, is that right, through the tubing?

A Yes, exactly. Yes, through the tubing.

Q Okay. Okay. Yeah. So just -- I think that you said -- and you did mention those triangles just above the packer that are shown on the tubing in the diagram. Am I -- you see those as well?

A Yes.

Q Okay. And so those triangles, what do those -- what are those, and what do they do?

A Those are called profiles, and they are -- what they are is a restriction in the internal diameter of the tubing. It's like a shoulder. And so the bottom one is a shoulder that allows a mechanical plug to be set in it. So if you can envision running a mechanical plug on wire, it would go through the top shoulder, and then it would set into the bottom one. And that's what would plug the storage reservoir in combination with the packer -- it would plug it or isolate it.

Q Okay. Thank you. Let's go back to the crossover ports.

ALJ HECHT: This is Judge Hecht. I just want to get a sense of whether there's going to be a reasonable breaking point at

some point in the next 15, 20 minutes?

MR. GRUEN: Yes, your Honor. I think I can probably finish up this line of cross sooner than that, and I'll flag it for your Honor. Thank you.

ALJ HECHT: Okay. Thank you. At that point, I think we will take our lunch break.

MR. GRUEN: Understood. Thank you, your Honor.

Q So with regards to the crossover ports, you recall your testimony talking about there being crossover ports filled the casing annulus with gas? Do I have that correct?]

A Yes.

Q Okay. Is there any document prior to October 23rd, 2015 that identifies crossover ports in well SS-25?

A I would go to the -- to the diagram that was drawn after the last workover in the well, which was 1979. There's a wellbore schematic, and there's also -- associated with that wellbore schematic, there's a -- what we have called a tubing detail. So the two together would show those crossover ports. I --

Q And --

A And this one --

Q Sorry.

A This particular schematic doesn't show the crossover ports.

Q Okay. And I -- I think when I use the term, crossover port, sir, I appreciate that.

Do those documents that you're referring to actually use the term, crossover ports?

A I'd have to look back at the -- at the wellbore diagram. It's all part of the -- the subsurface safety valve system, the annular flow system. I -- I would have to look at the tubing diagram to see how they're referred.

Q Okay. Let me ask you this: Could the crossover ports that you talk about in testimony be closed?

A Not in this well.

Q So if you've got a packer that's separating the casing from the reservoir, as we -- as we discussed earlier, wouldn't crossover ports that are always open defeat the purpose of the packer?

A No. They -- the -- the purpose of the packer is -- well, so the -- there's different purposes. The crossover ports allow flow. We -- we want it to flow up the

tubing and cross over up the -- to up the casing. The only reason the packer's in there is -- is for these -- the time when you want to make an isolation downhole, you want to shut the -- the well off downhole from the service, from the -- the tubing and the casing. So that's when the packer comes into play.

Q Okay.

Your Honor, I think we could end our line of cross here, if you'd like to adjourn for lunch.

ALJ HECHT: I think that this is probably a good time to do that, to take an hour for lunch.

Are there any questions or housekeeping issues anybody would like to raise before we do that?

(No response.)

ALJ HECHT: Okay. Seeing none, I will say that we're going to take a one hour lunch break. We will resume at one o'clock, and I will see you all back then.

We'll be off the record.

(Whereupon, at the hour of 11:59 a.m., a recess was taken until 1:00 p.m.)

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AFTERNOON SESSION - 1:00 P.M.

* * * * *

DAN NEVILLE,

resumed the stand and testified further as follows:

ALJ POIRIER: We'll be back on the record.

This is ALJ Poirier. We're returning from our lunch break in the I.19-06-016 evidentiary hearings. Before we went on lunch break, SED was cross-examining Mr. Neville with SoCalGas, and we're going to continue with that.

So please go ahead, Mr. Gruen.

MR. GRUEN: Thank you, your Honor.

CROSS-EXAMINATION RESUMED

BY MR. GRUEN:

Q Mr. Neville, I just wanted to circle back on one point you clarified in this morning's cross-examination.

I had understood you to say that you are not the records manager for SoCalGas. Did I understand that correctly?

A Yes.

Q Who is the records manager for SoCalGas?

A Are you talking about today or

prior to the event?

Q Let's say during the event. Who was the records manager at that point?

A Prior to the event?

Q During the event, sir.

A Well, I would say -- yeah, during the event, as far as the well -- the hard copy well files, the -- the way the records were managed were the individual that created the record would -- would be responsible for filing it. So at -- at the time we -- we didn't have a person that was a records manager that was, you know -- that had custody and control of the well files. It was -- it was a matter of who generated the document, and it would be up to them to file it in the appropriate file.

Q I see. Okay. Let me ask you -- I'm going to turn to some questions to clarify whether SoCalGas did not confirm or repair casing leaks on well SS-25 prior to October 23rd, 2015.

So just as a -- as a precursor, and without introduction, if we stay with your opening testimony, that is Exhibit SoCalGas-01, and if we could bring that up on the screen share, and go to the -- the Bates stamp 1.0007, and toward the bottom of the

page, could -- so there, starting at line 28, you say, "Prior to October 23rd, 2015, SoCalGas successfully addressed and repaired infrequent casing leaks as they arose." Do you see that?

A Yes.

Q So in that sentence, how do you define casing leaks?

A So a casing leak could be a -- a -- a movement of gas outside of the casing. It could be due to a casing component, such as a stage collar or a patch over the stage collar. It could be due to the casing body itself, or the threads of the casing. It could even be considered a shoe leak, however, that may be a -- a -- a stretch. But, it's -- a shoe leak is -- is not a leak through the casing. It's a leak on the outside through the cement. But, those were all leaks that were addressed and -- as they -- and repaired as they arose.

Q Okay. And just -- I think you had started the -- the answer with leaks outside of the casing, and then clarified.

But, just to be sure I'm understanding your answer, would casing leaks include leaks that go from inside the casing through the casing to the outside of the

casing?

A Yes, through -- through the casing body itself or through a stage collar, or -- or even a patch that had been placed over the stage collar. That --

Q Thank you. Oh, go ahead. I'm sorry?

A Yeah. All those would be addressed and repaired as they arose.

Q Okay. Let's, if we could, just turn to Exhibit SoCalGas-15, the reply -- your reply testimony. Then, if we go to Bates stamp with the page -- excuse me, page with Bates stamp 15.0014, as shown there, and then scroll back up slightly on that page to lines 6 through 8, excuse me, it says there: "SED states further that since there was no mention of repair in the well file, presumably the leak existed at the time of the incident. This statement ignores the fact that annual temperature surveys as well as noise logs run do not suggest there was a leak in SS-25." Do you see that?

A I'm sorry. I can't -- is it lines 15 through 17?

Q No. I'm sorry. I may have misspoken, and if I did, I apologize. No. It's lines 6 through 8.

A Okay.

Q And just to -- do you want me to restate the -- why don't you have a -- a look at it?

A Yeah, that's okay. You don't need to -- yeah, you don't need to restate it. I can read it here.

Q Yeah.

A Okay. I've read it.

Q And so you testified earlier that there was never a leak on well SS-25's casing before the incident. Correct?

A Correct.

Q Okay. So regarding the position, SoCalGas position that there were no indications of leaks prior to October 23rd, 2015 -- actually, let me just ask.

Regarding that position, I want to just be sure, SoCalGas did not -- or you don't know that -- if SoCalGas communicated that to Boots & Coots at any point during Boots & Coots' kill -- kill attempts. Is that correct?

A Right. That's something I wouldn't know. I didn't communicate with Boots & Coots.

Q Okay. Do you know who would be able to answer that question of the

witnesses?

A Most likely, Mr. Schwecke, who's going to be testifying on -- on the -- the well kill. My testimony is -- is the time prior to the incident.

Q Okay. Let me ask about -- okay.

And so I believe we -- we established, too, that there were no indications of possible or probable leaks on SS-25 prior to the incident. Did I understand that right --

A Correct.

Q -- before lunch? Okay.

So if there was an indication of a possible and probable leak on well SS-25 before the incident, if there had been, SoCalGas did nothing to check whether the possible leak was an actual one or not. Is that correct?

A At -- during the initial part of the well kill? That's when you're asking?

Q I'm asking through the history of the well.

A Well, through the history of the well prior to 2015, well, we -- we checked annually through the running of a temperature survey.

Q And found, through the temperature

surveys, your testimony is, that there was no actual leak?

A Right.

Q But, if there was a possible or probable leak that had been shown, given your testimony that there was no actual leak, if there was an indication of a possible or probable leak on well SS-25 before the incident, did SoCalGas check to see whether the possible or probable leak was an actual leak or not?

A The -- the -- the -- what's done in that -- in the case of -- of determining whether or not there is a leak is done with temperature and noise logs. And so that's the investigation. If -- if the company believes there is a leak, if there is a confirmed leak through those investigations, the next step is to put a workover rig on the well.

Q I -- I don't think we're talking past each other too much. Let me restate it a little bit, and see if we can connect on this one.

