STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION COMMISSION

ORIGINAL

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF DCP MIDSTREAM, LP TO REOPEN CASE NO. 13589 TO AMEND ORDER NO. R-12546 FOR THE LIMITED PURPOSE OF AUTHORIZING A SECOND ACID GAS INJECTION WELL, LEA COUNTY, NEW MEXICO

Case No. 13589

REPORTER'S TRANSCRIPT OF PROCEEDINGS
COMMISSIONER HEARING

BEFORE: JAMI BAILEY, Chairman
ROBERT BALCH, Commissioner
TERRY WARNELL, Commissioner

December 21, 2012
Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Commission, JAMI BAILEY, Chairman, on Friday, December 21, 2012, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South St. Francis Drive, Room 102, Santa Fe, New Mexico.

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ALSO PRESENT:

Theresa Duran-Saenz

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EXHIBITS

(Note: Hearing in session at 9:00 a.m.)

MS. BAILEY: Good morning. Today is Friday, December 21st, a meeting of the Oil Conversation Commission. To my right is Terry Warnell, Designee of the Commission of Public Lands. To my left is Dr. Robert Balch, Designee of the Secretary of Energy, Minerals, natural Resources, and I'm Jami Bailey, Director of the Oil Conservation Division.

We are meeting today for a continuation of case 13589, which is the application of DCP Midstream LP to reopen case No. 13859 to amend order number R-12546 for the limited purpose of authorizing a second acid gas injection well in Lea County, New Mexico. We do have a quorum of the Commission, and so we will continue with this case.

Mr. Rankin, I understand that you are through presenting your case?

MR. RANKIN: That's correct, Madam Chair.

MS. BAILEY: Then, Ms. Gerholt, do you have witnesses?

MS. GERHOLT: Madam Chair, the Division would call it's first witness, Bill Jones.

MS. BAILEY: Will you stand to be sworn, please. Will you swear the witness, please.

WILLIAM V. JONES

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. GERHOLT

Q. Good morning. Would you please state your full name for the record.

A. William V. Jones.

Q. And where do you work?

A. Oil Conservation Division, Santa Fe Office.

Q. How long have you been with the Division?

A. Ten and a half, almost eleven years.

Q. Could you briefly review your education for the Commission?

A. I graduated with geological and civil engineering from New Mexico State in 1979, and also, I have a degree in computer database programming.

Q. And prior to joining the Division where did you work?

A. I worked for Texaco for 20 years, starting 10 years in Hobbs, Lovington, and 10 years in Denver, and I consulted for a little while after that.

Q. And what were your primary responsibilities with Texaco?

A. Texaco, I worked vacuum field production engineering, and then we did mostly water floods, some primary production from there north, from vacuum field north and reservoir engineering. I did reserves for four years,

reservoir engineering for six years or so.

Q. And what have your primarily responsibilities been with the Division?

A. The Division has me working as an engineer overseeing mainly salt water disposal permitting.

Q. And would it be correct that you have approximately 30 years as an engineer --

A. Yes.

Q. -- in years and experience? Have you had an opportunity to testify before the Commission?

A. Yes. I have actually testified in this case before.

Q. Okay. And were your credentials accepted at that time by the Commission?

A. They were.

MS. GERHOLT: Madam Chair, the Division would move Mr. Jones in as an expert in engineering.

MS. BAILEY: Any objection?

MR. ALVIDREZ: No objection.

MS. BAILEY: Then he is admitted.

Q. (By Ms. Gerholt.) You mention that your primary responsibility with the Division is to review salt water disposal applications; is that correct?

A. That's correct.

Q. And do you also review acid gas applications?

A. I do.

Q. And about how many acid gas applications have you reviewed?

A. Probably about eight, eight or nine.

Q. And are all of those C-108 applications?

A. They're all submitted as -- as salt water disposal class II applications, correct?

Q. Which is a C-108?

A. Yeah, form C-108.

Q. And you stated that you previously testified in this case. Do you remember when that was?

A. 2007, I think. It was the first -- 2006, 2007.

Q. So you reviewed DCP's initial application for the AGI number 1; is that correct?

A. I did.

Q. And you reviewed this application?

A. I did. I have.

Q. When you review the application, what are you reviewing it for?

A. I review it as -- as if it was a salt water disposal application, because that's the rules that are in effect at this time, and basically we have a form that's part of a rule called C-108 form, and that form and the rules are intended to ensure that correlative rights are protected from the applicant proposing disposal of waste and

also, the prevention of waste, oil and gas waste if you're not injecting and going to damage an oil and gas reservoir and also, the protection of fresh water.

Q. Okay. When you review it, do you also review to make sure everything has been submitted that's required by the form?

A. Yes.

Q. And do you review the application to make a determination whether or not the injectate is staying in the proposed zone?

A. Yes, that's part -- part of New Mexico's enhancement to the EPA's UIC requirements is that disposal of waste stay in the zone permitted for.

Q. And your review of this C-108, did -- first of all, did DCP provide all the contract information?

A. They did.

Q. Did the application show that waste would be prevented?

A. It does.

Q. And that correlative rights are protected?

A. It did.

Q. And are you satisfied that the injectate would stay in zone?

A. I am.

Q. And are you satisfied that fresh water is

protected?

A. I am.

Q. There was some questions yesterday regarding the Conoco State #1 and the Goodwin #3. Do you recall that?

A. I do.

Q. And do you have those wellbore schematics before you?

A. I do. They are in the application.

Q. Okay. You may or may not need them for the question. I just wanted to ask if you had them available to you. Were those wellbores previously in the area of review?

A. Yes, basically these were the two -- the two that were previously in the area of review. I think there is one more right now, but there are two.

Q. Okay. Staying focused on the Conoco State #1 and Goodwin #3, you've had an opportunity to review the plugging of those wells; is that correct?

A. That's correct. I did it again this time. This is the twin well to the first one, and the first time I did it, also. I did it this time.

Q. Are you satisfied with how those wells were plugged?

A. I am.

Q. Do you think that they are properly plugged?

A. They're plugged in order to isolate and contain

the disposal of waste from this well.

Q. Okay. You mentioned now there's a third well. What is that third well?

A. There's a -- there was a third well drilled about the same time as this, the Linam AGI #1 was drilled, and it was by Mack Energy. I based a new area review on the location that was in the application. I think that was 12 -- 2120 from the west, 2120 from the south and came up with one more well. It was a Mack Energy well. It was drilled to about 8,000 feet, which is not the depth that we're looking at here, but -- and they ended up completing that well up hole about 6,700 feet in the drinkard.

Q. So does that well cause you any concern?

A. No, it's actually -- it's about 5,000 feet away, I believe.

Q. Okay. And there's an additional well that they're not -- there's the Linam AGI #1; is that correct?

A. I would correct my previous statement. That well is 3,421 feet away.

Q. Okay. Thank you, Mr. Jones.

A. Now, please repeat the question.

Q. Of course. There's an additional well now in that area of review, the Linam AGI #1; is that correct?

A. That's correct. That's correct.

Q. And have you reviewed that end of well report?

A. I have.

Q. And in your -- based upon your experience as -- well, let me stop myself. What did you review that end of well report for? What were you looking at?

A. Well, it was very interesting. It was a thorough analysis of the drilling, the casing, the completion, the cementing, the testing. They -- as an engineer I was interested in the testing they did while they drilled it and afterwards, the several tests they ran, and I looked at the logs on the well, also.

Q. And what is your technical opinion about that report?

A. It's a thorough report. Technically it has the drill stem tests they did on the -- on that type zone up hole and on the zone that they're injecting into, and they ended up finding that the reservoir pressure of the zone that they're going into was around -- I believe it's 3,200 pounds. So it's a little bit underpressured if you considered .433 as being normally pressured.

Q. Okay. Were you here yesterday when Mr. Gutierrez was discussing that the reservoir went on vacuum?

A. Yes.

Q. And in your opinion what does that mean for the zone, for an acid gas disposal zone?

A. Well, it means the applicant didn't waste their

money on this well. They have a good well. As far as disposal goes, it's -- whenever you drill and complete a disposal well and you have to stimulate it in any way, you've got probably a problem beyond a normal wash job, and so this well, they drilled it in a good spot. They have a reservoir that has got enough porosity and permeability, and it's not overpressured, so it's -- it's got the capability of hopefully taking what they want -- doing what they want it to do for a long time.

Q. Okay. And with the reservoir going on vacuum or maybe -- is it the well that goes on vacuum or the reservoir?

A. Well, it's just an observation of whoever's at the surface of the well. If you say "a vacuum", all it is is that if you -- if you put water in it -- they're not putting water in it. They're putting dried acid gas in it, but if they put water in it, it would go -- the fluid level would fall below surface and stabilize at a level below the surface at a certain level. So the reservoir does have some pressure. It's not like the reservoir is totally devoid of pressure, but it doesn't have enough pressure to extend fluid to the surface, so if you pour fluid in, it's going to -- you can do it without a big pump out there.

Q. Okay. Based upon your review of the C-108 application and the End-of-well Report, do you think DCP's

application for an AGI #2 is an approvable application?

A. It is, and I can elaborate if you want.

Q. Would you like to elaborate for the Commission?

A. I went through the checklist. It's basically --

Q. If I can slow you down, Mr. Jones. You say you go through the checklist. What's your checklist?

A. I just have a one-pager that I run everything through, and it pretty much summarizes what the rules are, and the C-108 form has it on it.

Q. And this is a checklist you use for every acid gas disposal well that you get a C-108 for; is that correct?

A. In every salt water disposal well.

Q. So please --

A. First of all, the location of the well, we don't have an API number yet. So sometimes when applicants propose a well, they propose it as a -- at a location, and they haven't gotten the API approved by the districts yet, so -- and then they'll have the bright idea of changing the well location. So that kind of threw me for a loop, but it's in the same unit, letter K. So I think my area of review is adequate, because I came out with around 22 wells in the area of review, but only two or three of those were at the depth, and those were the same ones that I came up with before, besides the one I mentioned earlier.

Q. Okay.

A. So the location now, it's something that the Commission will -- usually we try to be as specific as we can on location, and if we have an API number, that nails down the location, because that's specific to a footage location, but as I understand it right now, the location is 1,600 from the south line, 1,750 from the west line of section 30. So it's -- it's real close to the well that was previously permitted.

It's -- and the applicant is DCP Midstream LP. They have three wells that they operate. They don't have financial insurance issues or inactive well issues. So the rule 5.9 limitations on granting a permit would say they can -- they can be -- they can be granted a permit. The -- there's no well file to review yet. So we basically looked at the offset well.

What they plan to do is drill, equip and then inject. They plan on setting three -- four streams of casing. There's two intermediates in this case. We went over that yesterday in the previous testimony. They're going to drill the well to 9,100 feet, which is almost exactly the same as the previous well. It's going to be proposed in the same Lower Bone Spring, possibly Upper Wolf Camp interval from 8,710 to 9,085 feet. Those -- and they're going to inject through three and a half plastic coated tubing set at 8,650 with a diesel on the back side. Fresh water depths, they're

up to around 270 feet near potable water. I guess that's what we're talking about there, and I usually try to look at that. I talk to our district's geologist about the geology to make sure the formations were agreeable to him as far as the nomenclature, the formation.

Q. And were they?

A. He did agree. He said the geology is very complex out here, but it's -- but if you look at all the well files and look at the formation names, they -- they do use different formation names and certain wells around this area, but if you look at wells within a mile, it's pretty standard down to around the Bone Spring, and then it gets some variety there, but then the Wolf Camp comes in, and it's pretty consistent. Surface owners, State Land Office, they did notify the surface owner, State Land Commissioner. The south half of that section is State lands and the north half is Federal, FD lands. So they took care of all the notification correctly. The -- it's not. It's not producing in the interjection interval. It's actually injecting in the injection interval. There were two, old salt water disposal wells in this area that were shallower. They were around 4,500 to 7,000 feet, but they were really good wells for disposal, but they're no longer active.

Q. Okay. Would you recommend to the Commission approving DCP's application?

A. I would.

MS. GERHOLT: Madam Chair, I have no further questions. I pass the witness.

MS. BAILEY: All right. Any cross-examination?

MR. RANKIN: I just have one questions just for clarification, Madam Chair.

CROSS-EXAMINATION

BY MR. RANKIN

Q. Mr. Jones, you mentioned the Mack Energy well, and you had indicated that well was drilled down to 8,000 feet, am I correct, but completed at 6,700 feet?

A. Yes.

Q. Now, did that well actually penetrate the injection zone?

A. No.

MR. RANKIN: Thank you, Mr. Jones. That was my only question.

MS. BAILEY: Mr. Alvidrez, do you have any?

MR. ALVIDREZ: Yes, Madam Chair.

CROSS-EXAMINATION

BY MR. ALVIDREZ

Q. Good morning, Mr. Jones.

A. Good morning.

Q. As I understand it, the regulations under which you're reviewing the DCP permit are really intended for salt

water disposal wells; is that correct?

A. That's correct.

Q. And what you're having to do is kind of, I guess, fit the acid gas injection process within the framework for a salt water disposal process; is that correct?

A. Yes.

Q. Would you agree that they're -- the processes really are quite different?

A. In -- I would say they were similar. The waste, the waste stream is different.

Q. Right. And what you're injecting into the lower formations is very, very different between salt water disposal and acid gas disposal, correct?

A. Yes.

Q. And would you also agree that the -- that the acid gas we're talking about in this case was quite poisonous, quite toxic?

A. Yes.

Q. You'll have to answer out loud?

A. Yes, yes.

Q. And that the rules that you're applying, you're looking at whether -- as I understand it, you're trying to protect some fresh water. That's one thing. You're trying to make sure that the formations, what you're injecting, the acid gas is such that it's not likely to escape from that

formation, that sort of thing, but you know, we are dealing with very different type of constituent in terms of its properties, in terms of how it might be able to, you know, migrate or escape when you compare it to salt water?

A. Yes.

Q. Now, as I understand it, you know, we've talked about a couple of wells, the Conoco State 1 and the Goodwin 3, that are actually -- actually get to the Bone Springs formation, which is where this AG 1 -- the existing AG 1 and the new one will be injecting this acid gas; is that correct?

A. That's correct.

Q. And you heard Mr. Gutierrez's testimony yesterday. I take it that he's looked through the records, you know in terms of how the wells, you know, are documented, in terms of plugging, you know, looks fine to him, right?

A. Yes.

Q. And you've done the same thing as I understand it, you know, maybe as recently as yesterday or today, you pulled out the well plugging file and looked through it.

A. I did it --

Q. It looked okay?

A. Yes.

Q. So what we know about these wells is -- well, let me ask you, have you gone out to the location or anything

like that?

A. No, no, I used to live out there, but I haven't gone out there in the past few years.

Q. So what we know about these wells that penetrate down into the same formation is they look good on paper; am I right, but no one, to your knowledge, has actually gone out and tried to do any assessment about whether, you know, something has happened in the 30 or 40 years since they were plugged to alter things; is that correct? Is that a fair statement?

A. Yes, the only recent well has been the Mack well.

Q. Okay. But I'm not talking about the Mack well. I'm talking about, you know, the Goodwin and the Conoco. Do you have any information that anybody's gone and done any type of assessment of whether those -- you know, the P and A remains intact to this day?

A. Actually what I found on one of the wells is -- and three or four years ago when the Commission was hearing this, again, they were expanding the area review to a mile instead of half mile. I looked at one of the wells again, and I was a bit concerned about it, but I found out that what happened is they plugged the lower part of the well first, and then they came back later and plugged the last part of the well. So -- so then I looked at it again through this -- in this application.

Q. But that was a paper review though?

A. Yes, it was.

Q. And what I'm really talking about is someone going out and trying to assess, you know, on the surface or, you know, by some other method whether these, you know, plugs remain intact?

A. They would --

Q. Has anyone done that?

A. Not that I know of. That would -- I don't know how that would -- you would do it.

Q. I was going to ask are these processes available to be able to tell?

A. There is. You would have to drill out those plugs to make sure that they were where they are and then plug it back and tack the plugs when you do that.

Q. In terms of, you know, processes that might be available to detect whether co2 or -- well, let me just make it more general -- just acid gas might be leaking. Are there any type of soil vapor surveys that can be done or any analysis that you're aware of that you could track that or determine that?

A. There -- I'm not aware of any. I wish I were, but I'm more of a downhole person than a surface person.

Q. Is there anyone at the division that would have that knowledge or expertise to your knowledge?

A. There's several that are a lot more knowledgeable than I am on that.

Q. Okay. Well, but based on your experience would you expect someone who had an active drinking water well in this area to -- if they put a monitor, an H2S monitor, you know, at the tap that they would get a reading of H2S?

A. I wouldn't expect that it would happen unless it's mining quantities that were caused by sulfate-reducing bacteria or something like that.

Q. Okay. And what if that testing was done, and bacteria was ruled out as the cause?

A. Then I would call in the experts.

Q. And who would those experts be?

A. I'm not sure actually. Better to say, I'm not sure who would they be.

Q. Anybody in-house at the Division?

A. We have a -- we have an environmental inspector in Hobbs that would know a lot more about that. Geoff Leking I think is his name.

Q. Okay. Now, with regard to, you know, your -- your assessment, I guess, is it fair to say all of your work is really, really done on a paper review basis? You basically look at the application's supporting data and that sort of thing; is that a fair statement?

A. That's true. That's true.

Q. Now, I understand that just shortly before this hearing, that the OCD asked DCP to do some water samples. Did you have any involvement in that?

A. I did.

Q. Okay. And what was it -- what prompted you to ask DCP --

A. It was just another one of my checklist items that -- I saw the wells identified, but I didn't see a recent water analysis on the well, so I just -- I mentioned it to an attorney, Ms. Gerholt, and they went from there.