How -- let's say that there's a possible or a probable leak, not a determined leak, but say that it's possible or probable. How does SoCalGas determine in that instance

whether the possible or probable leak, if it's discovered, is, in fact, an actual leak?

A So hopefully, I'll answer this correctly, or -- but, the -- I think if -- if the leak is during the investigation, if it's still considered possible or probable, then the company would -- would go to their next step of -- of putting a workover rig on -- on the well, because -- because that is the next step. There's really nothing to do in between. It's either a "no" or a "no-go" situation. If it's -- if it's confirmed not to be a leak, then there's no workover. If it's still a possibility that there's a leak, you know, the -- the investigation would continue until someone could either confirm that it isn't or it is. If it's borderline possible, then the company could consider to put a workover rig on a well, if -- if, through investigation, it can't be confirmed that it's not a leak.

Q Thank you. I think I better understand the nature of your answer before, as well. Thank you for that.

When was the last time SoCalGas killed well SS-25 prior to October 23rd, 2015?

A Let's see. I -- I know it was

killed during the 1979 workover. I'm trying to recall any work that would have required the well to be killed. The only work that would require the well to be killed is -- would be is if the well had -- valving itself were replaced, and I -- I don't know that to be the case. So I guess my answer is I do know that it was killed in 1979, but I'm not aware of it being killed since.

Q Okay. And what was the purpose of the 1979 well kill?

A So that -- the 1979 well kill was done so that the work of 1979 could be carried out. As you know, to put a workover rig on a well, and to do work on it, one has to kill the well, and kill the well with workover fluid. So the work being done at the time was -- in 1979 was a replacement of the subsurface safety valve system.

Q Thank you. Understood. Okay. Let's go back to exhibit -- I think we're on the other one. Let's go back to SoCalGas-01, Exhibit SoCalGas-01, your opening testimony, if we could, and with the page with Bates number 1.0006, starting at line 20, just scroll ever so slightly, if we could. Great. Thank you.

And subheading "E" there on the

screen says -- in that subheading you describe how annual temperature surveys and investigative noise and tracer surveys work. Correct?

A Yes.

Q Now, you talked about temperature and noise surveys a little bit this morning, but I want to get into a bit more detail about how we might identify what we're seeing as a result of the survey.

So let's look at line 21, and I'll -- I'll just read there quickly. "Once per year, and sometimes more frequently, SoCalGas performed a temperature survey by lowering a specialized thermometer probe down the full length of each UGS well, continuously recording temperature down to the depth of the reservoir. Temperature surveys can identify leaks, because gas moving through a small opening creates a pronounced localized temperature dot -- drop by virtue of a natural phenomenon known as the Joule-Thomson effect. A temperature survey is recorded on a graph consisting of a plot of temperature on the "X" axis, and depth on the "Y" axis. The temperature survey for a typical well having pressure containment, i.e., no leaks, will be a

relatively straight diagonal line representing a gradual increase in temperature as the probe is lowered into the earth. The increase -- the increase is caused," excuse me, "by geothermal heat. By contrast, the temperature survey for a well with a leak from the casing, a casing component, or the casing cement shoe, will show a gradient shift toward the left, i.e., cold side of the graph, at the point of the leak."

So do you see that?

A Yes. My --

Q Just --

A -- page doesn't scroll to the next page. But, yeah.

Q Pardon me.

A Yeah.

Q Would you like to see the next page, for us to scroll down, to -- to see all of it?

A There. Thank you.

Q Appreciate the -- the correction. Thank you. So just a couple of clarification questions about the -- this paragraph.

Where you mention UGS in there, that stands for -- stands for underground storage. Is that correct?

A Would you mind scrolling up, to -- to make sure?

Q On line 22?

A Yes, underground gas storage well. Yes.

Q Thank you. And to help us understand more generally what you're talking about in this passage, if we looked at a temperature graph that did not indicate a leak or other anomaly, it would show a straight diagonal line on it. Is that right?

A Ideally, yes. There -- the temperature surveys can be influenced by other factors; one, the storage zone is cool, and then there's -- there's a transition phase that occurs at the surface. So ideally, it would be a vertical line, but it's -- in practice, there's -- there's some deviation at the top of the well and at the bottom of the well, and in fact, some surveys aren't perfectly diagonal.

Q Okay. Understood. Thank you. With that clarification, let's say that there was a leak in a well, and just a clarification about how the temperature survey would show that.

So if there was a leak in the well, the temperature survey gradient would shift

toward the left, or colder side of the graph, at the point of the leak. Is that correct?

A Yes. What would happen, actually, would be if, say, there was a casing leak, there would be a shift, like a pinpoint shift at the point of the leak, and then the line would return to normal gradient. So --

Q Thank you.

A Yes.

Q Go ahead. I'm sorry; sorry to interrupt.

A For example -- for example, a stage collar is a pinpoint location in the casing that has been known to cause a leak, and so what we see is a -- a straight line gradient, we see a pinpoint cooling shift, and then a return back to the normal gradient.

Q Okay. And would you indulge -- would you agree -- maybe we just -- because I'm looking for lay terms to better understand this.

But, if we talk about the -- the gradient shift toward the left, and then the return shift to the right as it returns to the grade -- as it returns to the diagonal line, would it be -- would you agree that that's shown as a zigzag, if you will, on the graph? Would you indulge that term and

understand what I meant by that?

A Sure. Zigzag is -- yeah, zigs to the left, and then zags back to the right.

Q Yes. Thank you.

A Yes.

Q Okay. Okay. And the coolest point on the zigzag on the temperature survey in that instance would show the approximate depth of the leak. Is that right?

A That's right. That's correct.

Q Okay. And I think we were -- we were close to there.

But, if the rest of the well experienced none of the other leaks anomalies, cooling zones, tops or bottoms, if we were talking about the -- maybe -- if you'll indulge the term, maybe a normal type of situation, we'd expect the temperature survey line to return to straight and -- and diagonal at depths below the leak. Would you agree?

A Yes, that's what we would expect.

Q Okay. Thank you. Let's go to line -- page 1.0007, starting at line 3. And that's -- we're showing the 1.0007 Bates number, and then line 3. You say, "In the event a temperature survey identified an anomaly indicative of a possible leak,

SoCalGas conducted additional surveys such as noise or tracer surveys to further investigate the anomaly."

Do you see that?

A Yes.

Q Okay. So this is -- same process, because I didn't notice in your testimony a description of how the noise or temperature surveys show, if you will. So the -- these questions are going to go to that.

Let's say, first of all, that we see the zigzag on the temperature survey that suggests an anomaly, and means a possible leak. If you see that temperature survey on a well, first of all, in that instance, isn't it time to follow up with a noise survey or a tracer survey to see if you actually have a leak?

A Yes, typically that would be the case. The next step --

Q Okay.

A -- would be to run a -- a noise log.

Q Okay. And earlier, we were talking about the noise surveys and detecting the sound frequencies at various depths from the surface of the reservoir. Do you recall talking about that?

A Yes.

Q Okay. So just to unpack that a bit, the noise log, then, that you're talking about would be another -- that's another graph. Is that correct?

A It is a graph, yes.

Q Okay. And the further you look down the graph, the deeper the microphone is going down the well. Is that also correct?

A Yes, that's correct.

Q Okay. And the noise survey, you talked about the four frequencies earlier this morning. Do you recall that?

A Yes.

Q So that's -- that -- those four frequencies are represented by four lines on the graph?

A Yes.

Q Okay. And let's say that the microphone from the noise survey picked up the sound of gas moving through an opening in the casing or around the base of the casing. What would you expect to see on the noise log to show that gas movement?

A So in the case of a -- of a leak that would be, you know, in the casing body or a stage collar leak in a -- this is not a shoe leak. That's a different type of a

leak. But, a noise log would -- would show a -- if peak frequency responds -- or peak amplitude, I guess is the word, or level, peak level of noise at the same point of the temperature surveys. So all four -- typically, all four frequencies increase in value and match the temperature anomaly cooling effect. So they -- they pretty much overlay.

Q Yeah. Go ahead. I'm sorry.

A Yeah. And that's -- that's -- that's a -- a good confirmation that there is an actual leak, because you've got both the temperature and the noise.

Q Understood. And just so -- in my lay understanding, if I was looking at a -- a noise log, and the noise log was showing that the sound of gas had been picked up, would it show crooked lines in those -- those four lines showing frequencies, would they start to get crooked?]

A Yeah, the reason they get crooked is because with the noise log, one has to stop at depth. They have to stop and listen. So typically a temperature survey is run and then a noise log is run after -- and there's a specification, say, to stop every five feet across the temperature anomaly, so you really

get data points every five feet. And the reason it's crooked is because the log just connects those data points.

Q Okay. Whereas, if the microphone in the noise survey did not detect gas moving, you would see straight lines; is that right?

A Right.

Q Okay. Let's talk about the tracer survey that you discuss here on lines 8 through 14. That's another tool that detects possible leaks in a well; is that right?