Q. Okay. And did you pick out the wells you wanted them to sample?

A. I didn't. I didn't. I noticed there's about 18 wells within a mile.

Q. Did you tell them, you know, do a couple wells or 10 percent?

A. I didn't do that either.

Q. Just said you want some water samples?

A. There was --

Q. And when you -- when you asked for those water samples, did you know that the Smiths had been reporting issues with the water well that they had?

A. I saw their name on the list of -- from this case, and I heard something about that they might be concerned about their water, but in honesty it was just one of my

checklist items, and I didn't guide them on how to do the analysis or what sort of analysis. There's a big range of analysis you can do depending on what you're looking for.

Q. Well, if you were trying to identify whether or not you've got H2S in the water, what analysis would you order?

A. Geoff Leking would be much better to say that. I wouldn't just use the standard oil field analysis of catines, atines, scaling tendencies and corrosion tendencies. I would also ask for more -- I would go talk to our environmental people that knew more about it, and then I would make that decision.

Q. Fair enough. Knowing that the Smiths had raised an issue about their water well, why didn't you ask DCP, you know, say, "Check with the Smiths, see if you can do some analysis of their water in connection with this permit?"

A. Well, I -- I was just asked to look at this for -- for approvability purposes, and I didn't -- I just -- I didn't do that.

Q. Do you think it would be a prudent idea?

A. I think -- I think it sounds like a logical thing to do. It does.

MR. ALVIDREZ: Thank you. I don't have any further questions.

MS. BAILEY: Mr. Warnell.

MR. WARNELL: Thank you.

EXAMINATION

BY MR. WARNELL

Q. Good morning, Mr. Jones.

A. Good morning, Mr. Warnell.

Q. First -- well, I just have a couple very short questions. First question deals with MIT frequency. If this well is approved, do you have -- how would you weigh in as the frequency of the MIT? You know, we'd heard numbers from one year to five years to six?

A. Our next witness is going to talk about that, and he's -- he's more capable of relating that than I am. Our district manager in Hobbs is very experienced, and he has been working with DCP on this. Personally, you ask me the question, and I would -- I would say at least once a year.

MS. GERHOLT: Excuse me, Madam Chair, it's 9:30.

MS. BAILEY: Let's take a minute to reflect on the tragedies that have recently occurred in Connecticut.

(Note: A short pause in the proceedings.)

MS. BAILEY: Thank you.

Q. (By Mr. Warnell.) Thank you, Mr. Jones. Did I hear correctly you said at least once a year?

A. Yes, sir.

Q. Thank you. Second question, going through OCD's well file for the #1 well, I noticed a C-103 that Mr. Hill,

then Hobbs District Manager back in July of 2009, put a memo, a note on the C-103 that says, "Diesel fuel may not be used as a packer," and then somebody scratched that out and a little while later and said, "Okay per Will Jones."

A. Yes, sir.

Q. Could you please expound upon that and tell us why you were opposed to diesel, or were you just --

A. Yeah, I was not opposed to diesel. I think Buddy -- that was Buddy Hill in Hobbs, and he was a bit concerned that, you know, if it -- I assume he was concerned if it would burp out to the formation or on the surface or invade the fresh water somehow, but I talked to him, and it's similar to what Mr. Gutierrez talked about. For dry acid gas wells, we try to keep all the water away from them as you can, and diesel is, you know, pretty much an inert fluid. It's -- unless you really compress it, it's not gasoline. You know, it's a pretty good back side. It's accepted to use diesel on the back side of dry acid gas wells.

Now, the wells that they're alternating, which we like them doing that, but some operators want to alternate water and acid gas, and they use just a corrosion inhibited inert packer fluid, but diesel -- it turns out in this case, though we found out in this well that we definitely need to also add the inhibitors into the diesel, because it has some

water break out, and it's lighter than water. So it will float, so --

Q. But your comfortable with diesel in this submission?

A. I am.

MR. WARNELL: Thank you. That's all.

MS. BAILEY: Commissioner Balch.

EXAMINATION

BY MR. BALCH

Q. You're the downhole guy, Mr. Jones?

A. I've got to be something.

Q. So you've seen a lot of these well design diagrams?

A. Yes, sir.

Q. And I'd just like your opinion about the design of the AGI 2, proposed AGI 2.

A. That's a good question. The surface pipe I intend to talk about to our geologist in Hobbs before he permits the well to make sure that he -- we can talk about -- make sure it covers all of the possible protectable fresh water zones with the caveat that as you get deeper, you get saltier and saltier, and you don't want to expose it while you're drilling to potable water to the saltier water, but surface pipe from the records looks good. It's almost double the depth of the reported potable water. So that

looks good.

And the business about running the two intermediates, I like that idea here. They still might have to use a diverter tool on the last intermediate because of that off-circulation zone that turns out it was real close to the one they drilled through and tested but not quite. So they might -- they might need to do that, but yes, the intermediates -- and in Lea County in some troubled areas, which this is really not one of them, but they do use two intermediates. They use one on top of the salt and one through the salt, pretty much, and in this case it's for a different reason, because of the loss circulation zone, pretty much Glorietta. The geologists call it that, but it was about that depth.

The very first well, they used one intermediate string, and they -- the diverter tool was 5,700 feet deep, and it -- on the final screw string. So the stage one cement didn't quite circulate to the DV tool; 300 feet difference, but above the DV tool, it did circulate, and -- but this gives them a chance to use better cement and ensure that when they drill through -- this well, when they -- it needs to be cased adequately before they drill through that plume, Because I'm interested to see what they encounter as they get closer and closer to the formation.

As you know, the acid gas is -- in this case it's about

42 molecular weight, if you take CO2 and H2S and combine them in those ratios. So methane is, what, 16? So it's -- it would sweep methane. So like in Canada, they call it enhanced gas recovery, you know, in some cases, but pretty dangerous operation I'm sure, but I'm interested to see what shows they get as they get closer to this formation.

And we always need to verify the caprock. They've done the macros imager on the first well, but it's because of the buoyancy effects, you need to verify the caprock and see what happens as you drill through. So their idea to set the second intermediate at 8,600 feet, I like that idea.

Q. Now, typically they will have H2S monitoring at the surface? They'll realize it if they run into H2S in the fluid?

A. Yes, I think the next witness will talk about that a lot more, because he's already worked with them on the -- on the preliminary well design, but that's very much a concern; make sure everybody's safe when you drill through that salt.

Q. My other question is perhaps a little bit unrelated, but it has to do with wells that are drilled out to check for -- or not in this particular case but in other cases, we've heard on acid gas, the Commission has asked for companies to go in and replug wells. So drill out the existing plugs and put in new plugs at certain intervals,

make sure everything is -- is protected, and that was Mr. Alvidrez's point. Have you had opportunity to review the records for drilling out some of these wells?

A. The two wells that are in question here?

Q. Not these two wells. I'm talking about other class 2 wells, and if there has been an attempt to go in and replug the well.

A. Yeah -- yes, I have.

Q. How closely do they -- when they -- when they drill out, plug the well, you get a report. It will tell you where they encounter a plug and that they drilled through it and they encounter whatever fluid was behind that go down to the next plug and so on. How closely -- or have you compared those reports to the original plugging reports to see if those plugs were where they expected them to be?

A. I've only heard the fore- -- the drilling foreman talk about that, and it's more likely that they will encounter that plug where they -- where it's reported if -- of course, it was tagged, and that's -- our current practices are that in a lot of cases, that plugs be set and then -- and then tagged after they set up before they move up and set the next plug. So it really depends on the -- on the well as to whether you think something like that needs to be done and --

Q. Generally once a well's plugged it's never

reentered?

A. It's not.

Q. Unless somebody's going to try and produce from a different zone or something like that?

A. Or inject into a zone where the plugs are not containing the permitted injection interval, yeah.

Q. So in your experience, it sounds like maybe plugs are where you expect them to be generally or --

A. I look also -- the first thing I look at is if they ran pipe and at the cement top of the pipe as it relates to the injection zone of a well we're looking at, and if that is good, then the internal plugs are less of a concern, because -- because then you've got cement on the outside. But if you're plugging an open hole or a dry well, where they didn't run casing, and especially as you go back in time, then you look at how far back in time it was and what type of -- how many sacks they use.

Q. Well, the wells in question here are a Goodwin and the Conoco?

A. Yes.

Q. And those were drilled in the '60s?

A. Yes.

Q. And I think plugged in the '70s and '80s?

A. Yes, '70s and '80s are with better than the '40s and '50s. We've seen some problems in the '40s especially,

and I think these are pretty well plugged, but it's a paper trail.

Q. But you don't have any particular reason to doubt that they reported it correctly?

A. I don't. I don't. They looked -- they looked good do me. I -- especially the one well that was -- I was really worried about it several years ago when you guys were getting ready for your next hearing, and I looked at it again, and then I found the record that they had -- they had really plugged it from that zone on up. So I was happy about that.

MR. BALCH: Thank you.

MS. BAILEY: I have no questions. Do you have any redirect?

MS. GERHOLT: I do. I just have a couple of questions.

REDIRECT EXAMINATION

BY MS. GERHOLT

Q. In regards to the review of records for the Conoco State #1 and the Goodwin #3, you review records on a daily basis, correct?

A. Correct.

Q. And you -- if an area review for acid gas disposal wells or salt water disposal wells, you're reviewing all of those wells that are in that area of review?

A. Correct.

Q. So you have a good basis of knowledge for whether a well has been properly plugged or not?

A. Well, I've looked at about -- area reviews of about 600 wells since I've been here, and that's half a mile around each one of those wells. So I looked at a lot of them. Now, our district office gets a copy of each application, and they look at the issues, also, but --

Q. Right, but you -- what you've done --

A. Done a lot of them, a lot of them.

Q. And have there been times where you've said, "No, this well hasn't been properly plugged," based upon a record review?

A. Oh, yes. Oh, yes. In that case, what we do is we put in -- we talk to the operator and see if they're -- applicant, see if they're amenable to a conditional permit. If they're determined not to replug those wells, we just deny the permit.

Q. Okay. And this is all based upon record review?

A. Yes.

Q. Okay. In regards to Rule 26, the injection rule, is that the rule that applies to acid gas disposal wells?

A. It's a rule that applies to salt water disposal wells.

Q. To disposal wells?

A. Disposal wells.

Q. And are disposal wells classified as class II by the Environmental Protection Agency?

A. If they come from oil field waste, they are, yes.

Q. And is this acid gas part of oil field waste?

A. Yes, it's -- we've asked them repeatedly, the EPA in Dallas, and they say these are class II wells.

Q. Okay. So you do a class II -- class II review?

A. All of the -- all of the OCD rules are at least as stringent as the EPA rules, or they have to be that way. Otherwise the EPA will not accept them.

Q. Okay. You've told this Commission you're the downhole guy. I have a question for you about --

A. I'm just one of the downhole guys. The only one.

Q. -- about DCP's proposal to include a downhole sensor. Did you see that in their C-108 application?

A. I saw it -- I heard about it yesterday.

Q. What are your thoughts about that?

A. I think it's a great idea. I think -- the only other ones I've heard about in that respect, and I'm sure Commissioner Balch has heard of that, but pressure sensors below the casings, external casing packers and inside wells, the permanent readouts that would gather information and the fiber optics world has advanced to where maybe it's cost-effective for them to do that, but I think it's wise

for them to do that, if they can keep that fiber optics line in place without it deteriorating.

MS. GERHOLT: Okay. Madam Chair, I have no further questions for this witness. I would ask that this witness be excused so he can go.

MS. BAILEY: You may be excused.

THE WITNESS: Okay. Thank you.

MS. BAILEY: Call your next witness.

MS. GERHOLT: Madam Chair, the Division would now call Elidio Gonzales to the stand.

ELIDIO L. GONZALES

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. GERHOLT

Q. Would you please state your full name for the record.

A. Elidio L. Gonzales.

Q. And where do you work?

A. OCD, Hobbs District.

Q. How long have you been with the Hobbs District Office?

A. Thirteen years.

Q. And what is your current position with the Hobbs District Office?

A. District manager.
Q. And how long have you been the district manager?
A. Two and a half years.
Q. And prior to that, what position did you hold at the Hobbs District Office?
A. Compliance officer.
Q. And as a compliance officer what did you do?
A. We were in charge of all of the field testing, entering of information, compiling, witnessing MITs, and in general, all of the footwork that's to be done in the field for that office.
Q. And as a district manager what do you do?
A. What I do is I look at that information and pretty well decide where that information goes and the people that need to know about this information that's being gathered.
Q. Okay. Have you ever had the opportunity to testify before the Commission?
A. No, ma'am.
Q. Well, let's give them a brief review of your work history.
A. Yes, ma'am.
Q. Prior to coming to the Hobbs District Office where did you work?
A. I worked for Humble Oil and Refinery in drilling. I worked for, later became Exxon Company USA. I was

transferred from drilling into production. From -- I've been in the oil and gas business all my life. I was an independent oil producer and became part of the OCD in the later years.

Q. Mr. Gonzales, how many years were you with Exxon?

A. Twenty-seven.

Q. And you stated you had started out in drilling with Humble?

A. Yes, ma'am.

Q. And were you also in the drilling department for Exxon?

A. That was part of the drilling part of it, all of it.

Q. And then you transferred over to the production?

A. Yes, ma'am.

Q. Was that typical to go from drilling to production?

A. Under the circumstances at the time, no, it was not typical, but we elected to go ahead and stack out our rigs, and at that time, the company had, Exxon Company -- Humble Oil and Refinery at the time had their own drilling rigs, and when they decided to go ahead and stack the rigs, that's to lay them down and not use them any more, they at that time transferred the people to different areas. I was transferred to production in those years, and that's where

my production started on it.

Q. Okay. Approximately how many years of experience do you have in drilling?

A. Eight, ten years.

Q. And how many in production?

A. Twenty-five, thirty years.

Q. Okay. Would you consider yourself incredibly familiar with wellbore schematics, with the tools necessary to drill a well and to complete a well?

A. I understand them.

Q. You do?

MS. GERHOLT: Madam Chair, I would move Mr. Gonzales in as experienced in well drilling production.

MS. BAILEY: Any objection?

MR. ALVIDREZ: No objection.

MS. BAILEY: He's so admitted.

Q. (By Ms. Gerholt.) Mr. Gonzales, have you ever had the opportunity to either drill or produce an acid gas injection well?

A. No, ma'am.

Q. Have you had the opportunity to either drill or produce enhanced recovery wells?

A. Yes, ma'am.

Q. Are there similarities?

A. Yes, ma'am.

Q. And what are those similarities?

A. They're both -- the product is injected through the tubing below a packer into a designated zone.

Q. Okay. And what's then the difference between an enhanced recovery well and a disposal well?

A. Your enhanced recovery system is based -- or is to recover, enhance, increase bottom hole production, to enhance production, and it is used as a sweeping effect in the same production zone is where you inject your product.

Q. Are there similarities in tubing for disposal wells and for enhanced recovery wells?

A. Yes, ma'am.

Q. And you're aware we're here today because DCP has sought to have a second acid gas injection well at their facility?

A. Yes, ma'am.

Q. You were here yesterday, were you not?

A. I was.

Q. And you heard DCP's witnesses discuss that they had conversations with you about the need for a second acid gas injection well; is that correct?

A. That's correct.

Q. Is there anything that you would like to add to what was already stated about those conversations?

A. I think it was -- all subjects were well covered.

Q. So the conversations were accurately described?
A. Yes, ma'am, they were.
Q. Do you think a second acid gas injection well at this facility is a positive?
A. Yes, it is.
Q. Why?
A. You're going to have -- it's going to be good for industry. It's going to have a lot of safety factors both for the public, environmental, and it's going to be very cost-effective, because we're not going to have the waste that you would have if you were to shutdown the existing well. Everything will back up. Everybody in the field will have to flare. That flare is going to cost money. The flaring effect will also cause downhole damage on the wells.
Q. How will it cause downhole damage?
A. What happens, if you're not able to produce a well in a certain amount of time, it's -- according to what area you're in, and it has a tendency -- it's called "watering out" or it damages the wellbore to some extent that you're going to have to spend extra money to produce that well in order to get it back to its standard production.
Q. I'm sorry to interrupt you. Does that lead to waste?
A. Yes, it does.
Q. And is the Division supposed to prevent waste?

A. They are.

Q. Have you reviewed the C-108 application in this case?

A. I have looked at it.

Q. Have you reviewed the proposed four streams of casing?

A. I have.

Q. What are your thoughts about that?

A. I think it's very good. Something that I listened to yesterday and thought about, when they showed the screen, everybody looked at that. If you noticed, we're talking about protecting all of the upper zones that we have, but running four stream in any well, especially this one right here in the way it's constructed, whenever you get up there in about 3,200 feet, you already have three casing streams that are circulated cement to surface. Whenever you get almost to your fresh water zone or water bearing zones, below that, well below it, the way this is set up -- Will pointed out, our geologist will check it out again, but when we see the setting of that surface you're going to have four streams of casing that are going to be protected. It's going to protect your fresh water system. Cement casing and then it goes on.

Q. Okay. And are you aware that DCP has also proposed to use a corrosion resistant alloy?

A. Yes, ma'am.

Q. And that they want to seat the packer in that; is that correct?

A. Yes, ma'am.

Q. What does that mean really in laymen's terms?

A. The construction of the pipe that they're going to be using, a thousand feet on the injection system itself, the pipe, is going to be of this special metallurgy. The -- where the packer will be setting, a thousand foot on the casing, will also have this type of metal. The metal they're using is -- is a high grade. It's a very protective metal. We have learned from -- as well I've learned today, yesterday, the heating, the expansion, the dissipation of fluid in the diesel will settle into this area in the enhanced corrosion inhibitor. Plus, the metallurgy that you have is going to really be a plus for this well.

Q. Okay. Drawing your attention to AGI #1. Last year about this time there was an issue with that well; is that correct?

A. Yes, ma'am.

Q. And were you notified of that?

A. I was.

Q. And why were you notified?

A. It came to the District at that time. The division revised in our order from a five-year MIT test to a

two-years MIT. At that particular time, the time frame was very close to that, that we were supposed to run a second or the next MIT. When that came about, then the District was instructed to go ahead and follow through with that MIT. I worked with the field people as far as procedures, what we were fixing to do, and instructed them accordingly. It was at that time that it was brought out -- it has been brought out that there was -- we let some diesel out of the back side, some pressure off the back side to attempt to try to get down to a testing. When we found out that the well did not bleed down properly, at that time Division was notified. DCP was notified. We were all -- and the next step then came to Santa Fe for engineering and other people to look at to get with this.

Prior -- prior to the District's looking at the acid gas wells, that was handle in-house here in Santa Fe, and that was our avenue at the time.

Q. Mr. Gutierrez testified yesterday about receiving the continuously monitored data from DCP that he then analyzed over a weekend. Were you here when Mr. Gutierrez testified to that?

A. Yes, I was.

Q. And do you know what data sets he's referring to?

A. Yes, ma'am, I do.

Q. Did you have an opportunity to also review that?

A. Yes, ma'am. I did not review the total data that he looked at, but I did --

Q. What did you review?

A. The C-103 that he submitted to the District.

Q. So you reviewed that C-103?

A. Yes.

Q. And based upon your review of it, did you do anything or have any concerns?

A. At that time, the -- we talked, Mr. Gutierrez and I talked, made sure that we understood all that we were seeing at that time on the graphs that he submitted and to understand the C-103 correctly.

MR. ALVIDREZ: Madam Hearing Officer, I'm sorry to interrupt, but I understand that we will have some people calling in at 10:00 o'clock. Would it be appropriate to dial the phone --

MS. BAILEY: Why don't we take a ten-minute break, get Mr. Leking on the telephone, and reconvene at 10:10.

MS. GERHOLT: Okay. Thank you.

MR. ALVIDREZ: Thank you.

(Note: Hearing in recess at 10:00 a.m.

and reconvened at 10:13 a.m.)

MS. BAILEY: We're back on the record, and you were in the process of talking about --

MS. GERHOLT: If I may re --

MS. BAILEY: Yes.

Q. (By Ms. Gerholt.) I believe we were just discussing when about a year ago this time the Hobbs District Office had received a C-103, Mr. Gonzales. You reviewed that C-103; is that correct?

A. That's correct.

Q. You called Santa Fe; is that correct?

A. Yes, ma'am.

Q. And from there what occurred?

A. At that time it was mostly handled by Santa Fe, and we're using their guide. They were guiding us in the field at the time. As I mentioned earlier, before that, the Districts weren't involved in those particular kind of wells. All of the wells were our responsibilities. The acid gas was handled by the District here. It was a communication between us, DCP and Mr. Gutierrez. It was pretty well -- there was constant communication with this.

Q. Mr. Gonzales, were you provided immediate notification of issues?

A. I was.

Q. And did you provide that information to Santa Fe?

A. Yes, I did.

Q. Was there an agreed compliance order entered into?

A. Not at that time.

Q. What occurred at that time?

A. We were working, trying to figure out what was going to be our next step on that, because the situation with one well that you have out there, what it was fixing to cause if we shut this well in, we called it bottlenecking, what it was going to -- industry was fixing to get involved into this. This was my first -- I don't know about Santa Fe at the time, but there was a lot of things that we needed to look at, and that's what we were doing while that was being worked out, this compliance issue.

Q. Okay. And all sorts of different things were looked at; is that correct?

A. Yes, ma'am.

Q. And then there was an agreed compliance order?

A. Yes, ma'am.

Q. And were you -- were you provided with C-103 reports on a weekly basis at first?

A. Yes, I was.

Q. And did that transfer into a monthly basis?

A. Yes, it did.

Q. And to the best of your knowledge, all aspects -- to the best of your knowledge were those requirements in the agreed compliance order met?

A. Yes, they were.

Q. Okay. Did DCP conduct an MIT on the AGI #1 about the spring of last year?

A. Yes.
Q. Spring of this year, spring, 2012?
A. Yes, ma'am.
Q. Were you there to witness that?
A. Yes, I was.
Q. Can you -- the Commission probably knows, but for edification purposes --
A. Yes, ma'am.
Q. -- will you explain an MIT?
A. Yes. An MIT is pressuring a well that has a packer in place between the tubing, which is your production and the casing that we talked about, the back side. It has to pass a certain pressure for a certain amount of time for it to pass its test, and that well did.
Q. Okay. And has that well had a second MIT since then?
A. Yes.
Q. And did you witness that MIT?
A. I did.
Q. And did it pass that second MIT?
A. Yes, it did.
Q. The Division is -- does the Division oppose this granting of a second well?
A. I'm sorry?
Q. It's a poorly worded question. What's the

Division's position on whether or not DCP's C-108 application should be approved?

A. I think it's positive.

Q. And the Division has asked for the Commission, if it so chooses, to approve the application to include certain requirements; is that correct?

A. That is correct.

Q. And of one of those requirements is a yearly MIT?

A. That's correct.

Q. Why?

A. The shortening up of the period when we started before it went from five to two. Now, on the #1 if I may, we're doing six month MITs. DCP has elected to work with us on that. The yearly is a very good monitoring tool. We have this fluctuation of pressure, and when we see it on charts, we need to verify. We also talked a little earlier about if there is an anomaly there that we do not understand, we'll immediately do an MIT, regardless if it was six months after that yearly or at any time. That's when we'll perform the MIT.

Q. But a yearly is a good baseline?

A. Yes, it is. It's very good.

Q. One of other requirements that the Division is asking for is these basically realtime observations that DCP is making, that those would be reported monthly on a C-103.

A. That's correct.

Q. Why?

A. Because the amount of information that they gather is very large. What they do is they'll consume that into a monthly report, and it pretty well takes -- it shows all of the charts. It shows all of that work that they've taken together. It shows all of their documentation on one form. It's very helpful for us to look at.

Q. Useful tool for the District?

A. Yes, it's a very good tool.

Q. How long does OCD keep its records?

A. The records that we get are -- we scan immediately into the well file that are kept for a very long time.

Q. Okay. And are all files we did or all records we receive for a well, if you have an API, can a member of the public search that?

A. Yes, they can.

Q. One of the other requirements that the Division has requested is development of immediate notification parameters with DCP; is that correct?

A. Yes, that is correct.

Q. First of all, what are some of those parameters that you think should be included?

A. In those, of course, they have all their H2S monitoring in place. The notification that they're going to

have, we talked about that. Any anomaly that they see in the data, that they picked up, they will immediately contact us. They run a 24/7 at their place. We also have means to be on staff 24/7. So that the communication is there. We can get immediate communication.

Q. So should those parameters include annulus pressure?

A. Those are scheduled, yes, ma'am.

Q. What about tubing and casing differential pressure?

A. That is what we're talking about earlier. If we saw any type of anomaly between those, it will alert us. Those pressures are what I'm talking about that are gathered every 15 seconds or so. I have not seen their panels. I have not seen their operations, internal operations on how they gather information, but I do know that they take this information, it's documented, can be looked at at any time, and that is what is condensed into the monthly that I get.

Q. Mr. Gonzales, how do you envision -- if the Commission chooses to do this, how would you envision the Division and DCP determining those immediate notification parameters, through a series of meetings, discussing, looking at what's done, what has been done previously? Let me rephrase the question.

A. Please.

Q. If the Commission were to grant this application and then to include the Division's requested requirements of setting up immediate notification parameters, would that be something that can be handled at the District level?

A. That's correct.

Q. And that would occur through conversations with DCP?

A. Yes, ma'am, and their submittal of their C-103s immediately.

Q. Okay. And would 30 days prior to injection provide enough time to set up some baseline notification parameters?

A. Are we talking about the new well that's to be drilled?

Q. Yes. Just talking about the new well right now.

A. Okay. Thank you.

Q. So on the new well, if it's granted, would it be feasible to set some parameters prior to injection?

A. Yes, ma'am. It'd be a guide.

Q. Okay. And then at some point after injection, say 90 days?

A. Yes, ma'am, six months.

Q. Six months. Would it be feasible to sit back down and review those?

A. Yes, ma'am.

Q. And why should that be done?

A. Because you -- you're actually -- the well is beginning to stabilize. You're getting -- it stabilizes your well. As your well stabilizes, you're going to have to periodically look at your monitoring, your pressures that are going in and your temperatures that are going in and how that's effecting your well.

MS. BAILEY: Geoff, you may want to mute your phone until we call on you. Can you hear me, Geoff?

MR. LEKING: Yeah, I had it muted.

MS. BAILEY: Okay. Thank you.

MS. GERHOLT: There's others that have called in now.

MS. BAILEY: Okay. Thank you.

Q. (By Ms. Gerholt.) And then the Division has also requested to review those parameters on a periodic basis but not less than one year?

A. Yes.

Q. Why?

A. For the same purposes that we're looking at. We want to make sure that everybody is -- knows exactly what this well is doing.

Q. Okay. And could you envision that coming about the same time as the yearly MIT is conducted?

A. It could, yes.

Q. Okay. Switching gears, drawing your attention to July 2012, so this past summer, did you receive a call from Mr. Smith?

A. Yes.

Q. And do you recall what the call was in regards to?

A. It was -- he wanted to report that he had encountered some H2S in a water well.

Q. And what did you do?

A. Immediately got a hold of our Environmental Department, Mr. Geoff Leking, and passed that onto him to work with Mr. Smith.

Q. Okay. When you get a citizen complaint, what do you do?

A. It's according to what kind of complaint it is. The water complaint, if it's environmental, it goes to our environmental staff. If it has anything to do with a leak or in town, whatever one of my compliance officers is handed there or myself, we'll follow up immediately.

Q. Okay. And in regards to this complaint, was it handled in the normal course of business for citizens?

A. Yes, ma'am, it was.

Q. And do you know what happened after you assigned it to Mr. Leking?

A. I believe that he is still working with Mr. Smith on that.

Q. Okay.
A. It's continuous.
Q. It is continuous?
A. Yes, ma'am.
MS. GERHOLT: Okay. May I have one moment, Madam Chair.
MS. BAILEY: Okay.
MS. GERHOLT: I have no further questions for this witness. I pass the witness.
MS. BAILEY: All right. Do you have some questions, Mr. Rankin?
MR. RANKIN: I have a few, Madam Chair. Thank you.

CROSS-EXAMINATION

BY MR. RANKIN

Q. Good morning.
A. Good morning.
Q. You reviewed the C-108 DCP submitted, a copy to you as well; is that correct?
A. I didn't review it in depth. I did review it.
Q. You're familiar with it?
A. Yes, I am.
Q. In reviewing the C-108, are you aware that there are some oil and gas well plugs that are within the area of review?

A. Yes, I am.
Q. And are you familiar with the Goodwin #3 well?
A. Not until today.
Q. But you heard the testimony about that well yesterday and today; is that correct?
A. Yes, I did.
Q. Now, the Goodwin #3 well was drilled down to a depth of 8,582 feet; does that sound about right?
A. Yes, sir.
Q. And, Mr. Gonzales, does that depth penetrate the injection zone to your understanding?
A. No, it does not.
Q. And why is that not -- why does a well that does not penetrate the injection zone not raise as much of a concern; I mean, the fact that the well doesn't penetrate the injection zone?
A. There is not an avenue for the well in question to communicate with that lower.
Q. Regardless of the P and A status of the well?
A. That's correct.
Q. Mr. Gonzales, you're also -- heard testimony yesterday about the Division asking DCP to collect some additional water samples?
A. Yes, I did.
Q. And did you see and hear testimony on the location

of those water samples?

A. I did.

Q. And in your recollection were those water samples collected at about the same distance from the AGI #1 well that the Smiths' property is located?

A. I have not been to -- I have not physically been to the site, so I couldn't tell you, but I'm sure by what I saw, looking at that without the exact footages, I couldn't tell you.

Q. But your recollection is they're approximately the same distance?

A. Yes, sir.

Q. And in that case would you expect to see if there are any impacts on the AGI #1 well, the current injection, you'd expect to see some readings in those water samples that DCP collected? Let me go back real quickly. Were you present for Mr. Gutierrez's testimony about the radius of the projected TAG footprint?

A. Yes.

Q. And your recollection is that Mr. Gutierrez testified that the projected footprint of that -- TAG footprint was going to be approximately in a circle?

A. Yes.

Q. In which case, you would expect that any impacts would be recorded at any distance of -- approximately the

same distance from that injection zone based what -- Mr. Gutierrez's testimony?

A. Yes, sir. I don't know the depth of those wells. I can't honestly answer your question.

Q. Okay. I appreciate that, Mr. Gonzales. You're familiar with enhanced oil recovery?

A. Yes, sir.

Q. In which case they inject the CO2; is that correct?

A. Or other products, yes, sir.

Q. Now, isn't the AGI #1 well in this case injecting more than 80 percent CO2?

A. I believe I've seen that, yes, sir.

Q. And, Mr. Gonzales, isn't CO2 just as corrosive as H2S?

A. It is.

Q. In your experience with CO2 wells and enhanced oil recovery, what's your opinion on the use of anti-corrosive materials including, you know, the anti-corrosive metals and anti-corrosive cement casing?

A. It's very good policy. It should be used.

Q. And in your opinion, it's protective of groundwater sources?

A. It's protective of the metal that is in the well to prevent any kind of leak.

Q. Mr. Gonzales, you're also familiar with the operation of salt water disposal wells?

A. I am.

Q. In your understanding what is injected through a salt water disposal well?

A. It's produced water -- fill produced water.

Q. And what are some of the constituents that are found in the produced water, a range?

A. SulFur, iron oxide, different components.

Q. Hydrocarbons?

A. Yes.

Q. And hydrocarbons such as toluene, benzene, different --

A. Yes, sir.

Q. -- other things that are considered toxic?

A. Yes, sir, that's correct.

Q. In your opinion, Mr. Gonzales, did DCP handle the situation that arose in December of 2011 as a diligent, prudent operator would?

A. Yes, they did.

Q. And in your opinion does DCP operate the acid gas facility and the well as a prudent, diligent operator would?

A. They do.

Q. Mr. Gonzales, just referring to the spring MIT this year --

A. Yes.

Q. -- did DCP also with Division oversight conduct a test pressuring up the casing to 3,000 pounds?

A. Yes.

Q. Is that a slightly more -- is that a more rigorous pressure test than would otherwise normally be tested?

A. Yes. Yes, it is.

Q. And in your review of the spring MIT and that 3,000 pound -- 3,000 pound test as well as the November MIT --

A. Yes, sir.

Q. -- do you have any concerns about the safety or operation of the AGI #1?

A. We do not.

Q. And, Mr. Gonzales, as for the sensors that DCP uses to monitor the AGI #1 well --

A. Yes, sir.

Q. -- and the records on the historian --

A. Yes.

Q. -- have you seen those sensors?

A. I know their location.

Q. Do you have any reason to question that they are working and recording properly?

A. I have no problem with that.

MR. RANKIN: Nothing further, Madam Chair.

MS. BAILEY: Mr. Alvidrez.

MR. ALVIDREZ: Yes, I have some questions.

CROSS-EXAMINATION

By MR. ALVIDREZ

Q. Good morning, Mr. Gonzales.

A. Good morning.

Q. Are you the head of the -- I guess the Hobbs Office of the OCD?

A. I am.

Q. And does Mr. Leking work for you?

A. Yes, he does.

Q. Is Leeking or Leking?

A. Leking.

Q. So he reports to you?

A. Yes.

Q. And he works, I guess, on the environmental aspect of the OCD departments or divisions, however they're organized?

A. Yes, sir.

Q. I did have a question. If you could tell us, how far away is #6 water well from AGI 1?

A. I don't know.

Q. How far is North Eunice's water well from AGI 1?

A. I don't know.

Q. How far is the Goodwin #3 from AGI 1?

A. I haven't been to that location.

Q. I thought I understood your testimony earlier under oath that all of these water wells were in the approximate distance, same distance from AGI 1. Was I -- did I misunderstand your testimony?

A. No, sir, you did not.

Q. So what do you base that opinion on?

A. Because the testimony prior to mine, it was showed on the map and they showed you an area of review and they showed you where these water wells are at. You know where these water wells are as well as I do.

Q. I don't know where they are.

A. I don't either.

Q. So you can't really say that they're --

A. I have not been to the locations.

Q. Were you involved in terms of the, you know, recommendation or the decision to have some additional water testing done as part of this proceeding?

A. No, sir.

Q. Now, I want to show you what we have marked as Smith Exhibit 1.

May I approach the witness?

MS. BAILEY: Yes.

MR. ALVIDREZ: And for the record, I think the Smith's Exhibit 1 that we submitted had some pages out of

order, and what I've submitted to Mr. Gonzales is included within Exhibit Number 1, but it is limited to a letter dated December 19, 2011, to Mr. Gonzales from DCP and a second letter dated April 29, 2012, again, from DCP to Mr. Gonzales. So everything that is not one of those two letters is not in our exhibits that we have, that we're going to be tendering and moving into evidence today.

MS. BAILEY: You say one of the letters was dated December 19th and one was dated December 29th?