A Yes, it is. Typically from what I've seen looking through the history, it was used for helping diagnose shoe leaks. I haven't seen a case where it was used other than to help diagnose -- (inaudible).

(Coughing interruption.)

BY MR. GRUEN:

Q And when you talk about diagnosing shoe leaks, are those leaks that are just above the shoe of the well?

A Those would be leaks through the cement above the shoe of the casing, yes.

Q Just to maybe tie a term together, is the shoe of the casing at the same point as where the packer is?

A No. Typically the shoe of the

casing is going to be below the packer.

Q Okay. So then an RA tracer survey is used to detect leaks below the packer?

A Yeah, by the fact that the packer is above the shoe, that's a correct statement. But it's really used to detect movement of gas at the casing shoe through the cement that's on the outside of the casing shoe.

Q Okay. Thank you. I just wanted to be sure you were done. Let's say that a tracer survey indicated a casing shoe cement leak. What record would show that?

A If a tracer indicated a possible shoe leak, the notations would be on the tracer survey itself.

Q And what would those notations say if the RA tracer survey showed a leak?

A Well, it would be on the -- the way I've seen them on the front page of the tracer survey there would be a place for comments or results, and so --

Q Okay.

A -- there would be some description on the front page of the survey.

Q Okay. And doesn't the RA tracer survey -- I believe your testimony was talking about gas ascending on the outside of

the production casing, that the RA tracer survey can detect that.

Did I understand that correctly?

A Yes. I will say that it is -- it's -- those particular surveys are challenging to run, so it requires -- if you want, I can cover how this works.

Q At a high level, if you want to -- there's quite a bit more to cover.

A Okay.

Q I think, you know, Mr. Neville, I think we've got enough, maybe just one or two quick questions on this and I think we can move forward. Thank you. Let me just ask you just in terms of the tracer survey, can the tracer survey indicate -- let's say that gas is escaping from the shoe, that there's a shoe leak, it shows that there's a shoe leak. Can the tracer survey indicate how far up the outside of the production casing gas is moving?

A It can indicate that, yes, because it's basically -- the tracer element is followed in realtime during the log as it moves -- as the gas, you know -- if there was a shoe leak, the gas would be moving up, and so there's a sensor that watches the upward movement of this radioactive tracer. To the

extent that it can still trace it, you know, the gas is still moving up. When it stops seeing it, then, you know, it's moved away from the casing.

Q Thank you. What are the kinds of factors that would determine how quickly or slowly gas moves outside the production casing?

A The biggest factor is the volume of -- or the size of microannulus channel. We're really talking about pretty small channels, microannuluses in the cement, how it bonds to the casing, cracks in the cement, but it's typically a small amount of movement. That's --

Q Okay.

A -- one reason that it's difficult to confirm.

Q Okay. Thank you. Let me ask you just some -- going back to the temperature survey, with that -- those descriptions -- and thank you for helping us -- helping me understand the -- what the different surveys show.

Let's say we had a temperature survey now on a well that showed an anomaly, if you indulge the term "zigzag" -- and I appreciate it -- without knowing anything

more about the well and what was causing the anomaly, in that instance, could you rule out the possibility of a leak in that well?

A If it had a zigzag, I wouldn't want to rule it out right then and there. I would want to attribute it to -- I would want to attribute it to something.

Q Okay. I think we clarified before you could rule out the possibility of a leak in the well. If the temp survey showed a zigzag, you'd want to do -- or need to do noise survey.

That's protocol; right?

A Typically it is, yeah.

Q Okay. And let's say that the noise survey detected gas movement in the well, that we have the crooked lines. In that instance -- excuse me, and that the crooked lines have that overlay with the anomaly that was shown, the zigzag that was shown on the temperature survey. In that instance, could you rule out a leak in the well in that instance?

A You know, depending on where in the well this occurred, if the noise log were -- did you say the noise log were -- there was no zigzag in the noise log?

Q No. Let me restate. I appreciate

the clarification. Let's say you've got the zigzag in the temp survey and the crooked lines in the noise log and they line up, they overlay with one another at the same depth or approximately the same depth at least. In that instance, could you rule out a leak in that well without knowing more?

A I wouldn't rule it out. I would want to, you know, continue investigating because the -- with the noise log, gas is moving. If there's some response on the right frequencies of a noise log, then there's a good chance that gas is moving.

Q Okay. And when you say gas is moving, would that mean gas is moving from inside of the casing to outside?

A Well, it just depends on different factors. In the case of the pinpoint leak, it's more than likely that would be the case. In a shoe leak that's at the bottom of the well, the noise can be influenced by noise in a reservoir because gas can move in the storage reservoir and make noise even though there's no leak.

That's where it gets a little complicated on these shoe leaks because you've got potentially gas moving within the reservoir itself -- within the individual

sands of the reservoir, which I spoke about earlier, so it does get a little more complicated then.

Q Yeah. I'm tracking you. Let's say that you've got the overlay that we're talking about, the zigzag and the crooked lines overlaying again. Can you speak to how likely it would be in that instance that you'd be detecting a leak at that point?

A At the bottom of the well or --

Q Yes, toward the bottom --

A In the middle of the well -- in the middle of the well, I'd say it's very likely.

ALJ HECHT: This is a reminder to please not speak over one another for the benefit of our court reporters. Sorry to interrupt.

MR. GRUEN: Thank you, your Honor. I believe that one's on me. I'll try to do better. Thank you.

Q Her Honor is right. I believe I may have jumped in. Maybe just for clarity of the record, Mr. Neville, I'll ask the question again and then defer to you. I'll do my best to watch your cues for the end of the answer.

So if you've got the overlay with

the crooked lines on the noise survey and the zigzag on the temperature survey and you don't know more information than that on a well, how likely would it be that that would suggest a leak or indicate a leak in the well?

A That may be tough for me to answer. If it's likely enough to take a really closer look at the different zones of the well and to bring in some more data, it's not -- I can't say that, you know, it's more than likely there's a leak, but it's definitely likely. It's definitely likely that there's a shoe leak.

I don't know if I could say if it's more or less because many of these shoe leaks that were investigated were done well before I joined the company. They were in the initial stages of gas storage operations, and so that's my kind of caveat is I think it's likely enough when you see it in a noise response that, you know, that one needs to continue to investigate.

Q Okay. What if you had more than one temperature survey anomaly over time now, same depths in a well, but a noise survey now was not detecting noise at the same depth as those temperature survey anomalies. What

could be the causes of the temperature survey anomalies in that instance?

A So definitely at the bottom of the well there's the influence of the storage zone itself, there's -- one possibility is that the well is still on a little bit of flow I've seen this through. Even though everything is shut in at the surface, if one of the valves is passing a little bit of gas through it, a well could appear to have a temperature anomaly near the storage zone because there's a slight amount of flow. So that's another possibility.

And when I say passing gas, it's a valve that gas is moving through it. It's not completely closed. Those two, the valve issue and the fact that it's right at the top of storage zone, would be my answer.

Q Okay. Thank you. Let's change the hypothetical a little bit here. Now let's say you have more than one temperature survey anomaly over time and again at the same depth of the well and a noise survey that detects bubbling or moving gas all at approximately the same depth. What could be the causes to explain that other than a leak?

A The bubbling or moving of gas, it depends on where in the well it is. There's

other zones of production in some wells that can make noise of bubbling and liquid movement, but a bubbling near the storage zone or in the caprock would be something that you would want to continue to investigate, run another noise log and, if confirmed, you know, you might confirm a noise leak -- a shoe leak.

So it's one -- I guess what I'm saying is the confirmation of a shoe leak is -- can be tedious. It's a small movement of gas and the investigations are -- usually -- they usually involve several noise logs with maybe even different pressures, several temperature surveys. If it's not conclusive, it may even be, you know, it may -- we may wait until the next year for the inventory to get higher and take another look at it before a -- the next step is a confirmed shoe leak and a workover.

Q And just as you say it there, to confirm, a shoe leak is before the workover or because or as a result of the workover in that instance?

A It would be -- sorry for talking over. The confirmed shoe leak would be before the workover. At some point, do the investigation of these anomalies and noise

issues and possibly a radioactive tracer survey, there has to be a sufficient amount of data to make the confirmation that we have a shoe leak. And then a workover rig is brought in to address it, address the shoe leak.

Q Yeah. Just with regards to -- it sounds like you're using an element of judgment in giving your answer here, and correct me if I'm wrong. Let me ask this: If a well experiences the ongoing anomaly over a number of years on temperature surveys and then it also experiences an overlay where noise logs are picking up bubbling or other movement of gas and maybe the R/A -- let's say the R/A tracer survey also is detecting -- detecting gas. Was it standard practice at SoCalGas to do the workover to inspect that casing in that instance or is it more of a judgment call?

A To some extent, it does require a bit of judgment into what the data is telling you and the fact that there could be -- the noise could be due to cross flow and not actually be a shoe leak is important. We really want to see evidence of noise above the caprock. I mean that's -- there's some things that are -- that a shoe leak would

almost be definite and it wouldn't be really any judgment involved here.