MR. ALVIDREZ: No. I'm sorry if I said that. It's April 29th. I think there may have been a misfeed in the --

MS. BAILEY: Okay. I have two cover letters, but it's difficult to tell what the second page is for each one of those.

MR. ALVIDREZ: Right. I believe that there was a December 19th cover page that is out of order. If you go to the very back, you'll find the second two pages of that December 19th letter, but the -- and if it would be easier, I can give you a revised Exhibit 1 that has been placed in proper order.

MS. BAILEY: Well, just so we're clear that the second page at the beginning of Exhibit 1 has -- is the second page of the April 29th letter.

MR. ALVIDREZ: It's the first page of the April

29th letter I believe originally submitted. I think it would be easier, if I may, just give you the new letters, and that way -- the newly formated exhibit, and I'll give these to counsel if I may as well. It would be easier to follow along this way.

MS. BAILEY: Do you have another set?

MS. GALLEGOS: That's all of my sets of that exhibit. We'll be able to get one to the court reporter, I'm sure, or the court reporter can use the version that Mr. Gonzales is using, if that's all right.

MS. BAILEY: And, Counsel, did you get copies?

MS. GERHOLT: Yes.

MR. ALVIDREZ: I apologize for any confusion. I hope the new exhibits will help. If I may continue?

MS. BAILEY: Yes.

Q. (By Mr. Alvidrez.) Mr. Gonzales, let me have you look at Smith Exhibit 1 and ask if you could identify the first three pages of that. Can you do that for the record?

A. Yes.

Q. And what is it?

A. This was a letter that was sent shortly after the determination of the well that had been -- they had found a small packer leak or there was an anomaly in the information that was being turned in.

Q. And is this a letter that you, in fact, received?

A. Yes.

Q. And let me have you look at the last two pages of Exhibit 1. Can you identify that for us?

A. Okay.

Q. Can you identify that for the record?

A. Yes.

Q. I'd ask you to identify what is it for the record, so --

A. Oh, this was -- they would continue to monitor the back side and for any potential or increase in communications between the tubing and the casing.

Q. And this is a letter dated April 29th, 2012, addressed to you?

A. Yes.

Q. And did you receive this letter from DCP?

A. Yes, sir.

MR. ALVIDREZ: Madam Hearing Officer, I would move Smith Exhibit 1 into evidence.

MS. BAILEY: Any objection?

MS. GERHOLT: No objection.

MR. RANKIN: No objection.

MS. BAILEY: Then it is admitted.

Q. (By Mr. Alvidrez.) Let me ask you, going back to the December 2011 time frame, was this letter notification the first that you had learned of the leak at the well #1?

A. The notification, yes, sir.

Q. Did you -- had you not received a telephone call in advance of that or anything of that nature?

A. The only -- the only thing prior to this that I can remember is when DCP came to the office, and we discussed how we were going to perform an MIT on this well.

Q. Okay. Were you present at the well site when they were trying to do that MIT --

A. No, sir.

Q. -- the initial MIT?

A. No, sir.

Q. Was anyone from your office there to watch it?

A. No, sir.

Q. Is that something that you typically don't have personnel onsite to watch the testing that's being done?

A. We do, but this particular instance here we were talking about, the well was pressured up. What was the next step that we needed to do to this well before we did the MIT? This was discussed in-house in my office. At that time I visited with DCP. I told them that that particular well needed to be either all the way to zero or a starting point for us to monitor to see what -- if we did have a problem. We still don't know if we have a problem.

Q. You're talking about in the December time -- December 2011 time frame?

A. I believe so.

Q. Okay.

A. Then what happened, whenever they went out there and they attempted to bleed that diesel down and bleed the pressure down. They monitored the well, because they had to have gathering to collect the diesel. There's some plumbing that needs to be taken care of. We don't need to witness that. As far as the bleed off, don't need to witness that. Where we are interested in is whenever we had to bring that well back up to pressure. That is a requirement. During that time that they were trying to bleed this well down is when they found out that the well would not bleed down; that, yes, we may have a problem here. We may have a leak. This is a letter that came about after that.

Q. Okay. And did -- were you or anyone from the Division onsite during that pressurization aspect of the mechanical integrity test?

A. I was not there on the bleed off, if that's what you're asking.

Q. You're going to have to forgive me, because I --

A. No, that's fine, because the pressurization we're always onsite.

Q. Okay. So I guess they weren't able to achieve the proper bleed off and --

A. Yes.

Q. -- do the pressure testing?
A. Yes, sir.
Q. Okay. I appreciate that. And you were informed of that by means of this letter of December 19th?
A. No, sir. I was informed immediately.
Q. Okay.
A. Maybe two hours later after they did their plumbing to relieve the diesel, to relieve the pressure, they immediately contacted me and said, "This well will not bleed down to your requirements or OCD requirements for us to start testing the well."
Q. I see. And what did you do after -- after that?
A. I called Santa Fe immediately and relayed the information.
Q. Okay. And did you continue to have involvement with respect to the work that was being done to find out whether AGI Well 1 had -- in fact, had a leak or what the problems were with the well?
A. Yes, I was in contact with DCP and Mr. Gutierrez.
Q. Okay. And I guess the ultimate thing that transpired is they weren't able to perform the mechanical integrity test, and they pulled the tubing up; is that correct?
A. That's correct.
Q. And were you there when they pulled the tubing up?

A. I was not.

Q. Were you there at any of the parts of the well workover?

A. Yes, I was.

Q. Did you see the 60 foot of corrosion in the tubing?

A. I did.

Q. I take it that that was not something you would anticipate seeing to what was relatively a new well; is that correct?

A. That's correct.

Q. And in terms of the -- the Division, did it undertake any independent analysis, apart from whatever DCP reported, but any independent analysis as to the causes of that corrosion?

A. I'm not aware of that.

Q. You know your office didn't do it, I take it?

A. Did not.

Q. You would consider a leak in an acid gas well to be a serious problem, would you not?

A. It is.

Q. And it's a serious problem from the standpoint you've got to shut production upstream, correct?

A. That's correct.

Q. But it also can present a serious environmental

risk, health risk; isn't that correct?

A. Yes, sir, that's correct.

Q. And I guess for that reason -- well, let me ask, is it for that reason that the Division required -- is now requiring more frequent testing?

A. Yes, sir.

Q. And with regard to the -- the issues that happened -- well, let me go to April of this year. We've got a letter that we've introduced into evidence, but as I understand it, this letter talks about an event that occurred while they were doing the well workover, and there was actually an escape of H2S gas from the well during that work over?

A. Yes, sir.

Q. And in terms of what notification was given to adjoining landowners, did the Division do anything to try and let folks know that this work was being done?

A. We -- we did not -- I got the call immediately from the field that this has happened and what they were fixing to do about the flare. This went immediately -- I talked to Geoff about this particular instance again, and that's pretty well his department on that. You can probably ask him and what follow-up went from there. I don't know if he notified surrounding this area.

Q. Well, what's the normal protocol? What's the

Division protocol when something like this happens?

A. We get the call as we did. We immediately relay that to the individuals like Mr. Geoff Leking at that particular time. Then he has a checklist that he goes through to notify, and he has his procedures that he works through. After he goes through those procedures, if there's any question that needs to be addressed through that, again, we'll sit down, and we'll talk about it.

Q. Do you -- but you -- sitting here today you don't know what process was followed by Mr. Leking?

A. I do not.

Q. Now, you understand that in the course of drilling, if the permit is granted that they drill the #2 well, that there is some concern on the part of DCP that there will be an escape of the acid gas from the formation as a result of penetrating into the strata wherever the injection is taking place; is that -- is that a fair statement?

A. I don't think so.

Q. Okay.

A. Because the word you used was "escape", and this will be a controlled operation that they're going to be operating, and yes, there will be H2S involved?

Q. All right. And what plans does the Division have with respect to safety protocol adjoining landowners, people

in the area?

A. What we have is in place, whenever you have your drilling rig there, if that's where we're at, that drilling rig will have all its safety monitors in place. It will have, as you heard earlier in the conversations, there's people out there like total safety, different type of -- these people provide all of the safety equipment. If there is an escape, it's handled the same way. They notify the district immediately. They evacuate the area. There is a contingency plan for that rig, and it's followed accordingly.

Q. So is it my understanding that there's no plan to provide advanced notice to surrounding property owners that you're going to be going through this process, advising them of the risks of what might occur?

A. I think the advance -- what you're asking is pretty well whenever they submitted their C-103, they submitted that out to the public to -- for those people to understand that there is going to be a well drilled in this vicinity.

Q. Okay. And that C-103 tells them exactly what dates they will be doing that?

A. No, sir. We can't really tell them what dates, but it would probably tell them what starting date that that's going to happen.

Q. And that's in the C-103?

A. No, sir. That will be in the C-108.

Q. You talked a bit about, I guess, the monthly reports that DCP is submitting on AGI 1, and I want to know is there someone in your office that is tasked with reviewing those reports?

A. I am.

Q. You're the one that reviews them?

A. I am.

Q. And how often do you review them?

A. As soon as I get them in the office.

Q. And what are you looking for when you review those reports?

A. Well, we're looking for -- we had been talking about anomalies in the information that we get. We have a band that we work with on temperature versus pressure, volume. If we look between those, not only do I get that information, it is also forwarded here to Santa Fe, and Mr. Will Jones, the engineering department, where we all look at this at the same time. It is immediately scanned into our well files for anyone to look at it.

Q. Okay. Are you trying to monitor whether there are, you know, conditions that Mr. Gutierrez has testified about that would indicate that there's, I guess, a higher degree or possibility of corrosion effects taking place

within the well?

A. You -- you cannot do that.

Q. So you can't tell based on that data whether there's corrosion?

A. No, sir.

Q. So why do you collect the data then?

A. You have to collect the data to make sure that you don't have a failure in your equipment, not corrosion.

Q. So what you're looking for is any anomalies in terms of pressurization or that sort of thing?

A. Yes, sir.

Q. You were asked by Ms. Gerholt about working with DCP to establish some parameters, and I think she talked about, you know -- well, you could talk about -- and I'm talking about the new well. So we're not -- proposed new well. You meet shortly after completion, and then maybe meet again six months down the line when things have settled into more of a steady, stable operation.

A. Yes, sir.

Q. And you talk about some parameters of operations, and can you tell the Commission what parameters you're talking about?

A. No, sir, not until we get the well active. We need to see what kind of pressures there's going to be, the well is going to see. We need to see what the bottom hole

pressure is going to react. We don't know what that -- until we get the well on line.

Q. So would it -- well, and it's fair to say that one of the things you're going to look at is pressures within the tubing and pressures with the annulus?

A. Yes, sir.

Q. And you're going to be looking at temperature; is that something you're going to be monitoring?

A. Well, I'm guessing that that's going to be part of the -- of their submittal of information to us.

Q. Okay. All right. They submit this -- I guess are you going to count on them to submit the proposed parameters that you're going to --

A. We're going to talk about the parameters that we're going to start. For example, we don't want to overpressure the zones that they're going to be injecting into. We're all going to be sit down and get a comfortable start up on pressures, volumes. We already have that one well in place. We're anticipating that the second well, we already have information that we can work a good baseline with. As soon as we start doing our injection, that will change.

Q. My question is, okay, you've got a set of parameters?

A. Yes, sir.

Q. You've agreed with DCP on the parameters. How do those parameters become enforceable?

A. I believe that's going to be more on DCP's operation. Because of the operations that they run, they notify us what that well is doing. We're not onsite to monitor.

Q. I understand that, but --

A. Okay.

Q. Let me give you a hypothetical situation.

A. Okay.

Q. You've got -- you've sat down with DCP. You've all agreed on a set of parameters, and you start getting in monthly reports --

A. Yes, sir.

Q. -- showing that they're operating outside the parameters.

A. Good.

Q. That's good?

A. No, no, no. I'm listening to you.

Q. Oh, okay.

A. No, very good.

Q. What enforcement mechanism do you have to make them come into compliance with the parameters, you know, that you all agreed to?

A. Okay. Whenever we have come to that agreement and

you say that we're producing or injecting over that, whatever, there is an order that goes into that that is agreed here in Santa Fe that they will stay within that order. If that is not complied by, they will be shut in.

Q. So that becomes an enforceable order?

A. Yes.

Q. Now, you were asked about a call that you received from Mr. Smith back in July of 2012, and he reported to you, as I understand it, that he detected H2S in his well; is that correct?

A. That's correct.

Q. And I think you testified that you basically asked Mr. Leking to look into it?

A. I did.

Q. And so we've had several months now since Mr. Smith contacted you, and what is the result of his complaint?

A. You'll -- when Mr. Leking -- he'll be better equiped to answer your question when he comes on line.

Q. Have you talked with Mr. Leking about the --

A. He keeps me posted that he -- when he goes out, takes his samples along with Mr. Smith, and he documents that, and he keeps a running tab, tally of that.

Q. Okay. So Mr. --

A. That is who you need to visit with.

Q. So Mr. Leking has reported to you that he went out and took a sample at the Smith's well?

A. Yes.

Q. And that it came back positive for H2S?

A. Yes.

Q. And what action is the Division going to take as a result of that finding?

A. I think that they're still working on that.

Q. Do you know what the -- is there a time frame when this will be concluded, when the Division will have completed whatever investigation it's going to do of this?

A. I do not know.

MR. ALVIDREZ: Those are my questions. Thank you.

MS. BAILEY: Mr. Warnell.

EXAMINATION

BY MR. WARNELL

Q. Dealing with the MITs, did anyone from the district witness the MIT --

A. I did.

Q. -- on #1? You did?

A. Yes, sir.

Q. So do you as district manager witness all MITs?

A. I do not.

Q. But this one you chose to go to the field and witness personally?

A. I was available at the time. My other compliance officers were not.

MR. WARNELL: That's all I have. Thank you.

MS. BAILEY: Dr. Balch.

EXAMINATION

BY MR. BALCH

Q. I understand what the MIT is supposed to accomplish.

A. Yes, sir.

Q. I guess I have some questions about the process --

A. Yes, sir.

Q. -- how long it takes, what's the disruption to operations --

A. Yes, sir.

Q. -- to perform one. So if you would run through -- to your knowledge what happens at the well when they're going to run an MIT, approximate steps and how long it takes to do it?

A. Sure. MIT is a Mechanical Integrity Test. The test is being conducted between the tubing and the casing, and that's called a backside or annulus. Okay. What we do in general, we have many injection wells, many SWD wells besides the acid gas. So you want to know about our UIC program, normal injection process that we do to our scheduled or this particular well?

Q. This particular well. What does it take to perform the test and how long does it take?

A. Okay.

Q. How long is the disruption to operations, or is there disruption to operation?

A. No, sir, there is not. There's no disruption, because you're dealing with the back side. You're not dealing with what's going down the tubing.

Q. So they don't shutdown their engine?

A. No, sir, that is not necessary.

Q. That's my real question.

A. And then whenever you -- whenever you rig up or you have your external pump there, be it a kill truck or any kind of pump that can handle what we're fixing to do, you need a recorder that is calibrated, and the test that we do is on a 1,000 pound chart, 1,000 pound spring for -- we run a one-hour clock. People actually take that chart one hour to complete a circle. So what is required is that that test is for 300 pounds for 30 minutes on this well. You pressure up on the well. First, the well goes to zero on the back side. You bleed that down. Whenever you bleed that down to zero, at that time then you have -- that is your starting point, your baseline. At that time you go ahead and start pressuring up the back side with an external pump, and as that pressures, your recorder's showing your pressure as

it's coming up. Whenever you get the pressure where you want it, everything is shut in immediately. The truck is isolated. Your casing is open to your monitor or your chart, and it stays that way for at least 30 minutes or a little more. We run them a little more than 30 minutes. During that time, we monitor for any kind of increase or decrease that we might see on that chart, but the test is for 30 minutes for 300 pounds.

Q. On the timing of the MITs, Commissioner Warnell, mentioned earlier I think five years, two years, one year, six months?

A. Yes, sir.

Q. There's apparently nothing to stop you from doing it everyday if you really wanted to, except for the cost of personnel and trucks and things like that?

A. Sure. That's correct.

Q. Where is your comfort level at? You think a year with monthly reports to the Division is going to let you trigger a test if it's needed in between time?

A. What's going to trigger the test that you're asking is going to be the monitor of that information that is -- that is given to us monthly?

Q. Right.

A. That's going to trigger the test. It will be scheduled for a one-year test. As I mentioned earlier, if

we do an MIT in six months that's scheduled and if we see an anomaly in that a month or two later, we'll immediately do a backup test on there.

Q. And the protocols that you developed with DCP will be what triggers an MIT basically, based on the data analysis and monthly report?

A. Yes, sir.

MR. BALCH: Thank you. That's all I have.

THE WITNESS: Thank you, sir.

EXAMINATION

BY MS. BAILEY

Q. To follow up on all of that, the #1 well has an H2S contingency plan?

A. Yes, ma'am.

Q. The #2 well should also have an H2S contingency plan that's approved prior to initial injection?

A. Yes, ma'am.

Q. So that should be one of OCD's recommendations, also?

A. Yes, ma'am.

Q. Okay. With the parameters that are being developed with DCP for immediate notification of a problem, potential problem -- or are they apparent problems or are they potential problems you'll be looking at?

A. Potential problems, I'm sure.

Q. Potential problems?

A. Yes, ma'am.

Q. If the OCD and DCP have developed a set of parameters for potential problems, isn't the monthly reporting a redundant process?