But in the case of SS-25, it was -- there was these minor signs near the location of the shoe, but to the engineers at the time working the well and deciding on whether or not it was a shoe leak, they made the decision that it wasn't and for the reasons that really the noise wasn't above the top of the storage zone.

Now, to bring a workover rig in and address a shoe leak involves shooting holes in production casing. It can actually make the situation worse because now you're trying to fix a leak. You've got to try to perforate the casing shoe. More times than not there has to be multiple perforations into that shoe and then cement has to be pumped into it. So if there's -- if the workover is done when there's not a leak, it makes holes in the casing when there didn't need to be, so that's part of the issue of really trying to make a confirmation of a shoe leak before we go to the next step.

Q Okay. And regarding the next step, let's say, again, there are indications of a leak in the ways we've been discussing, or at least a possible leak. In that instance, has

SoCalGas ever just gone straight to plugging and abandoning a well without inspecting the casing?

A On a shoe leak?

Q Yes.

A Ever? I -- one thing about shoe leaks is if one confirms there is a shoe leak or might be a shoe leak, that shoe leak has to be repaired before the well is plugged and abandoned. So --

Q And, Mr. Neville -- oh, I'm sorry. I thought you were done. Go ahead.

A Yeah, I guess the question is has SoCal ever gone straight to abandonment with the diagnosis of a shoe leak? I would -- you know, I haven't seen every shoe leak, but I would tend to say that, no, that would not be the case. You would have to fix the shoe leak.

Q Okay. And let's expand that and talk about leaks higher up in the well. Has SoCalGas ever plugged and abandoned indications of higher leaks without inspecting the casing first?

A I really don't know.

Q Okay. How many years in a row of anomalies in a well would prompt SoCalGas to kill a well and/or inspect a casing,

whichever the case may be?

A So by inspect the casing, you know, there's different ways to inspect the casing. A leak could be -- the casing could be inspected merely by running a tubing packer combination to see if the leak could be pumped into. Now, by -- are you asking about an actual casing inspection log?

Q Not necessarily. Without going to the log and the record of it, I was just getting to the actual inspection of the casing. I recognize your point that there are different ways. But any sort of way to inspect the casing, how many years of anomalies in a well would prompt SoCalGas to inspect the casing?

A It would just vary. And the reasons are the stage collar leaks and the shoe leaks, they're very, very minor in amount and they -- some of them that would just be a very small cooling on a stage collar could go a number of years without being worked on. Others that had a larger temperature anomaly would be dealt with quicker. It really has to do with the degree of cooling on the temperature surveys.

Q Meaning if there was a larger degree of cooling on a temperature survey,

SoCalGas would be more likely to inspect the casing in that instance?

A In a quicker manner. There are cases of some of these stage collar minor baubles being seen one year and not the next. They're so minor that those particular cases may be gone -- may be let -- those stage collar issues may go on for a number of years.

But in the case of a larger cooling, those would be dealt with quicker, either by setting a downhole plug and isolating or killing the well and putting it into the -- putting the workover rig on it.

Q Can you give an idea of a threshold that would distinguish between a larger cooling and more of a bauble as you said?

A Maybe a one- or a two-degree cooling is probably on the low side. Higher than that would be -- and that's just my recollection right now sitting here having seen these casing temperature logs and when they were repaired.

Q Okay.

ALJ POIRIER: Mr. Gruen, I just wanted to check timing on this line. I'm thinking of taking a break soon.

MR. GRUEN: Your Honor couldn't have

read my mind better. That happened to be the last question of the line if you'd like to take a break now.

ALJ POIRIER: Okay. I think that's a good idea. Let's take a 15-minute break. That would be 2:07. We'll be off the record.

MR. GRUEN: Thank you, your Honor.

(Off the record.)]

ALJ POIRIER: So we'll be back on the record.

We're returning from an afternoon break. We will be continuing with SED cross-examination of Witness Neville.

Mr. Gruen, if you can please restate the question.

MR. GRUEN: Yes, your Honor.

Q So, Mr. Neville, with regards -- we talked about -- the discussion was about shoe leaks. Largely your answers before the break were about shoe leaks. And I wanted to ask a few follow-up questions that talk about leaks at any point along the casing. Let's say that bubbling or gas was detected on a noise survey above the packer.

In that instance, how would you tell if you had a leak?

A So if bubbling were heard, I would want to see if the bubbling occurred opposite

a temperature anomaly. I would expect a leak in the casing to have noise that really isn't -- really isn't a bubbling-type noise. I would expect it to have a noise where all four frequencies move together and more -- more indicative of a leak in a casing -- generally bubbling is not -- is not an issue associated with a casing leak.

Q Okay. Let's say that you -- I'm sorry. I may have interrupted the end of your answer. Please go ahead.

A Yeah. I'm sorry. I just said yes, in my experience, I haven't seen bubbling associated with a casing leak.

Q Okay. Not just bubbling but just an indication of the movement of gas. So -- and let's say further that a noise log shows the indication of the movement of gas and its opposite, or an overlay, I think, was the term you used before the break, of a temperature survey anomaly. In that instance, how would you tell if those things -- that data was showing a leak at any point along the casing?

A Would you mind repeating? Sorry. I didn't follow.

Q Absolutely. I'll do my best to restate it. It may not be precisely as

worded before, but I'll get the gist. Let's say that you got a noise log that is showing movement of gas either through bubbling or through some other means. Let's also say that you got a temperature survey that shows an anomaly at the same depth or approximately the same depth as where the noise survey is showing gas movement.

Do you understand that part of the hypothetical?

A So if that would be a noise deflection at the point of the bubbling and a noise deflection at the point of the casing shoe? Both?

Q All I'm doing -- I appreciate the clarification -- all I'm doing is saying that the temperature anomaly -- the temperature survey is showing an anomaly at approximately the same depth as where the noise survey is starting to show the crooked lines. So you've got the zigzag on the temp survey and the crooked lines on the noise survey, and they are at approximately the same depth on the well.

Do you have that in mind?

A Yeah. It's hard to -- ideally it would be, you know, to see the actual data would be the way to address it. But if

there's -- you're saying crooked lines that -- in the noise log opposite a temperature anomaly?

Q Yes. Yeah. So with that in mind, how would you tell if that data was showing you a leak on the well at any point on the casing?

A Well, the -- first of all, I'd need to see the data and the character -- the shape of the anomalies and the shape and amplitude of the noise and the location in the well. But generally, if you had a temperature anomaly with a noise anomaly at the same point, the leak point -- if there is a leak -- you know, there's a lot of other factors to consider. But it would be at that point. It's not going to be somewhere else in the well. It's not -- you're not going to have a temperature -- you're not going to have a casing leak several hundred feet away from the cooling. The temperature leak is going to be at the cooling and at the noise. That's the point of where the gas is moving. That's what's causing the temperature drop, and that's what's causing the noise. So it's not going to be anywhere else.

Q Okay. Thank you. Let's say -- if you've got a temperature survey that shows a

leak of -- near the reservoir, how can you tell if that's a leak and needs fixing or needs further attention?

A So those -- when you get down to the stored reservoir, it becomes more challenging because there is a cooling at the reservoir, and if there were a leak in the casing, like the casing shoe or slightly above the casing shoe, in an actual casing leak, I would be looking for a pinpoint cooling -- an attempt to return back to gradient and then the cooling of the storage zone. So you would see basically two points of cooling. It gets really difficult, though, the deeper you go. And again, we've got the temperature anomalies. You'd want to follow those up with the noise to help you make that diagnosis.

Q Let's see if I understand your answer. Going back to the zigzag term that we agreed upon earlier, if there was a zigzag in the temperature survey that was separate from the reservoir temperature that showed up on the temperature survey at a point higher than the reservoir temperature, that might suggest to you that there was a leak in the casing?

A If the zigzag were above the

temperature, it still depends on where in the reservoir. If it's in the caprock -- if it's -- if it's right above the storage zone, there's -- there's a couple very small sands that are above the storage zone that could be where -- the cause of that zigzag. They call it the S1 sand and the S2 sand. But -- so there could be movement there. But if the zigzag continues up to above the caprock, then that's where one needs to be concerned with the shoe leak.

And again, these are really small leaks. I know some zigzags are -- they are really -- they are tough because you got -- also you have the problem of noise being carried up the hole from the reservoir. So it's really -- it's really difficult. I mean, the gas moving within the sand could be transmitting noise up the hole.

Q Okay. I just want to be sure I'm not jumping over you, Mr. Neville. Go ahead. Did you have more to say?

A No.

Q Okay. Thank you. Just -- you used the term again -- I think you talked about sand. You might have said "S1," I believe. And I think you said it earlier. Can you clarify, when we talk about the term "sand

lenses," what does that mean, sand lenses, either in the reservoir or elsewhere?