A. No, ma'am.

Q. Why not?

A. Because you're actually seeing what the structure is doing below your packer. You're looking after your metallurgy that you have in that to make sure that, it was mentioned earlier, the parameters that we have set for this particular well, that's the only tool that we have to monitor that, because of the pressures that we talked about that are already in the water that they should not exceed. This is the only way that we can monitor and have a database on how this is working. Maybe we can see this working -- an example, if they turn it in, last month we were looking at a little bit of an anomaly that is trying to maybe get out of this band that we're trying to work in safely. There's a flag the next month that we get this information, did it settle out? Is it continuing to come up a little bit? These are the potential problems that we're looking at. The information that is funneled to us is going to be -- we'll need.

Q. But isn't that regard of the monthly reports a DCP

responsibility rather than the OCD responsibility, because it is their responsibility to monitor their own wells and to ensure the safety and that they are meeting the parameters for immediate notification of a problem -- of a potential problem, not of an apparent problem? I'm trying to see why the OCD for the next 30 years will be looking at these reports for two wells, because if this report is required for the #2 well, why isn't it required for the #1 well? So I'm wondering about that workload, that responsibility when we don't have those same responsibilities or requirements of EOR injection wells that also have the potential for problems for public safety?

A. DCP, you're right, it is their responsibility. They will catch whatever anomaly there is before that. If we have something to look at whenever it comes in, they'll call us immediately and say, "If you'll notice on that, we started -- we noticed a problem here. This is what we're doing about it." I see that in the C-103 that comes in with that report monthly. There's notes that they'll put on that. There's a notice that they'll put on those C-103s that are turned in. They now become a well file. Now, I think it will be a decision of the Division whether we do this for the next 30 years. There may be another tool that we can use in the very near future that by running now, the new optics that we're going to run in these wells, the new

surface equipment that is coming out, that we can pretty well loop through our systems or have access to them; that if there is a question, we can look at this and not have this paper trail that you're talking about for the next 30 years.

Q. For two wells?

A. For two wells, yes, ma'am. I think that's something that they are looking at. By using this new equipment that I'm mentioning, the fiber optics, different types of safety equipment that they're using. To me, it's going to be like these new telephones that we have today that if you want to look at a particular, you use that. If you want to use it as a computer, you can do that. I think that kind of information will one day be generated by people like DCP.

Q. If the new and improved safety designs and equipment that's used for the #2 well can also be used on the #1 well to ensure that this entire area is in a zone of as much safety as possible, should -- would you recommend that as a condition of approval of the #2 well that the #1 well be retrofitted in ways that are possible, that are reasonable, which would include the fiber optics and the corrosion resistant tubing and the other safety factors that have been presented to us as improved design for the #2?

A. Yes, ma'am, I would.

Q. That would include the annual MIT?
A. Yes.
Q. That would include the data reporting if the Commission decides to require that?
A. Yes.
Q. That would also require the daily monitoring of the pressure data. I'm looking at the list of items that OCD has given us, and the immediate notification parameters would also apply to the #1 well as well as to the #2 well?
A. Yes, ma'am.
Q. So I'm understanding your position on that?
A. Yes, ma'am.
Q. Do you have anything to add to that?
A. No, I think with the modifications and what's available today or will be available, I think it's going to be a real plus for DCP and industry.

MS. BAILEY: I have no other questions. Do you have any redirect?

MS. GERHOLT: I do have a couple of questions.

REDIRECT EXAMINATION

BY MS. GERHOLT

Q. Mr. Gonzales, I believe that the DCP notebook in front of you, could you please turn to Exhibit 4, Tab 13. When Mr. Alvidrez asked you the question regarding water wells. Was this the map you were referencing?

A. Yes, ma'am.

Q. And are all those wells in the general same location?

A. Yes, ma'am.

Q. And that's within one mile of the proposed #2?

A. Yes, ma'am.

Q. Okay. In regards to well workovers, does OCD notify landowners of well workovers?

A. They do not.

Q. You were asked a question about enforcement. Do you recall that?

A. Yes, ma'am.

Q. Okay. If the Commission were to include in an order that DCP had to do X, Y and Z and DCP failed to do that, does the Division have the authority then to request a hearing to enforce that order?

A. Yes.

Q. Are there any other enforcement tools available to the Division?

A. I think everything is pretty well in place. The notification for when it goes down, if you have to flare, I think everything is pretty well in place.

Q. Okay. And we've discussed here today that if for some reason DCP went outside of those agreed-to parameters, there was an anomaly, the District could request an MIT?

A. Yes.

MS. GERHOLT: Those are the only questions I have. If this witness may be excused?

MS. BAILEY: You may be excused.

THE WITNESS: Thank you, Madam Chair.

MS. BAILEY: Does that concluded your case?

MS. GERHOLT: That does conclude the Division's presentation.

MS. BAILEY: Mr. Alvidrez, are you ready to present or do you need a break?

MR. ALVIDREZ: I'm ready to proceed, provided we have Mr. Leking on the line.

MR. LEKING: Yes, I'm here.

MS. GALLEGOS: Mr. Leking, are you able to hear me.

MR. LEKING: Yes.

MR. ALVIDREZ: We're ready to proceed with Mr. Leking as our first witness.

MS. BAILEY: Let's have him sworn in.

GEOFFREY LEKING

after having been first duly sworn under oath, was questioned and testified via telephone as follows:

MS. BAILEY: Can I turn the phone, so the court reporter can catch it all.

DIRECT EXAMINATION

BY MR. ALVIDREZ

Q. Good morning, Mr. Leking. This is Rick Alvidrez, and I realize we haven't met or talked before today, but can you tell the Commission your current employment?

A. Yes, I work for the Environmental Bureau of the Oil Conservation Division here in District 1. I'm an environmental specialist.

Q. And how long have you been in this position?

A. It was four years in July, so whatever that July is, five months; four years, five months.

Q. And can you tell us what your job duties are in the Environmental Bureau?

A. Investigate releases from oil field facilities such as well heads, tank batteries, pipelines, truck releases, injection wells and follow up to make sure that they're delineated entirely and then remediated. Also, review permits for PITS for drilling. Release -- releases are investigated for C-141 forms. The PITS are reviewed through the C-141 form.

Q. So I'm clear, and maybe the court reporter knows what you're saying, you said PITS, P-I-T-S?

A. Yes, drilling tests, and of course, we do address residential well complaints by the public.

Q. Can you tell us about your educational background, please.

A. Have a Bachelor's in Science in Geology from Ohio State University, and I've also taken postgraduate courses at the University of Toledo.

Q. Did you have a specific concentration in terms of your studies?

A. During the postgraduate studies, post on hydrogeology.

Q. And prior to going to work for the OCD, can you tell us where you were employed?

A. I was employed by the Ohio Environmental Protection Agency.

Q. And how long were you with the Ohio EPA?

A. Nineteen years.

Q. And what did you do at the Ohio EPA?

A. I was a geologist in their brown water section of their Drinking and Groundwater Division.

MR. ALVIDREZ: Madam Hearing Examiner, based on the testimony of this witness thus far, we would tender Mr. Leking as an expert environmental specialist with respect to groundwater.

MS. BAILEY: Any objection?

MS. GERHOLT: No objection.

MR. RANKIN: No objection.

MS. BAILEY: Then he is accepted.

Q. (By Mr. Alvidrez.) Mr. Leking, can you tell us

your involvement with respect to the well on the Smith's property?

A. I received the message forwarded by E. L. Gonzales on 7-23-12. On -- on 7-31-12 I discussed the information with E. L. Gonzales. I'd only done some in office research of potential sources. At that time I contacted a counterpart up in Aztec who was familiar with H2S investigations and talked about the procedure that he went through to do the investigation. I did not actually go out to the residence until 8-1-12 when I met Mr. Smith. At that time we tested the water at the residence, and I kept field notes and took photographs, sort of documented, and we discussed potential sources including the AGI. In September, I surveyed the surrounding areas for potential sources and sampled wells, identified monitoring wells and irrigation wells and also the Xcel cooling -- those are sample, potential sample points, the Xcel cooling pond as a potential source and also looked at the XTO monument state #3, which is a well that is probably a couple miles south of the site and did not seem to be a very probable source.

On 9-7, Randy called me and said he had tested the wellhead, itself, and I checked inside the trailer, and he saw high readings, higher readings that even in the trailer. We discussed the other potential sample points and sources. We discussed the AGI again. He said he would do more

sampling, see if he could sample the irrigation well and maybe even the monitoring wells, and then I had conversation with Alberto Gutierrez, and we just discussed what I just described to you.

Q. All right. Did you say you had discussions with Alberto Gutierrez?

A. On 11-21-12, yes, just a short discussion, and it was basically what I just told you, and he -- he stated that they would try to contact Xcel. That's where the cooling pond is and see if it was possible to get into those monitoring wells to sample them.

Q. Okay. Now, I think you indicated you talked to a colleague in Aztec?

A. Yes, I did.

Q. Is that someone at OCD in Aztec?

A. Yes.

Q. Who was that?

A. Brandon Powell.

Q. Now, when you went to the Smith property, can you tell us what -- what type of sampling you did?

A. We went inside the trailer to attach -- I'm going to call it the kitchen. It's not really the kitchen. It's -- well, I guess you could call it the kitchen, but it's the main sink, not like a bathroom sink, the main sink in the trailer with a faucet, separate valves for hot and cold.

Mr. Smith had an apparatus that he set up. It was a large jar that -- a large jar. He had a hand held H2S monitor, personal monitor, and he attached that to the -- the faucet, right at the head of the faucet right above the mouth of the jar, and he also had some lead acetate tape, which is used to indicate H2S if it changes to a gray color. He put that also above -- attached it to the faucet head above the mouth of the jar. He then turned on the cold water and ran cold water until it filled up the jar and overflowed and then drained out the sink.

After a short period of time, you began to smell H2S. In a little bit, the -- sounds like the pump came on, and the reading on the H2S monitor began to go up. It began to probe -- it had registered about one after the tap had run for a while, for about a minute. After -- at about five minutes after that, 15:40, H2S meter displayed an increase in concentration of 2 ppm and then 3 ppm. I then took my H2S monitor, I had a personal monitor myself and held it at the bottom of the sink. My monitor displays a concentration of 13.1 ppm and then 14 ppm at which time I took a photograph of the display. The odor had become strong, and the water was cloudy. The tap is turned off. Mr. Smith states that at the Board hearing last year, pertaining to H2S injection, he stated that the well was displaying the present state of H2S then. That was that, that sampling.

That was one we had August 1st, 2012.

Q. Okay. And does that adequately or accurately summarize the sampling event that took place on August 1 of this year?

A. Yes, yes.

Q. And since that time, have you been back out to the Smith property for any reason?

A. On Tuesday, 9-4-2012, I went back out to survey possible potential sources of sample points. I stopped at the XTO Monument 36 State #3, H-36-18F-36E. No itemized contamination was observed. I drove further north on Maddox to the DCP injection facility in the Linam, drove -- I did not -- I didn't stay very long. I was more interested in going over to the residence again. Drove northwest to Randy Smith's residence. It was about .7 miles from the facility entrance over to his entrance. Fresh from the Smith's residence on south side of the road was a monitoring well guard pipe that's blocked and three to four feet high. To the southwest and west off the property are irrigation sprinklers which stretch to the north paralleling Maddox Road and then terminated at an irrigation well. The well was approximately .1 miles north of the entrance of the Smith property. The well is west of the Smith property and approximately .3 miles northwest of the property's residential well.

Irrigation well is immediately adjacent to Maddox Road on the west side and is a large irrigation well with associated equipment. Another irrigation sprinkler system is visible to the east of Maddox Road and is estimated to be three-quarters to one mile away from the road. It is, northeast of the road as well. The well for this system can be seen at the system's terminative, which is -- I would say it was the north end of the sprinkler system, but you know, it was in the business, so -- but I considered the irrigation wells to be and the monitoring wells to be good sample points and that the Xcel cooling water pond could possibly be a source for H2S if it was experiencing anaerobic bacterial activity in its bottom sediment, but I have not been able to investigate that any further.

Q. Are you being prevented from investigating it in some regard?

A. I wouldn't say that. I'm trying to find who regulates that impoundment, because per se, I don't think OCD has jurisdiction to go in there and say, "Hey, you know, I want to -- I want to check your pond out for anaerobic -- for a possible H2S release." I might be being a little unsure there. I haven't been able to find out who is regulating the pond yet, and I haven't approached Xcel. That's -- I was waiting. That's just how I felt, but I haven't done that yet.

Q. Are you aware that Mr. Smith had some water sampling done on the kitchen faucet that you -- that you tested?

A. He's taken lab samples. I don't -- I keep -- no, the only thing on a 9-7 telephone call, Mr. Smith telephoned and stated that he had been able to sample right at the wellhead. He ran the water through a barrel. It tested much higher than the faucet at the trailer "type of meter". In addition, he said he believed he could lower a submersible pump into the eastern irrigation well, collect a sample. This is closer to the injection well than the residential well. He stated that when he flowed the irrigation, the problem with the H2S emission -- we discussed the injection well and stated that we had both improved on location; talked about the workover. He also stated that it appeared to him when they are not injecting, the H2S diminishes, and when injection is curtailed, then H2S diminishes. I think -- did I say that twice? Yeah.

So we discussed the Xcel monitoring wells and the wells with the red casing. That is his. I'm not positive what that reference is now that I read it, but no, I didn't know he had samples. The short answer is no, I did not. Has he taken laboratory samples, is that what you mean?

Q. Yes.

A. No, I don't think so. Did he send me the data?

Q. I'm not -- I don't believe so. I just wanted to know whether you were aware of sampling.

A. I'm sorry. I volunteered too much information there. No, I didn't.

Q. You can never volunteer too much information.

A. Well, okay.

Q. It sounds to me as though one of the things that you're investigating is the biologic production of H2S; is that -- is that something you're looking at?

A. Well, it's a -- it's a question of just trying to identify all potential sources. I'm trying to -- what have we got here? Looking at all of them from the -- from low probability to high public gas facilities, gas wells, pipelines, sources generating H2S through anaerobic bacteria such as pond bottoms, ditches, sewer piping, septic leech fields, drinking water wells and the accumulation of animal waste, I'm kind of -- you know I haven't gotten far enough. You know, I apologize for not being able to get further.

It's -- you know, H2S is a serious problem. It is definitely a danger to human health, but so far I have only been able to identify those sources. I'm trying to find out -- like I said, I went to the oil well that was south of there a couple miles as far away. I'm trying to trace down the pipeline that could be or had gone through, but yeah, if you have a pond -- and they're known to go anaerobic, you

have to consider it as a possible source for H2S.

Q. If -- if the source were anaerobic related to the pond or any other, you know, bacterial or biologic source, when you -- if you draw a water sample from, in this instance, from the tap at the trailer, would you expect to find some evidence of bacteria or biologic material?

A. That's right, and now, I think I might know what you're talking about. Mr. Smith had the same occurrence in 2011. I think it began in late spring or early summer. At that time, he attempted to investigate and mitigate on his own. Part of that included taking samples for bacteria. He took a sample to -- I'm going to say the County or the State. They could find no bacteria. He also had more samples drawn and taken to Cardinal Labs, and he could -- still found no bacteria.

Yeah, in this case, that being the case in his well or immediately adjacent to his well in the aquifer, there's no microbial activity creating the H2S. Well, at least you can't see the bacteria in the water. Now, if it's migrating through the water from the pond, I don't know how much microbial microbes you would see anyways. That's something I have to research. I know gasses move ahead a lot of times in a water for what the water is carrying as suspected. I don't know how the -- the microbes, though, how they -- how they travel in the water. I'd have to investigate that

still.

Q. Were you aware of -- well, let me ask, have you looked at the Xcel pond that you've referenced as a possible source for biologic material?

A. I haven't been able to get close enough to really do a visual survey, close up visual survey.

Q. So you don't even know if there's any water in it?

A. Well, I think -- I think you can see water in it from the road, yes, but to see if there's sediment in it, you know, vegetation growing in it, that kind of thing I really can't say. No, I haven't been able to observe that.

Q. In -- have you got a time frame or timetable that you're looking at in trying to complete your investigation?

A. No, I don't -- I don't have a set timetable. I try to work on it as much as I can. You know, it's got to be a high priority obviously, because H2S is -- can be so dangerous. I don't want to -- how do you say -- justify or rationalize, but the imminent danger to human health -- so there, when people are at the trailer, it -- it is not a continuously occupied residence. As I said, Mr. Smith did have the same problem in 2011. As far as I know we were not contacted, but he did -- he did notify at the hearing last year, I think, that he had an H2S problem, but I was never notified during 2011 of the H2S problem he had then, because he was doing what I think any residence would do -- resident

would do, he was going to looking into it for what you normally think would cause H2S in your well.

You know, he tested it. He took the samples then to see if there was bacteria in it generating the H2S, you know, and then in October, for some reason it disappeared. Okay. I don't know why. It disappears. He's got nothing to come to us with. I mean, "well, I had H2S, but now, I don't." So, you know, there's really nothing for him to do after that, and then in April it appears again, and again, he's in contact -- contacts us right away. You know, I think he kind of, "Well, what's doing it now again?" You know, I think he kind of -- you know, kind of started thinking about investigating it, and then as far as I know he did not notify us, but then in July I think he finally said, you know, "Contact OCD, and you know, see if they can find out what's going on here."

So that -- now, the timetable since then, you know, that's rationalization, but you know, it's just been -- if I can work on it between, you know, doing the other workload that I have here, so you know -- and some of these things, you know, you try to call people. You can't get people. That's not an excuse, but I try to find out who runs that pond and that kind of thing, and you know, sometimes you're just spinning your wheels, but that's -- that's kind of -- no, that timetable, no, I don't have one. I just -- I don't

have one. Maybe that is something I should seriously put together. I want to be here, here and here at a certain time, so I can get this thing done.