A So in the case of Aliso Canyon, there are these sand lenses. Some of them are very, very thin. Some of them are thick. But they -- they are named basically the S1, the S2, the S4, the S6, the S8, and then there's the frew sand. And so between these sands are actual shale barriers. So the sands are separate from each other out in the reservoir, but they are, of course, in pressure communication in the wellbore. So --

Q Okay. Thank you. And can you say approximately what depth is -- actually, let me strike that.

Is S1 the shallowest of the sand lenses then?

A Yes.

Q Okay. And approximately what depth is the S1 sand lens?

A Oh. It varies in every well. If I remember -- you know, we're talking the S1 and the S2 and S4 may be separated by several to 10 feet, and they are fairly close together.

Q And can you speak at a general level, in the case of SS-25, approximately

how close to the surface is S1?

A Oh. To -- well, the S1 is several feet above the storage zone, which we probably -- storage zone is -- actually starts at the S4. And there are a couple small sand lenses above -- actually several feet above the storage zone. And above there is hundreds of feet of the shale caprock that sealed the gas in place. But there are these two small lenses called the S1 and S2 down at the bottom of the well just right above what we call the storage zone.

Q In relation to the packer -- maybe we can ask it this way. I'm just trying to get a sense of how far down from the surface S1 is when we're looking at Well SS-25 specifically. Can you give an approximation of that?

A Yeah. I'm pretty sure it would be below the packer. If not, it would be really close to it.

Q But you don't know exactly?

A I know it's within -- I don't know for sure. It wouldn't take me long to find out, but I suspect that its below the packer but I don't know. Very close to it.

Q Yeah. If you could get back to us and let us know.

A All right.

Q Maybe if we could request that you have that tomorrow?

A Sure.

Q Appreciate that. Okay. Thank you. Okay. If we could turn to Exhibit SoCalGas 1 again, your opening testimony, and I think we're at the same part that was talking about any old temperature surveys and investigative noise and tracer surveys. If you can pull that back up.

You remember me talking about that on the record?

A Yes.

Q Okay. So if we say once per -- maybe you can do a quick search, Mr. Zarchy, that searches "once per year."

ALJ POIRIER: Let's go off the record.

(Off the record.)

ALJ POIRIER: We'll be back on the record.

Mr. Gruen, please continue.

MR. GRUEN: Thank you, your Honor.

Q Can you see on page 5 -- I believe it's your opening testimony -- Bates page SoCalGas 1.0006, and starting on line 21, we see that you say there:

Once per year, and sometimes more

frequently, SoCalGas performed a temperature survey and sometimes -- I'm sorry -- a temperature survey by levering a specialized thermometer probe down the full length of each UGS well continuously reporting temperatures down the depth of the reservoir.

Do you see that?

A Yes.

Q So each well at Aliso received at a minimum one temperature survey per year, correct?

A Yes, that's the practice.

Q And in some cases, some wells received more than one temperature survey per year I'm reading from that.

Am I tracking that right?

A That's possible, yes.

Q Okay. And why would SoCalGas -- or why does SoCalGas run a temperature survey more than once per year on certain Aliso wells?

A A couple reasons. I think one was -- at one point in time during the initial startup of the field, there were two surveys per year. So, you know, it sometimes

more frequently, you know, occurred in those cases. The other time would be in the event of some anomaly at the surface, say, a well pressure -- surface pressure -- slow increase in surface pressure, and in the surface casing temperature surveys it would be run as part of an investigation into that.

Q Okay. Let's say that there's a temperature survey that's showing a leak. Just let's assume that for a second. Is there a correlation between how big the leak is and the extent of the cooling shown by the temperature survey?

A I think I would agree with that just from what I've experienced over the years. I think the larger the cooling, the larger the leak.

Q Okay. Thank you. But even if you had just, let's say, one degree of cooling, as shown here, even if it was even less than the degree of cooling, that could indicate a leak as well, couldn't it?

A It could. One degree of cooling -- yes. Even a small amount of gas moving through a small surface area causes a cooling. And one degree is picked up by the temperature survey tool, and so it could be a leak.

Q Thank you. Does SoCalGas have a method for estimating how much gas is being lost by a leak on a daily basis?

A There is a method to do that, yes.

Q Okay. Can you briefly describe the method?

A Yes. It's some -- it's for some leaks. I use the stage collar leak because it's easy to understand. A stage collar leak would be picked up by a cooling. One way to measure the volume of the leak would be to shift the -- to set a downhole plug in the well and basically isolate the well from the reservoir and then measure an initial pressure. So you've got a shut-in at the surface and you've got a shut-in downhole. You take a pressure reading at a particular time and then go in a number of hours or days after it and take another pressure reading. And so by the difference in pressure and the volume of the pipe over the time period that it's shut, one can estimate a leak rate.

Q Okay. How many temperature surveys were run on SS-25 -- Well SS-25 each year from 1982 to 1992? Do you know?

A Not without looking at the well files.

Q Okay. Mr. Neville, in your

experience, once a well casing or tubing experiences a leak and the leak is not repaired, can the leak disappear by itself?

A In the case of -- as I mentioned earlier, in the case of a stage collar, even a shoe leak -- although -- I'll take that back. I'm not sure on the shoe leaks. They were done -- they were dealt with a lot before I got there, but I've seen stage collar leaks, very small ones, come and go especially with the pressure in the field. But typically, the answer to the question would be no. I mean, once a leak started, it would be expected to continue.

Q And the stage collar, it's because perhaps the collar slid to the closed position; is that right?

A Well, there's -- the leak is through -- again, it's a smaller leak. It's through -- you know, potentially something got into the leak and blocked it off. That's the only thing I can think of. But typically leaks don't repair themselves.

Q Understood. And you're talking not just about the stage collar and the shoe here but also at any point along the casing; is that right?

A Yeah. For sure. A casing threat

leak or a casing body leak, I wouldn't expect it to repair itself.

Q Okay. All right. If we could turn to another line. Based on your role, Mr. Neville, as reservoir engineering manager and integrity management and strategic planning for SoCalGas and with all of your other experience with SoCalGas over the last 30 years, I want to ask you a few questions about your views as to whether temperature surveys, noise logs and R/A tracer surveys serve safety-related purposes for the operation of SoCalGas natural gas storage facilities.

So with that in mind as the intro, if we could first ask you, in your view, are the temperature surveys, as you've described them in your testimony and as we've talked about today -- as you've talked about today, are those necessary records, in your view, for the safe operation of SoCalGas natural gas storage facilities?

A Are they -- they've -- are they records that indicate safe operations? I'm sorry. I didn't catch that last point.

Q That's okay. I can restate. Are temperature surveys necessary records for the safe operation of SoCalGas natural gas

storage facilities?

A I would say they are, the temperature, yes.

Q Including for Aliso Canyon wells, correct?

A Yes.

Q And Well SS-25?

A Yes.

Q Why?

A They -- for one, they are part of the -- they are regulation. They are part of the project approval letter. They are -- they indicate -- in fact, in the project approval letter, they are called mechanical integrity tests, and they confirm mechanical integrity of the well as the temperature survey is run. So they are an indication that the well is mechanically sound at the time that it's run.

Q Okay. What about noise logs? Are noise logs necessary records for the safe operation of SoCalGas natural gas storage facilities?

A I would say yes, to help to -- to the extent they help confirm the anomalies that are -- that are from the temperature survey, I would say yes.

Q Okay. Do you have more to explain

just to get to the why of it? Is there more to it? More to the explanation as to why you see them as necessary records for the safe operation of SoCalGas natural gas storage facilities?

A Yeah, I would say the answer is because of the anomalies from a temperature survey, that may only be an anomaly, and that may not be indicative of a leak. And so the noise log will bolster the temperature survey, and the two of them together can constitute a mechanical integrity test.

Q Okay. Same question -- set of questions for the R/A tracer surveys. In your view, are R/A tracer surveys necessary records for the safe operations of SoCalGas natural gas storage facilities?

A Again, I guess to the -- to the same point, if they can help along with, you know, the temperature surveys and the noise log, if they can help prove mechanical integrity, then they are.

Q And if I'm catching the gist of this, the point is that, like the temperature surveys and noise logs, to the extent, in this case, that R/A tracer surveys can help with the mechanical integrity of the well, they are safety records, in your view; is

that right?

A Yes, I would say so.

Q Okay. And do R/A tracer surveys, in your experience, help with the mechanical integrity of the well?

A In my experience -- I've been there since 1991, I have not run one. They were run by the company before I got there and really during the early years of operations when the field was just being pressured, there were some shoe leaks at the time. And so to help with that -- those diagnoses of shoe leaks back then, there were a fair number of radioactive tracer surveys run. But since then, we haven't -- not been.

Q Okay. But just to be sure that I'm getting the question answered, is the answer you don't know whether R/A tracer surveys help with the mechanical integrity of the well?

A Well, the answer to that is yes, they do help.

Q Oh, they do. Okay. I misunderstood. Thank you. Okay.

So if we could turn to your reply testimony, SoCalGas 15, and the Bates-stamp SoCalGas 15.0013 at the bottom shown there, which is page 12, turning to line 20. So you

state there:

> SED states the data in the SS-25 well reveals an ongoing detection of leaks at the bottom of the well. This is a misinterpretation of the well. A review of temperature surveys indicate the shoe leak was suspected as noted on the April 24, 1985 survey. However, the --

And continuing on the next page. I'll flag it this time. So let's turn to the next page to see the rest of the passage.

> However, the following temperature survey on July 10, 1985 concludes that no such leak existed. Then you quote "temp anomaly similar to the break slightly higher than surveys the past several years." Noise logs 7-84, 4-84, 2-83 and R/A. 7-84 indicated no leak above S1. Will monitor.

And this quote is followed by footnote 29. And if we scroll down the page right after "will monitor," footnote 29. Let's see footnote 29 at the bottom of the page. So footnote 29 references Exhibit Roman VII-4, and then you continue going back to the text:

The three noise logs and single radioactive (R/A) tracer survey are located in the well log file and indicate continued monitoring for shoe leaks, but this hardly amounts to an ongoing detection of leaks. SED states further that since there was no mention of repairing the well file presumably the leak existed at the time of the incident. This statement ignores the fact that annual temperature surveys, as well as noise logs run, do not suggest there was a leak in the SS-25. Did I read that correctly?]

A Yes.

Q Okay. And I referenced the footnote correctly, as well.

A Yeah.

Q Is that right?

A Yes.

Q Okay. So is it your contention there that there was never a leak on well SS-25 prior to October 23rd, 2015?

A It's my contention, and I -- and I also hope to -- to demonstrate in that -- in the testimony, that it was the -- the -- the

intention, also, was there of the -- of the engineers at the time in '83, '84, '85, because they're the ones that wrote that -- that text. On -- on the 1985 survey, they had -- they wrote -- whoever did the analysis said that the noise logs, the 7-84, 4-84 and 2-83 and an RA tracer survey indicate no leak above the S1. So that is -- is quoting those four -- those three noise logs, plus the RA survey they believed at the time that there was no leak above the "S" -- of the S1; but, they did say that they will monitor, and that's what occurred, you know, annually, from 1985 to 2015, is, at least, annual monitoring.

Q Okay. And so, therefore, it's your contention that the noise and temp surveys do not suggest there was a leak in SS-25 prior to October 23rd, 2015. Do I have that right?

A Right. I -- I would agree with -- with -- with that statement, yes. There -- there was not a leak, a shoe leak, above the -- out of the storage zone above the caprock.

Q Okay. And not a leak, period, at --

A No.

Q -- at any point?

A Sorry for talking over.

Not a leak, period.

Q Okay. What about the noise logs from July 1984, April 1984 and February 1983, and the RA tracer survey -- survey that you testified to on line 3? Is it also your testimony that none of these documents indicated leaks on well SS-25?

A There were notations on the documents that indicated a possible leak, but the summation of all of the documents, and especially the -- the 7-84 noise log that showed no noise above the S1, I think it's -- it's -- it's the summation of all of those documents. Even though there were some notations as possible or probable on some of those individual logs, I -- I do believe that the summation of all of the logs indicated no leak above the S1.

Q Let's -- let's take a look at the evidence, some of the evidence that you provide in support of your testimony there.

So if we go to exhibit roman XII-IV, which is Exhibit SoCalGas-16 identified by your counsel, which you reference on footnote 29, and let's go to PDF page 28, Bates stamp 16.0027, okay, and if we go to the next page, you see the document,

and if we scroll to the bottom, thank you, Bates stamp 16.0028, and this shows a temperature survey from July 10th, 1985, if we scroll to the top, I believe it shows that, do you see the notation there, July 10th, 1985, that you mention in your test -- in the passage of your testimony we just read? Do I have that right?

A Yes.

Q Okay. And this temperature survey continues for the next two pages to the page with Bates stamps 16.0030. Correct?

A Are you referring to those -- those individual numbers?

Q I am, toward the bottom.

A Yeah. I -- I didn't see the heading with the date. Could you --

MR. GRUEN: Scroll back up.

(Crosstalk.)

MR. LOTTERMAN: Mr. Neville, it might be easier for you if you looked at your hard copy in your testimony.

THE WITNESS: Yeah. Okay.

MR. LOTTERMAN: So it's exhibit -- excuse me, Mr. Gruen; just to make it go faster.

MR. GRUEN: Yes.

MR. LOTTERMAN: It's Exhibit 16, and

Mr. Gruen has you on page 0028.

THE WITNESS: Okay. So that appears to be a temperature survey done on July 10th, '85, and the following two pages appear to be numbers with a date of July 10th, '85. Yes.

BY MR. GRUEN:

Q So that -- when you say, "Yes," that's all part of the same July 10th, 1985 temperature survey at well SS-25. Correct?

A Correct.

Q Okay. And that's the one that -- that's -- is the basis for you contending in your testimony that you just read that concludes that the shoe leak suspected on the April 25th, 1985 survey, in fact, does not exist. Is that right?

A Well, the one I'm referring to was a notation on the survey. If you'd give me a chance to read the testimony again.

Q Sure.

ALJ POIRIER: Let's go off the record.

(Off the record.)

ALJ POIRIER: Back on the record.

We're going to take a ten-minute break until three o'clock. Thank you.

MR. GRUEN: Thank you.

ALJ POIRIER: Off the record.

(Off the record.)

ALJ POIRIER: Let's go back on the record.

While we're -- we took a short afternoon break. Mr. Gruen was cross-examining Mr. Neville.

Please continue, Mr. Gruen.

MR. GRUEN: Thank you.

Mr. Zarchy, if you could scroll down, we're looking on the screen share exhibit roman XII-IV. And that's fine. So if -- if you'd leave it there, thank you.

Q Mr. Neville, before we were on break, do you recall us looking at this document, which is part of Exhibit XII-IV of your testimony?

A Yes, I do.

Q Okay. And this is the July 10th, 1985 survey that you contend in testimony that we -- we read before the break that concludes that the shoe leak suspected in April 25, 1985 survey, in fact, did not exist. Is that right?

A So I've had a chance to look through the testimony again, and the exhibits, and it may be, I think, in -- in order to unravel this, I think I'm going to have to go to the testimony -- back to the testimony again, if you don't mind, to --

Q Sure.
A -- page --
(Crosstalk.)
MR. GRUEN: Mr. Zarchy, if you would.
Q And we have there -- is that the testimony that you need us to return to, Mr. Neville? This is the one that references footnote 29, which, in turn, references Exhibit XII-IV, I believe.
If we scroll down, Mr. Zarchy, to the bottom of the page.
A Okay. So page 13, the top of page 13, and -- and what I have on line 2, these are quotations from the records.
And so to read the quotations, it says, "Temp anomaly similar to, but breaks slightly higher than surveys of past several years."
And this was done on the 1985 survey. But, then again, it's -- to continue on, it says, "Noise logs, 7-84, 4-84, 2-83, and RA 7-84 indicate no leak above S1."
And it's -- in the testimony, there's a -- there's a period after "RA." But --
Q Okay.
A -- there should not be a period there, because there are -- those four

investigative -- actually, the three investigative noise logs and the RA 7-84 indicate no shoe leak -- no leak above S1.

And so that quotation is taken from the exhibit. It's not on the temperature log itself, but it's on the four pages, then, on one of the exhibits, on the activity report.

Q Okay.

A So --

Q Go ahead. Pardon me.

A But, if we could go back to the exhibit again --

MR. GRUEN: Go ahead, Mr. Zarchy.

THE WITNESS: So Exhibit 1-3, so the first is the actual temperature survey, as we discussed, July 10th, '85. The second page and the third page are the numbers associated with that survey. The fourth page are what I call the conclusions that were made at the time. And if you -- if you go one more page --

MR. GRUEN: Go ahead, Mr. Zarchy, follow him to the fourth. Actually, if you'll go one more.

THE WITNESS: Yeah.

MR. GRUEN: Yeah.

THE WITNESS: So if you go to the date, 7-16-85, yeah, and stop there, so in -- in

'85, which corresponds to that July survey, that -- the summary was made at that time, and it mentions what I had in quotes in my testimony. It said, "Ran temperature survey, anomaly above shoe similar to, but breaks slightly higher than, surveys of past several years." And then it says, "Noise logs 7-84, 4-84, 2-83 and RA 7-84 indicated no leakage above S1, will monitor."

So it's that text on that report that I included in my testimony to indicate that the engineers at the time believed that there was no shoe leak.

BY MR. GRUEN:

Q Okay. So if I understand correctly, you're relying on --

Mr. -- Mr. Zarchy, could you scroll to the top of this document?

So you're relying on this document entitled "Well Activity Reports for SS-25" in -- in order to make your con- -- support your conclusion that the July 10, 1985 temperature survey concluded that the shoe leak suspected on April 25th, '85 -- that survey did not exist. Am I tracking that correctly?

A I would say I'm relying on the -- the remarks here to demonstrate that the --

the engineers at the time who reviewed the '84 data, the three noise logs and the RA tracer survey, concluded in their remarks that there was no shoe leak, and that's what I hoped to demonstrate here, was that the engineers there at the time concluded there was no shoe leak.