Q. Have you had any involvement in the current application? Have you been asked to review anything with respect to this proposed second well?

A. No, not a permit ap. No, I guess not, no.

Q. I know we've made you suffer through at least being on the line for many, many hours, and I apologize for that. I hope you were able to do some productive things while on mute, but have you been able to hear any of the testimony about some closed-in wells, some abandoned wells that are at depths, at least approaching where the DCP #1 well is?

A. Right. Yes, I have.

Q. And are these wells that you've considered as, you know, potential sources perhaps?

A. Right. Knowing that, if I am correct, they're all plugged and abandoned though, right?

Q. That's what the paperwork says.

A. Pardon me?

Q. That's what the paperwork says.

A. Okay. I understand. Yeah, I didn't dismiss them, but I didn't really consider them high priority sources, but I can still find it --

Q. I'm sorry. You broke up there?

A. And those plugged wells, yes, they can be a potential for --

Q. Okay. I didn't mean to interrupt you. You kind of broke up there a little bit, and I know the court reporter is kind of grimacing, but can you resummarize what you just testified to?

A. They could be potential sources.

Q. Okay.

A. Yes.

Q. All right.

A. If there's communication -- if there's communication between the injection zone and the bottom of those wells, I mean, you have to look at them as possible sources.

Q. Now --

A. You know, if there could be. I'm not saying there is, but you know, you have to check them to see if they could be.

Q. Okay. Now, with regard to analyses that might be available to, you know, determine whether there's, you know, an escape of acid gas, are you familiar with anything that might be done such as a soil vapor survey or water testing or anything of that nature that would help, you know, confirm whether you've got a -- we're getting a source

somewhere?

A. Right. That would be a more intense investigation. I don't know if the resources for something like that -- we don't have them here in our office. Yeah, they would definitely be the potential there to do both of those techniques.

Q. Well, let me ask you about, what about this -- I mentioned a soil vapor survey, and I don't know what I'm talking about, but can you -- can you tell us what you're talking about in that regard?

A. Soil vapor, there's more passive soil vapor and then there's more activity soil vapor extraction. It involves the data zone, involves the saturated zone where contaminants exist in a vapor or gaseous phase. You can put in extraction wells, and you can put injection wells, both of those for air, and you can push the air through the sediment or the -- on the soil vapor survey I'm sure, and then you have the vapor extraction wells on the vacuum that you take the air out with, suck the vapor out with, and then it's run through a treatment system usually. You also could put in vapor extraction wells where you use more paths of system to extract the air out.

Q. Okay.

A. But, again, it goes through a treatment system unless it's -- unless it can go to air, you know, on some

air rigs, but usually you go through a treatment system to be released, or it's effective. It's -- I have seen it used for organic remediation of -- it would certainly, I would imagine, be proposed to work for H2S or for removing H2S for salt water deposits.

Q. Now, I understand the Division may be under some constraints from a resource standpoint to engage in this kind of testing, but would you think it advisable for DCP to undertake these type of analyses as a condition to getting its well permit in this case, so we can rule out whether they're the source of this H2S that you've confirmed?

A. It would certainly end the discussion whether they were the source or not. When I talked to Brandon Powell, he said approach them. Don't necessarily say they have to do anything, but I guess we're a little further along than that at this point. I think there was some discussion about them putting in some monitoring wells, I think, to maybe monitor what's going on with the new well. I know that. I believe that's true. I can't verify that.

Q. Were you -- you were --

A. Like I say, it would probably be a good idea.

Q. Now, were you able to hear the testimony that DCP actually went out very recently and did some testing in some wells I guess within a mile of AGI 1?

A. Okay.

Q. Have you heard that testimony or were you aware of that?

A. I did hear that testimony.

Q. Well, there has been testimony in this case through Mr. Gutierrez that they went out and took some samples from a well they've identified as #6 water well and then another well that they've identified as the North Eunice water well, and that these were done at the request of the Division, but since you didn't hear that testimony I'd like to ask, would you think it advisable that water -- that DCP as part of this process take some water samples from the wells on the Smith property?

A. It could be advantageous to both parties in a way.

Q. So is your answer to that question yes?

A. Yeah, I would say yes. I would like them to, you know, and not just at the residence but at the monitoring wells nearby, at the irrigation wells.

Q. And what -- what would you sample for?

A. Sulfides -- sulfides, sulfates, those would be indicators. I'm not well-versed in H2S sampling out of water at a lab. I'm more familiar with what might be the products you might look for that would indicate that that anaerobic activity is going on, I guess, or -- that's what I was saying get away from the anaerobic side of it, yeah, sulfides, but they would still show the presence of H2S and

sulfides in the water. I guess H2S, I'm not as well schooled about whether they can break that right out or not. I imagine you can. Iron, hardness, chlorides, some other indicators of what the pH is going on with the water, that kind of thing, salty forms, indicators like that. That's all I can think of right this minute.

MR. ALVIDREZ: Well, thank you very much, Mr. Leking. I appreciate it. That concludes my questions for now.

MS. BAILEY: We will now have cross-examination of Mr. Leking.

Mr. Rankin.

MR. RANKIN: Thank you, Madam Chair.

CROSS-EXAMINATION

BY MR. RANKIN

Q. Mr. Leking, can you hear me okay.

A. Yes.

Q. How long have you lived in southeastern New Mexico approximately?

A. Four years and seven months.

Q. And --

A. Or four years and five months. I'm sorry.

Q. So in that time have you become generally familiar with the groundwater conditions in southeast New Mexico?

A. Yes.

Q. And based on what you've learned in your time there, what can you say about the groundwater condition relating to the sulfates, sulfides, and the potential for anaerobic or anoxic conditions that would generate H2S in groundwater?

A. There's plentiful, fairly plentiful amounts of sulfates and sulfides that -- to be assimilated by bacteria, depending on the condition of the well, and to add, to feed anaerobic activity, yes. I think there's a good supply of sulfates that can be produced to -- is that what you want to know?

Q. Yeah, that's one main one, one of the things I wanted to know. You said as part of your duties at the OCD you also receive complaints from residents regarding groundwater and their well water quality; is that correct?

A. Yes.

Q. And does -- do you receive complaints regarding H2S in groundwater commonly?

A. Not commonly, no.

Q. But you have received other complaints about H2S in groundwater? You have received other complaints about H2S in groundwater?

A. You know, I don't think I have.

Q. So this is the first time?

A. Yes.

Q. And your first time undertaking an investigation of this nature on behalf of the OCD?

A. Yes.

Q. Based on your familiarity with the groundwater in New Mexico, would you hazard to provide a guess or -- based on your experience, what's the most common and prevalent source of H2S in groundwater in southeastern New Mexico?

MR. ALVIDREZ: I'm going to object to a guess.

Q. Based on your experience and expertise as a hydrologist and your previous experience as a hydrologist and investigating contamination of groundwater, do you have an opinion about the source of H2S in groundwater in southeastern New Mexico?

A. No, actually. I haven't studied case histories.

Q. Are you familiar with --

A. I can't really make that call, no.

Q. Are you aware that Mr. Smith has treated his well previously with bleach?

A. Yes.

Q. Are you aware that subsequent to his treatment of the well with bleach that he testified before the Commission that the H2S odor disappeared?

A. I didn't know he testified that it disappeared. I knew that he had -- he told me that it disappeared back in October of 2011.

Q. The fact that he treated his well with bleach and that the odor subsequently went away, does that indicate to you that it is more likely a biological issue than any other source?

A. Not necessarily, because I don't know what the correlation, the time frame is between the time he bleached it and the time it goes away. I kind of got the idea that he bleached it, it didn't go away, and then after a set period of time, it went away, but that's just conjecture on my part.

Q. Are you -- do you know, Mr. Leking, whether or not Mr. Smith has subsequently treated his well with bleach, if there had been other times that he treated his well with bleach besides that time that he mentioned to you?

A. No.

Q. So you don't whether or not he treated his well for bleach -- with bleach prior to doing any sort of bacterial analysis of any kind?

A. True.

Q. And wouldn't treating his well with bleach likely killed any bacteria that were present?

A. Yes, it would. I was under the impression though he did the sampling first and then bleached.

Q. But you don't -- but you don't really know; is that correct?

A. No, there's no way for me to really know.

Q. Okay. Isn't it true, Mr. Leking, also, that if the source were the AGI well, that no amount of bleach would dissipate the H2S?

A. True.

Q. Are you familiar with the water samples that Mr. Smith has taken and had sampled at the Cardinal Laboratories?

A. Yes.

Q. Have you looked at them yourself?

A. Oh, boy, I think I -- I'm not sure if I looked at the Cardinals or not, but I think I did.

Q. If you did, do you recall seeing that in one of the samples there was a high sulfate level?

A. Somewhat remember that.

Q. And high sulfate, as you said, is indicative of -- basically provides feed for anaerobic bacteria in anoxic conditions?

A. True.

Q. To reduce to H2S; is that correct?

A. Yes.

Q. So if you see high sulfate levels, as you said, this provides an opportunity for there to be a source for H2S from bacteria?

A. Yes.

Q. And so if you were to see fluctuating levels of sulfides out of the same well; in other words, if one sample showed non-detect and a subsequent month showed a detection of sulfides, would that indicate to you that there's more likely bacterial activity? In other words, it --

A. It would show the possibility. You'd have to look at the trend over time though to see if it was something else or if it would make sense that the levels you're seeing are due to anaerobes or not and not something -- something just in the aquifer, itself, naturally as a --

Q. I'm sorry. Could you repeat that last --

A. Yeah.

Q. -- could you repeat that last part?

A. That it's not just some kind of mineral phenomenon in the aquifer that's causing it versus an anaerobic -- an anaerobe, you know, eating and respirating and not respirating, something like that. Again, it would be -- potentially it would point towards anaerobic activity taking place.

Q. Regarding your discussions about Mr. Smith's sampling for bacteria, do you know how water samples are normally tested for sulfate-reducing bacteria?

A. I suppose it's -- they do a bacterial count somehow. I'm not -- I'm not sure what, though, the repeatings are, but normally they take a sample of water,

put it under a microscope and count bacteria I believe. I'm not sure if they do that for anaerobes or not.

Q. Are you aware -- Mr. Leking, are you aware that there are actually different tests to analyze for sulfate-reducing bacteria? There's specific tests for different types of sulfate-reducing bacteria?

A. Which might be assimilation of their food stock and then their -- and what they -- and the waste materials they release. That might be one way to do it.

Q. And are you aware how Cardinal Labs does it's testing for sulfate-reducing bacteria?

A. No, I am not.

Q. Just because there's no sulfide-reducing bacteria in one sample for one month doesn't allow you to draw any conclusions about the source of that H2S that Mr. Smith and yourself identified in his tap water; is that correct?

A. Correct.

Q. You said that you identified from high probability rather from low probability to high probability potential sources; is that correct?

A. Correct.

Q. And when you were giving that testimony, there was a little bit of a bad connection. Would you just mind just rephrasing, restating from the low probability to the high probability what sources you identified?

A. Okay. For a -- for -- I would say you would start with your anaerobic bacteria and work backwards. That would be your high priority. That is what's more normally looked for. I don't know. I can't state if -- once again, I haven't looked at a case history in southeast New Mexico in Lea County, but that's what you look for as far as in a groundwater situation, and then after that you look at the pipelines and then the wells and other oil and gas facilities.

Q. So --

A. Just because, you know, if you're not in an oil and gas area, you still could have potential contamination of H2S in your well, and it's going to be due to anaerobic bacteria. So it's commonality that spreads across, you know, non-oil field, also.

Q. So in your opinion, the most likely source is anaerobic bacteria and the least likely would be an oil and gas facility?

A. If you have to talk absolutes, I would rather look at it higher to lower, yup.

Q. Mr. Leking --

A. Just -- just in general every case is different, though.

Q. You testified also that there -- the Xcel pond is a potential source. How close is that pond to the wellhead

of Mr. Smiths?

A. A hundred, maybe two hundred yards away.

Q. And isn't there also a wetlands approximately 200 feet away to the south, southwest?

A. Yes, if you -- if you would call that 200 feet, yes.

Q. Is that the approximate distance?

A. Yes.

Q. And that's the Maddox Lake; is that correct?

A. Yes.

Q. And in your experience do wetlands such as Maddox Lake also produce anaerobic or anoxic conditions?

A. Yes.

Q. So would you also classify that as a potential source, a highly probably potential source?

A. Yes.

Q. So you've got two wetlands within -- each within 300, 400 feet. Wetlands in your mind are highly probably, likely source for anaerobic bacteria that produce H2S; is that correct?

A. Yes.

Q. Mr. Leking, you also have a background in geology, correct?

A. Yes.

Q. And the AGI well is approximately -- so the AGI #1

well is approximately three-quarters of a mile away, correct?

A. Yes, yes.

Q. And it's approximately injecting at a death of 8,700 feet to 9,000 feet?

A. Yes.

Q. And in your estimation, do you think it's likely that any acid gas from that injection would reach through all the layers that we've been discussing a groundwater well that's at about 220 feet; is that correct? I mean, based on your expertise as a geologist and hydrologist do you see that as a likely pathway?

A. Not probable, but it's possible.

Q. Mr. Leking, were you also present and hear the testimony regarding the oil and gas wells that Mr. Alvidrez discussed with you as a potential conduit?

A. Oh, the -- yes -- yes, I heard that discussion.

Q. And I think you mentioned in response that if the wells penetrate the injection zone, then they might be considered a possible conduit; is that correct?

A. Yes.

Q. And did you hear testimony today that the well nearest Mr. Smith's property does not penetrate the injection zone?

A. Yes.

Q. So in your mind does that rule that well out as a conduit?

A. Well, let me qualify what I said. Not only -- it can't have communication with that zone. There can't be -- and I'm just going lead with a rule, but if there's some fracturing that has taken place due to whatever reason, then they're potentially could be a pathway for the gas to migrate upwards. And if it could migrate into that well, it could even migrate up through that well, around the casing, in the casing through facing up. That's why they -- you know, you can't count them out as a potential source, but that's a lot of ifs. So likely, no. Possible, yes.

Q. Mr. Leking, you don't know whether or not there's any fracturing or any geologic pathway that would allow that communication between the injection zone and the plugged and abandoned oil and gas well that's above that injection zone?

A. Right. I don't know that.

Q. That's just purely hypothetical on your part?

A. Hypothetical, right.

Q. Mr. Leking, what kind of H2S monitor was being used to test at the sink?

A. They were personal monitors. Mine's a Proton. I'm not sure what Randy uses, Mr. Smith uses.

Q. Do you calibrate your H2S monitor?

A. It was just newly issued to me, so I did not

calibrate it, but it should have been -- it shouldn't have needed calibration at that point. At least I don't believe it had, but it shouldn't, but to answer, I did not personally calibrate it.

Q. At what personal level does your personal monitor register?

A. One ppm.

Q. Up to?

A. Ten ppm, I think it alarms, and then it goes to -- I'm not sure what it goes to. I was going to say 100 ppm, but I'm not sure.

Q. Do you know what kind of monitor Mr. Smith was using, what model?

A. No, I don't know what model it was.

Q. Do you know whether or not he calibrated his monitors at all?

A. I do not know.

Q. Do you know if he was using a multi-gas monitor?

A. I'm sure it was H2S, but I'm not positive.

Q. Do you know if there's a leech field or a -- a leech field at the trailer, any kind of septic system at the trailer?

A. I do not know.

Q. Mr. Leking, a soil vapor monitor, that would read any H2S that's in the ambient air; is that correct or in the

soil?

A. It should.

Q. And are there not multiple sources of H2S in the immediate area?

A. Potential sources.

Q. Aren't there sour gas formations just up formation from the injection zone?

A. True. That's true. I was thinking more shallow, but yes, there are.

Q. And when you drive in the area, isn't there ambient H2S in the air?

A. Yes.

Q. What level is the ambient H2S? I mean, I guess it probably varies from place to place, but are you familiar with the ambient air conditions in southeastern New Mexico in the immediate area?

A. No. No, I'm not.

Q. Mr. Leking, have you driven on Highway 529 between Hobbs and Artesia?

A. Yes.

Q. Are you aware of the air conditions on that stretch of highway?

A. Yes.

Q. Are you aware what the levels of H2S are on that stretch of highway?

A. No, sir.

Q. Are you able to smell H2S at Local Hills?

A. At times, yes.

Q. Are you able to smell H2S at Mr. Smith's property, just in the ambient air?

A. Not when I was out there.

Q. Mr. Leking, if there are other wells from which water samples are taken approximately equal distance from Mr. Smith's well to the AGI and there are no sulfides in those water samples, would that tend to lead to a conclusion in your mind that the H2S being identified in Mr. Smith's well are more likely bacterial than the AGI?

A. Depending on the depth of the well. You might have to take into -- take in the common depth of the well, how the H2S is migrating. You know, is it a zone outside the zone that that other well was on. You know, are we comparing apples to oranges.

Q. And if those water wells were completed and producing water from the same zones as Mr. Smith's well?

A. It would be a good indication.

MS. BAILEY: Mr. Rankin, do you have many more questions?

MR. RANKIN: I do have a few more, Madam Chair, and I know it's time for lunch, and I don't want to keep us much longer, and I appreciate that I've --

MS. BAILEY: Let's say we take a ten-minute break, and then we can complete your questions, and if the Commissioners are -- would have any others. Then you're ready for a lunch break.

MR. BALCH: Well, if we can be done in 15 minutes or so.

MR. RANKIN: I think so.

MS. BAILEY: Well, we'll take lunch at 12:30.

Q. (By Mr. Rankin.) Mr. Leking, are you aware that there's a methodology for treating H2S in groundwater sources, drinking water sources?