MR. GRUEN: Mr. Zarchy, if we could go back to the testimony to the page we were just looking at, and if we go to the -- the prior page, I want to read the full sentence where it says, "However, the," and continuing the next page, "following temperature survey on July 10, 1985 concludes that no such leak -- such shoe leak existed."

Q So, Mr. Neville, is -- from reading what you just read, where does it follow that the -- from the July -- following the July 10th, 1985 temperature survey that information specifically enabled the conclusion that no such shoe leak existed?

A I think when I say following the temp survey on July 10th, obviously, that -- you know, that's a year or so after all of the '84 work. The conclusion is made on -- in the activities remarks, which was July 17th, if I remember -- July 16th.

So in line number one, following

temperature survey on July 10th, '85, concludes that no sur -- such shoe leak existed, and I just point to that -- to the summary in the remarks section of that activities report as showing that the conclusion was made at that time.

Q Okay. I'm tracking what you're doing here.

Mr. Zarchy, if we could go back, just to confirm, to the temperature survey we just looked at in Exhibit XII -- roman XII-IV, and if we scroll up, just for purposes of --

If I'm fully tracking, if I'm understanding correctly, is it your testimony that you could not turn to any part of this actual temperature survey to find a conclusion that the shoe leak suspected on the April 25th, 1985 survey, in fact, did not exist? You could not find that conclusion in this specific -- the actual July 10th, 1985 temperature survey. Am I understanding that correctly?

A I would say that's correct. I -- I think, based on this survey itself, that's a correct statement.

Q Okay. So if we could scroll down again to the next -- to the -- keep going --

to the well activity reports for SS-25 here, Mr. Neville, so, in relying on the well activity reports for SS-25, is it your methodology to say that the well activity reports for SS-25 should be the governing document over what the temperature and noise surveys say, then?

A Did you ask should the -- the remarks section be the governing document?

Q The well activity reports for SS-25 document, is it your view that that's the governing document over the temperature and noise surveys themselves?

A No. I would say that the surveys themselves are the -- the documents of record. That's the data. But, I would say that the conclusions were noted in the remarks section.

Q Okay. Understood.

Let's turn -- if we scroll back up, Mr. Zarchy, if you could scroll up to the graph part of the survey, and I'll -- I'll note the Bates number again. If we go down to the bottom of that for a moment, the Bates number is SoCalGas 16.0028. And if you scroll up --

So if we look at the data here, doesn't this temperature survey show the

zigzag that we were talking about earlier, at a conceptual level?

A So the temperature survey shows a -- a deviation of slightly above the S1 -- I think the S1 is on there -- certainly, above the S4. The largest cooling is the storage zone. So there is a secondary cooling above the storage zone. However, a noise log, when run across that temperature anomaly, doesn't show any noise above the S1. So that was the conclusion. You know, this -- this isn't a -- this is the temperature anomaly, but it's the summation of the three noise -- '84 noise logs and the RA tracer that were used to discount a shoe leak.

Q Okay. So, just so I'm understanding, I just want to back up for a second.

What we're saying -- what this shows us here, this July 10, 1985 log, the graph shows that there's a zig, if you will, of approximately 17 degrees of cooling, and then a zag, if you will, of approximately 27 degrees of warming trend --

A Could you give me the graph --

Q -- at approximate -- at approximately -- I was just getting there.

And I'm sorry for speaking over you.

If I'm reading right, it's at approximately just above 8500 feet. Does that look right to you? Would you agree?

A Yes.

Q Okay.

A That --

Q Go ahead.

A That cooling that you're referring to at approximately 8500 feet is the storage zone, is due to the storage zone, and the reason I know that is, if you follow the -- the cooling over to the wellbore diagram, somebody's notated S4. So that is -- somebody has die -- has put -- which is typical in our noise logs. But, the S4 is designated on the wellbore diagram to make these readings and -- and an -- an analysis of the -- the shoe leaks, potential shoe leaks, easier, because the geology is noted on the -- on the data.

Q Okay. What -- what about if -- if you could -- and I -- I understand -- I think I get your explanation.

But, what about the line, if you'll indulge the term, zigzag, again? It looks like approximately 8000 feet to maybe, oh, 8400 feet there's another smaller zigzag that

maybe there it shows about a degree of cooling there. Would you agree with that approximation?

A Right. And that's what would -- we would call a temperature anomaly.

MR. GRUEN: Okay. Okay. All right. Let's go to -- if we could enlarge this to where the notations are at approximately 8500 feet, and it may require a scrolling over, is it possible to enlarge even further?

Q And scrolling down, so there, we see the -- the words, SSSV, at the top, and next to it, if my -- my reading is correct, that's 8451 feet. Is that right, Mr. Neville?

A Yes, that looks correct.

Q Okay. And that stands -- SSSV stands for the subsurface safety valve that was inside the two and seven-eighths-inch tubing. Correct?

A It was integral to the tubing itself. It's the -- this was run in nine -- 1985. The -- the valve itself had been pulled, but the -- the housing, so to speak, is -- is being referred to here as the SSSV housing. It's --

Q Understood. And when you say that the subsurface safety valve had been pulled,

that means it was no longer working at this point in time, as -- at the time of this survey, is that correct, nine -- July of 1985. Correct?

A Yeah, it wasn't working, really. Yes, it wasn't in -- in place. It hadn't worked. It -- it failed. But, it wasn't in place, nor working.

Q And you said the housing was still there, so meaning there was something inside the tubing at approximately 8451 feet. Correct?

A Correct.

Q Okay. Was it stuck?

A No. It's actually threaded to the tubing itself. It screws into the tubing. So the -- the top of that housing screws into the tubing, and the bottom of it screws in the tubing. So --

Q Okay.

A -- it's impossible to pull that section out without pulling the whole tubing out.

Q But, SoCalGas chose not to?

A That's correct.

Q Okay. I think I want to just understand, where this subsurface safety valve housing screws into the tubing, does

that mean the screws -- they actually screw through the tubing? Is that right?

A No. The -- the threading on the -- the housing of the valve would be the same threading on the tubing. So there's two pieces of pipe that screw together, not -- not one within the other. They just screw together.

Q Where -- where is the subsurface safety valve in relation to the holes that you've described as crossover ports in your testimony?

A It's generally here, what's noted as the tops of these -- you know, these components can be of different lengths, like the subsurface safety valve is -- housing is -- is a certain length. I don't know that, offhand. So in -- normally, in -- in wireline situations, we note the tops on our schematics.

Q Okay.

A That's where it's threaded in. The actual location where the valve would be placed and the crossover port are going to be lower than 8451.]

Q If I could use the term "holes" because I think I understand them better instead of "crossover ports," I think we had

talked about that working for you. So if I'm understanding right, you're saying that the holes that were in the tubing are below where the subsurface safety valve housing is, the depth where the subsurface safety valve housing is, the 8,451.

Am I tracking that correctly?

A Yeah. I guess ports -- you know, holes could mean kind of they're unintentionally there, but a port is intentionally there. So, you know, it's -- I'm fine using the word "holes" to the extent that they're -- they are part of the subsurface safety valve system. They're intentionally there.

Q On-purpose holes, if I'm tracking that right --

A Right.

Q -- so to speak? Okay. Understood.

A Okay.

Q Helpful for my understanding.

A Okay.

Q Turning to the next item there, "WSO," which looks like, if I'm reading correctly, it's a bit difficult, but is that 8,475 feet deep?

A Yes.

Q And what does WSO stand for?

A Well, the term is a water -- it's called a water shutoff hole.

Q Okay. And what does water shutoff hole mean?

A All right. So what was done in -- to confirm cement integrity during the wells drilled in the earlier part of -- actually it was done in I think wells -- prior to conversion to gas storage. The water shutoff holes were intentionally shot in the casing after the casing was cemented.

The idea being that if one shoots a hole in the production casing and actually has a kind of a negative pressure situation set up, so they would run a fluid column in the tubing, which would set up a negative differential, if there were no water flowing in, the term "past the water shutoff," so that's where it gets in.

No water coming into that hole means that the cement integrity between the zone of production, which became the storage zone, it was used to prove cement integrity. It showed that water could be shut off. The water would come in since it was an oil-to-gas zone, the water would be coming in from above, another place. So --

Q Let me track that. Oh, go ahead.

I'm sorry to interrupt.

A Yeah. The short answer to the question is that it was a method approved and required by DOGGR to demonstrate cement integrity of the cement above the intended zone of production.

Q I'm going to try and put that in lay terms. Correct me if it sounds like I'm going to -- like I'm amiss. At some point for the WSO, SoCalGas -- and, again, put more on-purpose holes into the casing this time to see if there would be gas coming into the well at that depth, and then at some point water came in, and then at some point, once the water came in, SoCalGas wanted to plug the holes or the perforations, if you will, with cement.

I'm saying it in much less sophisticated terms, but am I tracking your answer correctly?

A No, not really.

Q Okay.

A So water shutoff -- this practice was done before modern casing cement evaluation logs. This was done by Tidewater and it was done in the '53, '54 time of drilling the well. The casing, after it was run, was cemented.

In order to demonstrate to DOGGR that the cement was placed and sealed off the production, a test was run to see if the holes would actually flow anything. If the holes didn't flow anything, then the cement was deemed sufficient. It was a good cement job.

Q Okay.

A So there wasn't any additional cementing after that, but it was merely a demonstration -- the holes were shot inside the cement and proved, you know, at the time that the cement integrity was there.

Q Okay. If we could -- so with the 8,475 depth of the water shutoff in mind --

If we could zoom back out, Mr. Zarchy, on this page, staying on this page but zooming out slightly.

You see the 8,475, those water shutoffs are at approximately the same depth as temperature anomaly; is that right? Shown on this graph; is that right?

A Well, by coincidence they're at the same depth of the temperature anomaly and the S4, which is the storage zone. So you're right. They are there at that same depth.

Q Understood. Mr. Neville, isn't it possible that the water shutoffs in Well

SS-25, the cement in them started leaking by July 10, 1985, as shown by the cooling on this graph?

A Not as shown by this cooling. Again, there was -- you could see the S1 right above the S4. There was no noise indicated in the noise logs above the S1, so there's no leak. If there were noise above the S1 and continuing up to what's called the MP and above, if there were a noise over a longer period of time, one could possibly say that the water shutoff holes were leaking or it could have been through the shoe or through the packer. But there was no leak -- and what we call a leak is a leak outside of the, you know, away from the storage zone. There was no noise above the S1 so --

Q Go ahead.

A Yeah. So I can't say that, you know, the water shutoff holes, you know, the gas wasn't moving between the water shutoff holes and the S1 or the water shutoff holes and the S4. They're so close to the S4, they're so close to the storage zone, there could have been some gas movement there at that time, but it wasn't the shoe leak, which by definition is the leak outside of the storage zone.

Q Let me just understand that. So is it possible that the cement that plugged the SS-25 water shutoffs had deteriorated by July 10, 1985?

A It's not something that we -- that I've seen normally that the water shutoff holes deteriorate. I suppose it's -- yeah, I can't deny that -- I mean -- because the storage zone is right there at the water shutoff holes and there's such an overwhelming cooling with regard to the storage zone, it really overmasks anything that the water shutoff holes would do. So I really couldn't say one way or the other.

Q So you can't -- okay. So based on this graph, even with the storage zone, you can't say that it's impossible that the water shutoff was leaking gas?

A I can't say that there's not gas moving into the holes that the water shut off. It's not -- I don't -- just looking at this data, I don't think it's possible to say that. But the fact that the gas doesn't move above the S1 is the reason there isn't a shoe leak.

Q Mr. Neville, have other water shutoffs in Aliso Canyon wells been found leaking in the past? Have you found that to

be the case?

A I have found, if I recall, water shutoff causing a shoe leak.

Q Okay.

Let's scroll back just into the notations, Mr. Zarchy, if we could.

So there you see packer or "PKR." That stands for packer; right?

A Right.

Q And that's at 8,486 feet?

A Right.

Q Okay. Just for relationship. Okay. And "Perf" stands for perforations below packer?

A Yes.

Q So there were -- these are more on-purpose holes?

A Yes, they would have been on purpose.

Q And that's in the casing; right?

A Yes.

Q In that case. At depths of 8,510 feet and 8,538 feet; right?

A Right.

Q Okay. All right. With that, I want to ask you a few more questions about the noise and temp surveys from Well SS-25. I recall that this exhibit was provided as a

reference to Footnote 29, which was cited at the end of the sentence on page 13, lines 2 to 3. And as we talked about, if we could go back to that, back to the reply testimony. Thank you.

So we were talking about those lines of testimony, the noise logs, the R/A, radioactive, tracer survey. Just with that in mind, let's go back to Exhibit SoCalGas-16, the exhibit to your reply testimony and let's turn to several pages down. Yeah.

Mr. Neville, what do you call this document that says, "Well Activity Reports for SS-25" at the top?

A Yeah, that's exactly what I call it. It's the Well Activity Reports for SS-25.

Q Okay. Just referring to -- I want to just probe this exhibit here, Exhibit 7-4. Can you show us where in this exhibit you provide the noise logs from July of '84, April of '84, and February of 1983 that you note in your testimony?

A Yeah, I didn't provide the noise logs in the testimony. I wanted to demonstrate that the engineers at the time confirmed no shoe leak. I didn't include the

noise logs in the testimony.

Q Okay. How about the July 1984 R/A tracer survey that you mention in your testimony. Is it -- did you provide it with supporting exhibits?

A Let me quickly check. It's not in this section of testimony, the reply testimony. I don't see it.

Q I want to be sure you've had a chance to complete your answer so I'll stand by if you'd like.

ALJ POIRIER: Let's go off the record.

(Off the record.)

ALJ POIRIER: Back on the record.

Please go ahead, Mr. Neville.

THE WITNESS: So I believe the question was did I supply any of the other 1984 noise logs or R/A tracer surveys in the testimony, and I can point to 1984 R/A tracer survey in the sur-reply testimony.

ALJ POIRIER: Is there an exhibit number on that?

THE WITNESS: It's Exhibit 1-2.

MR. LOTTERMAN: Actually, your Honor, I believe he's talking about SoCalGas Exhibit-22, beginning at page 0010.

Is that right, Mr. Neville?

THE WITNESS: Yeah. I'm trying to --

that is right. I'm trying to determine if it's a part of the data request in front of it, which I believe --

ALJ POIRIER: Let's go off the record again.

(Off the record.)

ALJ POIRIER: Let's go back on the record.

Mr. Neville, you can continue.

THE WITNESS: Okay. So if you can go to the testimony 21.0017.

MR. GRUEN: Let's follow him if you could, Mr. Zarchy, just so we're tracking. Should we be -- I think we should be scrolling up on the screen share.

Q Am I tracking that correctly, Mr. Neville?

A Yes. We're going to go to 21.0017.

Q 21.0017?

ALJ POIRIER: Let's go off the record again until we get the document up.

(Off the record.)

ALJ POIRIER: Let's go back on the record.

Mr. Lotterman, please go ahead and correct us where you think the information is.

MR. LOTTERMAN: Yes. Are we back on

the record?

ALJ POIRIER: Yes, we are.

MR. LOTTERMAN: I see.

Mr. Neville, Judge Poirier asked you where specifically in your testimony or exhibits are the study or studies you referred to. He doesn't want to -- he did not ask why you put them in or he did not ask you to link them to your testimony. So if you wouldn't mind turning to Exhibit 22, page .0010 through 19.

Are you with me? Mr. Neville?

THE WITNESS: Yes, yes. That's correct, yes.

MR. LOTTERMAN: So is that the tracer study -- is that the specific reference to the tracer study that you just talked about earlier?

THE WITNESS: Yes.

MR. GRUEN: Mr. Zarchy, if we could scroll down briefly to take a look at that to show his Honor.

Q Mr. Neville, are we tracking on the share screen the tracer survey for SS-25 that you referred to in testimony?

A Yes.

Q And it's part of exhibit -- if we scroll up, you're saying it's part of

Exhibit I-2?

A Yes.

Q Is it a complete copy of the survey?

A I don't know.

Q Okay. Thank you.

Your Honor, I see that we're -- I'm mindful of the time and of your guidance, your instruction that we finish by approximately 3:50. This can conclude the line of cross and give us a few minutes for housekeeping if you'd like.

ALJ POIRIER: That's fine. That makes sense. Thank you.

MR. GRUEN: Thank you, your Honor.

ALJ POIRIER: Let's go off the record.

(Off the record.)

ALJ POIRIER: We'll be back on the record.

While we were off the record, we handled some housekeeping matters. We confirmed that SED has exhibit numbers up to SED-399, so for now that should be sufficient. We also requested some additions to the format of the proceeding schedule from SED and reiterated that SoCalGas must provide searchable copies of the PDFs of its testimony and exhibits. Okay.

If there are no other matters, we're going to conclude for the day. Thanks, everybody. We'll be restarting at 10:00 a.m. Thank you and we will be off the record.

(Whereupon, at the hour of 3:49 p.m., this matter having been continued to Tuesday, May 4, 2021, at 10:00 a.m., via virtual proceeding, the Commission then adjourned.)]

* * * * *

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE

STATE OF CALIFORNIA

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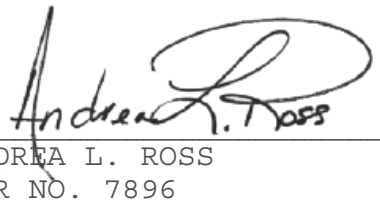

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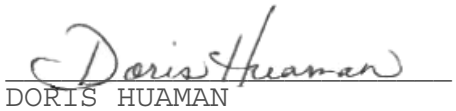

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Rebekah L. DeRosa

REBEKAH L. DE ROSA
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