A. I -- I don't know what it is. I would imagine there is. I can't tell you right offhand what it is.

Q. So you're not aware with -- in southeastern New Mexico it being a common practice to have H2S treatment systems in --

A. Oh, yeah. No, I have to correct myself. Yes, I am.

Q. So is it common in southeastern New Mexico for people to have H2S treatment systems or systems that treat H2S in their groundwater?

A. I don't know "common", but I know it exists.

Q. Are you aware of any way to identify or fingerprint to distinguish between sources of H2S?

A. Again, I haven't gotten that far, but I would

imagine there are ways to do it, especially I would imagine acid gas would contain, you know, methane, other -- if that is where it is originally found and coexistence with methane and probably has some kind of gaseous hydrocarbon fraction that would be found with it.

Q. And do you have any idea of how that might be the methane or any other constituents in the gas might be different from a H2S producing well -- or rather a producing well, an oil and gas production well?

A. Say that again.

Q. What I'm asking is if you were trying to identify a source and you're looking at other constituents in the gas such as methane, as you mentioned, is there any way to distinguish that between a production well as a source?

A. I'm not that well schooled. I wouldn't know.

Q. I guess the point I'm making, Mr. Leking, is that the source of H2S from the production wells would be the same as that being injected, so you wouldn't necessarily be able to distinguish the H2S; is that right?

A. I'm sorry. Say that again.

Q. What I'm trying to make the point, Mr. Leking, is that the H2S being produced from oil and gas wells in the area would likely have a very same constituency as acid gas being injected; is that correct?

A. Yes, that would follow, yes.

Q. You talked about installing monitoring wells?

A. Yes.

Q. What would you be looking for in the monitoring wells?

A. The presence of the sulfates and sulfides, the feed material for the anaerobes. Why am I saying that? Well, that's one thing I may be looking for, H2S.

Q. And isn't that what we're already seeing in Mr. Smith's well is the feeder material?

A. Right. I think I've gotten onto a one-track mind here. We would look for the constituents that would indicate it from all sources which would include hydrocarbons. I think that's why I said chloride before and also, what would indicate anaerobic growth, which would be the sulfides, sulfates or not growth or whatever, some respiration, waste products and feed stock.

Q. Mr. Leking --

A. Go ahead.

Q. I'm sorry. I was just going to say you just testified that it would be hard to distinguish any of the constituents of the gas from a producing well, so if you had monitoring wells, how would you distinguish what the source is?

A. Would it be logical, the concentration would increase in the direction of the source, and if the source

was the acid gas injection well for whatever reason, you would see an increase in concentration as you went closer to the acid gas injection well.

Q. How many monitoring wells would you have to drill to do that?

A. Oh, several.

Q. And so you'd just be looking --

A. Not an accurate estimate.

Q. You'd just be looking for a gradient then?

A. More or less, just looking for an increased concentration that points towards the source.

Q. That still wouldn't confirm the source, would it, Mr. Leking, because you've got multiple sources of H2S in the area?

A. You would have to limit -- limit the possibilities, yes. You'd have to put in, like I said, several monitoring wells on that. I don't know how many you would need.

Then, again, though I -- you know, how many oil and gas facilities are we talking about that could be producing, or are you -- are you saying maybe from years ago, or you know, I mean, that would be the -- would be contaminant sources themselves right near that area? I haven't done a full survey, but I haven't seen that many, but I don't know how confounded the data would be.

Q. I just want to make the last point, Mr. Leking. Are you aware -- you heard prior testimony that there are approximately -- there are 19 oil and gas wells within one mile of the injection zone?

A. I did not -- no, I'm not aware of that.

Q. And were you aware --

A. They are within one mile, though, yeah.

Q. You're not aware that some --

A. But I was not aware of that, but -- you know, I was not aware of that.

Q. And that some of those --

A. I haven't done a full canvass yet. I know what I've seen, but I did -- I have seen -- I didn't know there were 19. I'll just put it that way.

Q. And are you aware that some of those 19 wells are completed and producing from shallow zones that are sour?

A. I will -- I'm going to say I didn't know that.

Q. That you did?

A. I did not.

MR. RANKIN: Thank you, Mr. Leking. I have nothing further.

MS. BAILEY: We'll take a break and continue the cross-examination at -- it's hard to say -- at 1:30. So, Mr. Leking, we will ask you to come back for more questioning at 1:30 this afternoon.

THE WITNESS: Very good. Thank you.

(Note: Hearing in recess at 12:21 p.m.

and reconvened at 1:31 p.m.)

MS. BAILEY: Mr. Leking, our attorney has arrived. We are about to continue the case. You were under cross-examination.

Mr. Rankin, are you through with cross-examining Mr. Leking?

MR. RANKIN: Thank you, Madam Chair. I am.

MS. BAILEY: Ms. Gerholt, do you have any questions?

MS. GERHOLT: I do have one question for Mr. Leking.

CROSS-EXAMINATION

BY MS. GERHOLT

Q. Mr. Leking, can you hear me?

A. Yes.

Q. Have you handled this complaint by Mr. Smith as you do other citizen complaints?

A. Yes.

Q. And what is your protocol for handling complaints?

A. Make the contact, log in any correspondences, discussions, conversations you have, do field inspections, take samples if possible, and then identify the potential sources either by -- well, by in office and field

investigation and try to come up with a plan on how to remediate, mitigate the situation. That's pretty much it. There is no formalized procedure. That's just how I go about it.

MS. GERHOLT: Okay. Thank you. I have no further questions.

MS. BAILEY: Commissioner Warnell, do you have any questions?

MR. WARNELL: I have no questions.

MS. BAILEY: Commissioner Balch, do you have questions?

EXAMINATION

BY MR. BALCH

Q. Good afternoon. Is it Leking or Leking?

A. Well, Leking.

Q. Leking. Good afternoon. You mentioned that there was observation of H2S in the water well in September of 2011?

A. Yes.

Q. And that had gone away in October?

A. Oh, no. That's two different years. 9-07-12 -- well, before that. Let's see. Actually it was in August that we tested the water, and -- but that was this year. In '10 -- 2011, at the end of another period of contamination or of seeing -- seeing the H2S in the water, it stopped so

from a time in late spring, early summer of 2011 to October 2011, it was present, and then in October 2011 it disappeared, and then it reappeared in April of 2012, and then to my knowledge, it's still present in the well.

Q. Still present. Have you had contamination of groundwater from a source -- it's my understanding that would occur as a plume?

A. Yes.

Q. And that plume would be continuous once the contamination was in the water as long as there was an influx of material?

A. True. If there's an intermittent source, either due to something driving the contamination to the well or drawing it over there and it's on and it's off, it's possible that it might recede away from the well, or if the source, itself, would increase and then dissipate, you might have periods where you see -- see the contamination and you don't.

Q. So there are things that can effect the hydrologic gradient?

A. Yes.

MR. BALCH: Thank you. That's all I have.

EXAMINATION

BY MS. BAILEY

Q. This is Jami Bailey. I have questions about your

description of the sample that was taken August 1st at the trailer kitchen sink?

A. Yes.

Q. You described the sample as cloudy water. Was that cloudy as in possibly air entrained into the water, or was that cloudy because of a precipitant, or did you examine the sample to try to make any determination about that description as cloudy?

A. I didn't take a sample to have it analyzed for any mineral constituent. In my reading, though, I've seen that H2S will lend a cloudiness to the water, so it could have been due to the H2S, but I can't say for certain whether it was due to the H2S or to some other constituent being in the water.

Q. Okay. What is the direction of groundwater flow in this area?

A. Normally it's to the southeast, but it's -- the aquifer here is -- can be fragmented, I guess is the way to put it. So you can have local regimes, but normally it's about to be to the southeast in general.

Q. Okay. And nowhere have I noted what the depth of the trailer well --

A. I believe -- I believe it's 70 or 100 feet, and groundwater is spotted at like 57 feet, and our records here are -- show it to be from 46 feet to about 57, 58 foot range

for top or ground water.

Q. So very shallow then?

A. Yes, it is.

Q. And is shallow water more vulnerable to contamination from surface sources?

A. Yes, yes.

MS. BAILEY: That's all I have. Thank you very much.

Do you have any rebuttal with your witness, Mr. Alvidrez?

MR. ALVIDREZ: I have some redirect very briefly.

MS. BAILEY: Redirect.

REDIRECT EXAMINATION

BY MR. ALVIDREZ

Q. Mr. Leking, in terms of the gradient flow I think you described it as being fragmented. Can you tell the Commission what effect pumping from a well, for example, would have on gradient, water gradient?

A. Yes, it would draw the -- it would change the gradient in the direction of the -- of the well -- in the direction of where the well is. A cone of depression is set up, and water is drawn towards that cone of depression. Such as the irrigation well to the west, it would -- it would draw water towards the residential well potentially from -- from the south, from the east. It is noncommittal.

As I stated, it was northwest of the residential well, but then there's the other irrigation well. It can draw it over from -- I would say that it's -- it's north of the AGI. It could draw it from the south. It could draw it -- well, it's cone of depression. It draws it radially, but yeah, that could set up a gradient that would draw it towards those wells, and if there's a receptor between, it would pick up, potentially pick up constituents coming from -- emanating from that source that it was being drawn from.

Q. You were asked a question by DCP's lawyer about whether it would be practical to be able to distinguish between the H2S that might be coming from the injection well versus H2S that might be coming from other, I guess, producing wells in this vicinity, and I think your answer was it could be difficult to distinguish those two since they're likely involved in the same, same basic gas, I guess. But, you know, let me ask this, would -- would you expect there to be some changes in the constituents in terms of the AGI gas having gone through a -- having been processed versus the H2S that would be -- you know, that might be coming from producing wells in the area?

A. Yes, I would imagine the percentages, the volumes would be different. It would -- I would think so.

Q. And with regard to being able to differentiate between the AGI gas and gas that's produced through

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biological functions, would you anticipate that those gasses would have different makeups, chemical makeups?

A. I would think so.

MR. ALVIDREZ: Those are my questions. Thank you very much.

MS. BAILEY: So can your witness be excused?

MR. ALVIDREZ: Yes.

MS. BAILEY: Thank you, Mr. Leking for your participation.

THE WITNESS: All right. Thank you very much.

MS. BAILEY: You are now excused.

MR. ALVIDREZ: Appreciate it very much. Thank you.

THE WITNESS: You're welcome. Thank you.

MS. BAILEY: Do you have other witnesses?

MR. ALVIDREZ: We do. Let me ask on the phone, is Ms. Keene on the phone, please?

MS. KEENE: Yes.

MR. ALVIDREZ: Hello, Ms. Keene. This is Rick Alvidrez. We haven't met, but we appreciate you sticking with us on the phone.

If I may, if we could have her sworn, we'll start with the examination.

CELEY KEENE

after having been first duly sworn under oath,

was questioned and testified via telephone as follows:

DIRECT EXAMINATION

BY MR. ALVIDREZ

Q. Are you able to hear me all right?

A. Yes, I can hear you.

Q. Okay. Thank you, Ms. Keene. Can you tell us where you're employed?

A. Cardinal Laboratories.

Q. And what is your job at Cardinal?

A. I'm the laboratory director.

Q. And what are your job duties as laboratory director?

A. Oversee all operations of the lab, quality control, conversing with clients, reports, all of that kind of stuff.

Q. And what -- what does Cardinal Laboratories do?

A. We do environmental testing for water and soil basically on any kind of EPA contaminants that might be present, monitor wells, those kinds of things.

Q. And can you tell us about your educational background?

A. I have a Bachelor's in Chemistry from UTPB.

Q. And how long have you been working for Cardinal?

A. Five years.

Q. And what -- were you always the lab director at

Cardinal, or have you had different --

A. Yes, yes.

Q. And prior to going to work for Cardinal, what -- where did you work?

A. I worked for Environmental Lab of Texas, and then they turned into Sedco.

Q. And what did you do for Environmental Labs/Sedco?

A. I was the laboratory technician, then organic technical director and lab director.

Q. As part of your education and training, do you have expertise in the area of analyzing water samples?

A. Yes.

Q. And how long have you been involved in the business of analyzing water samples?

A. About 13 years.

MR. ALVIDREZ: With that, Madam Chairman, I would tender Ms. Keene as an expert witness in water analysis.

MS. BAILEY: Do we have a first name and spelling of the last name, please.

THE WITNESS: It's Celey, C-e-l-e-y; Keene, K-e-e-n-e.

MS. BAILEY: Okay. Are there any objections?

MR. RANKIN: Madam Chair, I would not object if Ms. Keene's testimony is restricted to the laboratory protocol for sampling of the water and does not stray into

any opinion regarding the source of -- potential source of any sulfides identified in the samples.

MS. BAILEY: Do you have a response to that?

MR. ALVIDREZ: I'm going to ask her questions certainly about, you know, the potential sources of H2S as they relate to organic -- you know, coming from organic sources, biologic sources. So I am going to ask her to talk about water sampling results related to that.

MS. BAILEY: Ms. Keene, do you have experience in that particular area that you did not discuss before?

THE WITNESS: I'm sorry. I didn't hear all of that that they said.

MS. BAILEY: Okay. Mr. Rankin, would you reiterate what you said before?

MR. RANKIN: Ms. Keene, I indicated that I am okay with your testimony as long as it is restricted to the sampling protocol and the analysis that you conducted at the laboratory, and that it not stray into any opinion regarding the source or potential sources of the sulfides in the samples that you tested.

THE WITNESS: Okay.

MR. ALVIDREZ: And, Ms. Keene, this is Rick Alvidrez. I responded that I do anticipate -- well, I am going to ask you, if allowed, about your analysis, your sampling that you did with respect to, you know, biological

constituents in the Smith water well.

THE WITNESS: Okay.

MR. ALVIDREZ: And I think the question that Chair Bailey asked was whether you had expertise with regard to that issue?

THE WITNESS: Yes.

MR. RANKIN: Madam Chair, might I ask one question for voir dire?

MS. BAILEY: Yes.

MR. RANKIN: And this may help clarify.

VOIR DIRE EXAMINATION

BY MR. RANKIN

Q. Ms. Keene?

A. Uh-huh.

Q. Does Cardinal Laboratory, did you, yourself, or your laboratory actually do the analysis for sulfate-reducing bacteria in the sample that --

A. No, we actually subcontracted that to Martin Water Labs.

Q. So is that something that your lab has expertise in then?

A. No, sir.

MR. RANKIN: Nothing further.

MR. ALVIDREZ: If I may?

MS. BAILEY: Yes.

DIRECT EXAMINATION CONTINUED

BY MR. ALVIDREZ

Q. Is -- is -- who was the lab that did the work on the biological sampling?

A. The sulfate-reducing bacteria?

Q. Right.

A. Martin Water Labs.

Q. And is that a lab that you commonly utilized and rely upon in your tests?

A. Yes, sir.

Q. And in your experience have they been a reliable laboratory?

A. Yes, sir.

Q. And is this the type of information that you rely on as an expert in water analysis?

A. In -- yes, for the bacteria, yes.

MR. ALVIDREZ: Again, we would tender Ms. Celey as an expert in water analysis.

MS. BAILEY: The Commission will listen to her testimony and judge it according to her experience.

Q. (By Mr. Alvidrez.) Ms. Keene, I was calling Ms. Celey. I apologize.

A. That's okay.

Q. But, Ms. Keene, can you tell the Commission when you first became acquainted with Mr. and Mrs. Smith?

A. I believe it was back in July of 2011. Ms. Smith contacted me and said that they were having some problems with their water well, and I believe that they had taken a bacteria sample and it produced total coliform e. coli to the City of Hobbs, and it had come out negative, and she was wondering -- she said there was a sulfide smell, and they thought it was maybe H2S and asked us if there was any that we could test for, you know, in regards to that.

Q. And did you ultimately do any testing?

A. Yes, we did.

Q. And what testing did you perform?

A. On several occasions we did -- I think there was actually four separate samples that we analyzed. We did sulfide, sulfate, a BTEX analysis and also sulfide-reducing bacteria.

Q. Let me ask, we'll try and break it down into the individual testing. Do you remember analyzing samples taken from the Smith well in July of 2011?

A. Yes.

Q. And what did you sample for during that particular test regiment?

A. That particular one, they brought in a sample, and we tested for sulfate and total sulfide.

Q. And why were you testing for those particular constituents?

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A. Particularly because, you know, normally in a water well you would suspect if it is -- if it does smell somewhat like sulfide, it would be bacteria related. So we wanted to see if there was elevated sulfate levels, because that could indicate something like that, and then also to run the total sulfide, you know, just that it be able to detect the actual H2S in the sample.

Q. Okay. And I understand you also did at that time analyzed for BTEX?

A. No, that was a separate sample.

Q. Okay.

A. That was I believe in August of 2011.

Q. Can you tell us what the results were from the July sampling event?

A. In July the sulfates came out to 464 milligrams per liter, and then the total sulfides came out as non-detect or less than our reporting limit.

Q. And is there a particular sampling protocol that is either necessary or desirable when you're testing for sulfides?

A. Yes, and this sample did not meet that for sulfides. I had discussed with Ms. Smith that, you know, this sample actually had some head space in it. So there was space at the top of the bottle and had told her, you know, if there is sulfide present, it's going to go into

that head space. So as soon as you open the bottle, you're usually going to lose it. So we went ahead and ran it just to be on the safe side, because it did have a smell to it, but it did come out negative.

Q. And can you tell the Commission what -- or were you able to identify the smell?

A. You know, it smelled like sulfide to me, but you also have bacteria that can produce that smell, too. So when we had her take another sample with no head space in it and bring it back, and that was the first part of August, I believe, and that one also came out negative, I believe.

Q. Let me ask. Did -- did Cardinal issue a report dated July 21, 2011, with it's sampling results?

A. Yes.

Q. And let's go -- moving on, you talked about a subsequent analysis that was done in August of 2011?

A. Yes. There was two -- there was two different samples done that month.

Q. Okay. Can you tell us about the first one?

A. The first one came in, and it was brought in with zero head space in the sample bottle, but there was no preservative. So, you know, we figured we could try it without the preservative, and it came out negative. So the following sample we actually added a preservative that would precipitate out the sulfide. It's a zinc acetate and sodium

hydroxide, and what that does is it actually grabs onto any sulfide that's present in the sample, and it will precipitate out into the bottom of the bottle as like a white precipitant, and in that case then we were actually able to detect a sulfide.

Q. And did you prepare a report, a written report to the Smiths as a result of that sampling?

A. Yes.

Q. Is there a report that you prepared dated August 3, 2011?

A. Yes. That was -- let's see I believe the August -- yeah, the August 3d one, that one was actually negative. It did not have preservative in it; just had zero head space.

Q. Okay. And you did a second test again, I guess later in August?

A. Yes.

Q. And did you issue a report for that test dated September 1, 2011?

A. Yes.

Q. And can you tell us the results of that test?

A. We actually did a BTEX analysis and a total sulfide. The BTEX came out -- everything was less than our reporting limit, and then the total sulfide came out as .634 milligrams per liter.

Q. And what is the significance of having a sulfide reading in your sample?

A. That -- I mean, that definitely means that you have some kind of -- whether -- this is -- this actually, the zinc acetate and sodium hydroxide helps to eliminate some of the interferences that you might see that would produce false positives. So this one actually came out positive for the H2S. It definitely had some in the water sample.

Q. Okay. Did you discuss with the Smiths the possibility that the elevated sulfides could be as a result of biological activity?

A. Yes, we did.

Q. And what were the discussions surrounding that topic?

A. We talked about that there are certain bacterias, which -- sulfate-reducing bacterias that can be present within the well, and they do emit an odor that is very similar to H2S. So I suggested that they may want to run that kind of analysis for that particular bacteria to eliminate that as a factor.

Q. Okay. And did the Smiths run that analysis?

A. Yes, they did.

Q. And when was that?

A. That was in October of 2011.

Q. And did you issue a report with the conclusions in that analysis dated October 19th, 2011?

A. Yes, we did.

Q. And what were the results of that test?

A. That's the one that we subcontracted to Martin Water Labs, and they came up with -- it was less than zero. So it was zero, and that's counts per mill.

Q. Okay. So when you say less than zero, what does that mean?

A. Well, they have it -- well, they have a detection level of zero. So in our reporting format, you know, we can't just put zero. So we actually put less than zero. In other words, there's nothing there.

Q. What were you analyzing for?

A. The -- it's the sulfate-reducing bacteria that produces the sulfide smell.

Q. If the source of the sulfide smell was the -- was bacteria, would you anticipate finding the presence of bacteria in the water sampling?

A. Yes.

MR. ALVIDREZ: Thank you. Those are my questions.

MS. BAILEY: Mr. Rankin, do you have any questions?

MR. RANKIN: I do. Thank you.

CROSS-EXAMINATION

By MR. RANKIN

Q. Ms. Keene, how are you today?

A. I'm good. How are you?

Q. I'm okay. Just looking at your reports for each of the samples that you received from the Smiths, and I note that on the second page of each where -- on the top right corner where it says Sampling Condition?

A. Yes.

Q. There are -- there's a double asterisk?

A. Uh-huh.

Q. And on this following page, the code for that is that the samples were not received at the proper temperature; is that correct?

A. Correct.

Q. And that's a code that's indicated on each of the four samples or however many samples you received from the Smiths; is that right?

A. Let me check. Yes, I believe it was noted on all of them.

Q. Let me ask you a little bit about sulfate-reducing bacteria. The sample you received also was not received in a condition that was at the proper temperature, correct?

A. For the sulfate-reducing one?

Q. Uh-huh.

A. Correct.

Q. How was that -- how does Martin Labs test for sulfate-reducing bacteria?

A. I believe that they do plate counts. I don't know the ins and outs of the methods, but I know it is a plate count.

Q. If you -- so you're not sure how they actually do the sampling; is that correct?

A. No, sir.

Q. So if they were to do a smear on an agar plate to actually cultivate the bacteria, would that surprise you, or would that make sense in how they do their analysis?

A. It's possible that they do it that way. I don't know. You know, there's tons of different bacteria, and they do them several different ways. So I don't know the particulars of this method.

Q. So if they were to use a method that required the bacteria to be cultured -- and this is a -- this is a sulfate-reducing bacteria, which lives in an anoxic or zero oxygen environment; is that right?

A. Yes.

Q. What would happen with the bacteria if you brought it to an oxygen rich environment?

A. It would start oxidizing.

Q. The bacteria I'm talking about?

A. Yes.

Q. And when you say oxidizing, what do you mean by that?

A. It could change forms.

Q. Would it be able to be cultured if it were oxidized?

A. I'm sorry. Can you say that again?

Q. Would the anaerobic bacteria that lives in an anoxic condition thrive and live in an oxygen rich environment?

A. Yes, I believe so.

Q. It would. So you think they would be able to culture it?

A. They should be able to, yes, and I don't know the ins and outs of those methods, so --

Q. All you know is you got the results back from the Martin Labs as being negative?

A. Correct.

Q. Ms. Keene, the presence of sulfides in a reducing environment, could they be present even without -- let me rephrase that question. The presence of sulfides in a reducing environment doesn't indicate anything other than that there might be sulfide. I mean, it doesn't necessarily indicate anything about the bacteria or the source, correct?

A. Correct.

Q. I note that on the August 31st sample that the

Smiths requested tests be run on CO2?

A. Yes, and we were not able to do that, because that one really needs to be done in the field.

Q. Is that because CO2 is volatile, will --

A. Yes, extremely volatile.

Q. Can sulfide persist in an sample of water even without the presence -- or let me back up. Can sulfide persist in groundwater even without the presence of bacteria?

A. Yes.

Q. Did you know that Mr. Smith has treated his well previously with Clorox, with bleach?

A. They had mentioned, yes, that they had. I believe that was before the first sample that we received, that they had bleached their well.

Q. And that was when?

A. I believe it was before the first sample that we received in July.

Q. Of 2011?

A. Yes. I don't know when. They did not tell me that, but they did say that they had bleached their well.

Q. In your opinion, Ms. Smith, if Mr. Smith poured bleach down his well and the sulphur smell went away, in your opinion would that indicate that it was a biological issue?

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A. I would say it's a possibility, because you know, it is a type of bacteria, of course, and it would -- you know, it could get rid of the smell if it were to kill that bacteria. Now, I don't know if that could be -- if you were to have some other area that was contaminating the well, not necessarily bacteria, if that were to take care of the problem and then it would come back, I don't know, but I know if it is a bacteria issue, bleach can definitely take care of that.

Q. And, Ms. Keene, your measurement for H2S, it's actually you're measuring a proxy, correct?

A. We're actually measuring the total sulfide.

Q. And you reach a calculation or empirical calculation for H2S based on the sulfide measurement; is that correct?

A. Yes, correct.

Q. And what's that calculation?

A. It is actually the total sulfide number times 1.06.

Q. Are there any other methods for analyzing for H2S?

A. H2S is, you know, extremely volatile. This is the best way to do it whenever it's present in water, because water can hold only so much H2S, and -- but you can also do it with air sampling. You can do the analysis directly as you take the sample out of the well onsite, those kinds of

things. So there are different ways to do it, and there's also different methods to do it, too. This is one of the better ones for water.

Q. Now, you testified that you ran four separate samples; is that correct?

A. Yes, correct.

Q. And not all the samples were tested for H2S or sulfides; is that correct?

A. The first three were tested for the total sulfide. The last one was not.

Q. And of those first three only one indicated any presence of sulfide, which you explained on your direct testimony; is that correct?

A. Yes.

MR. RANKIN: Thank you, Ms. Keene.

MS. BAILEY: Ms. Gerholt, do you have any questions?

MS. GERHOLT: I have no questions for this witness.

MS. BAILEY: Commissioner Warnell.

MR. WARNELL: I have no questions.

MS. BAILEY: Mr. Balch.

EXAMINATION

BY MR. BALCH

Q. Good afternoon, Ms. Keene.

A. Hello.

Q. My question really has to do with sampling and testing and getting the samples to the lab in the correct condition. Do you have defined protocols that you give to people that come by your lab and want to test something? You give them sample bottles or do they supply whatever they have?

A. We try and make sure that we provide the sample bottles, so if someone were, you know, called and said, you know, that they have some kind of issue with a well or they need to sample for something, you know, we tell them it's best if you come get the containers from us. That way we can tell -- make sure they have the right preservatives. We can tell them you need to make sure it stays on ice, how far you need to fill the bottles, those kinds of things.

Q. So for the first sample, they just brought it to you, and after that, did you supply them with bottles?

A. Yes, correct.

Q. What about the temperature? I guess the temperature wasn't maintained?

A. Let me see. The first sample was not received at the proper temperature, and the other samples I believe were taken the same day and brought in on ice, but we received it, you know, within either 15 or -- 15 minutes to an hour or something from them sampling it. So there was not enough

time for it to reach the proper temperature.

Q. So it hadn't cooled down to whatever temperature you wanted it to be?

A. Correct, and you know, our -- our acceptable temperature for it be at the proper temperature is 66 degrees celsius or below, but if there's not enough time for it reach that temperature, then, of course, you know, we're going to note on the chain of custody that it was brought in on ice, but there's not enough time for it to reach temperature.

Q. Is it better -- in that situation would you normally wait for it to cool, or would you prefer to sample it as close as possible?

A. It's actually better just to go ahead and do it. You know, I mean, it was -- you know, a lot of these were taken within 30 minutes and brought directly to the lab. So that's pretty much the best you can do without doing it onsite, doing the analysis onsite.

MR. BALCH: Thank you.

THE WITNESS: Uh-huh.

EXAMINATION

BY MS. BAILEY

Q. This is Jami Bailey. I'm looking at the results on the August 31st samplings where the sulfide was .634 parts per million.

A. Yes, ma'am.

Q. I don't know how to make that relative to anything. Are there water quality standards or EPA standards or anything such as that on which we can assign a ranking or a value to this?

A. I don't believe that there is an EPA level for sulfide in water. The only thing that I can really relate it to is normally you can detect just by smelling sulfide at about I believe it's -- it's in parts per billion, so like 2.5 parts per billion, a very low amount is when you can actually detect it just in the air.

MS. BAILEY: Okay. That's very helpful. Thank you. Are there -- do you have any redirect?

MR. ALVIDREZ: I do not.

MS. BAILEY: Then may the witness be excused?

MR. ALVIDREZ: Yes. Well, I guess just one other matter, and that is, I would move the admission of exhibit -- Smith Exhibit 3 into evidence, which are the sampling results that we just discussed.

MS. BAILEY: Any objections?

MR. RANKIN: No objection.

MS. BAILEY: Then they are so admitted.

MR. ALVIDREZ: Okay. I think we can excuse her.

MS. BAILEY: Thank you, Ms. Keene, for your participation.

THE WITNESS: You're welcome.

MS. BAILEY: Bye bye.

Do you have any other witnesses?

MR. ALVIDREZ: We do. Is Mr. Brake on the line? We will move to some live witnesses then.

MS. BAILEY: Would you please swear in the witness.

RANDY SMITH

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. ALVIDREZ

Q. Mr. Smith, for the Commission and the court reporter, can you please introduce yourself.

A. I'm Randy Smith. I am the landowner and -- well, farm and ranch next to the AGI or AG 1 well.

Q. And can you tell us where you're employed?

A. I work for Transwestern Pipeline Company.

Q. And what do you do for Transwestern?

A. I am a gas, natural gas maintenance, operation, maintenance technician.

Q. So you actually work in this industry; is that correct?

A. Yes.

Q. And how long have you worked in the industry?

A. Thirty-two years.

Q. And I take it that you're a proponent of oil and gas development in this state?

A. Yes, I am.

Q. Can you --

A. It raised my kids.

Q. Can you please tell the Commission how the location of your ranch and ranch house, vis-a-vis, the AGI well?

A. Yeah, my land -- I own about a section, and I would say it's a good quarter a mile east and -- of the well, AG 1 well, and it goes a half a mile or maybe a little more to the west, and then it's about a half a mile wide.

Q. And I guess, can you tell the Commission when -- when did you first acquire the property, your ranch?

A. Oh, I am terrible on dates. I had that wrote down. I don't know. I think it was 199- -- 1998.

Q. All right. And so the Linam Gas Plant, itself, was there and operating at that time, right?

A. Yes.

Q. And when was it that the AGI well became operational to your knowledge?

A. I'm going to have to get my list, because I wrote some of those dates down. I can't remember exactly.

Q. Is your list in the notebook here?

A. I thought it was. I may have -- I don't know what I done with it. I may have stuck it in my coat pocket, and I put my coat in the car. I don't remember the exact date when they went --

Q. Well, that's in the record.

A. Yeah.

Q. But can you tell the Commission once the AGI 1 well started operating, did you notice anything different with respect to what the conditions were on your farm?

A. Other than just the smells, you know, of the flares and the alarms and sirens going off right at first. That's all I noticed.

Q. Okay. When did -- when did the issue start appearing with regard to any water wells and suspected H2S?

A. About -- we moved a trailer house in there. We had a farmhand, and we put him a brand-new trailer by the barn area, and we had been using this well for years to water cattle, and I worked around it, you know, fixing floats, whatever maintenance I needed. I was around that water a lot. Anyway, we put this trailer in there, and my farmhand after he was -- after he got it hooked up, he was in there for two weeks, and he come to me and said, "There's a funny smell in that water."

Q. Let me ask -- let me stop you there and ask, was this before or after the AGI well started to operate?

A. This was after. After -- yes.

Q. Do you remember the approximate time frame when this occurred? Well, I'm going to have to ask you just please you'll have to testify yourself. We'll get Ms. Smith on the witness stand.

A. What was the question again, Rick?

Q. If you knew about what time your ranch hand brought up the issue about smell in the water?

A. We got the trailer hooked up around the 15th of 2011 -- the 15th of April, and May 1st, I believe that's when he told me he had -- there was a strange smell in the water.

Q. And what did you do in response to --

A. Well, you know, I'm thinking it was bacteria, that the well had problems with bacteria. So anyway, I went in there in the trailer, and immediately I noticed that the sink was rusting, the faucets, and I said, "Man, what is going on here?" We turned the water on, and it was a terrible smell, rotten egg, stout. And I told Fred, "Do not use this water until we get it cleared up." And so what we did then was called the Hobbs Water Department and told them what we had, and she told us how -- the best way to bleach that well and to kill any bacteria.

Q. And what did she tell you?

A. Just to pour bleach down the well, let it set for,

you know, four hours, and then run it a whole lot after that to get all that bleach out of there.

Q. And did you do that?

A. Yes, yes.

Q. And what -- what was the result after you did that?

A. Well, I told the farmhand to keep watching it, and so I still didn't want him to use it, but anyway, he said the smell was gone. So I thought well maybe we got it, but what happened with that bleach, man, it covers up -- when you run the water after you bleach a well, you smell bleach. So it seemed like we had it, and then a few days later, he come back to me. He said, "It's back again."

Q. You know about how long it was?

A. It was probably maybe another two or three weeks.

Q. And then what did you do?

A. We bleached it again. We took -- my wife and son poured four gallons of bleach down the hole again, and then let it set for four hours, then run it. The lady at Lea County Waters said, "Just let it run for several hours," and that's what we did.

Q. At this point in time were you, you know, doing -- doing any analysis, having any water tests done?

A. No.

Q. Were you using any H2S -- were you --

A. We were -- I think we were up here in July in the last hearing, and I made the Board aware that I was smelling sulphur. So what was your question?

Q. I was going to ask, were you having any sampling done or anything like that?

A. We did take the -- once we got all the bleach out of it, we did take the sample to the Hobbs City Water Department, and she checked it for e. coli, whatever they -- their normal -- and bacteria, and she had -- it was negative.

Q. Okay. At this point in time were you trying to use your H2S monitor or anything like that?

A. No, no.

Q. What happened next with regard to this well?

A. Well, my farmhand quit, and I don't -- I hope it wasn't because of the water, you know. He might have been afraid of it. I'm not sure, but anyway, I went into the trailer, and here it was again. It's right back. And so this time I got a H2S monitor. With the company I work for, I have one, and I took it and held it over there, and boom, there it was. It was high.

Q. Let me ask you as part of your work for Transwestern, do you get any training in H2S?

A. Yes, every year. Every year we go through H2S training.

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Q. Okay. And do you get trained on the use of your personal monitor?

A. Yes.

Q. And do you -- as part of your job, do you have to have it calibrated?

A. Calibrated, yes.

Q. Was your -- let me ask my question. When you were using your monitor in your trailer, had it been calibrated within the permissible time frame?

A. Yes.

Q. All right. And can you tell the Commission what the results were when you utilized your personal H2S monitor?

A. We've -- we've seen H2S over 20 parts per million out of that faucet. Sometimes we go in there 4, 5, 6 parts per million. I checked it Tuesday before I come up here, 3 and 4 parts per million.

Q. When did you decide to have -- have a laboratory start looking at it?

A. Well, that would have been the first sample there. I thought, I can't -- I don't want to start, you know, claiming that something's coming from somewhere unless I have evidence or facts. So that's what I did. I went to Cardinal Lab, had my wife take samples to Cardinal Lab per their specifications, so that we could rule out bacteria.

This is so strong, it can't be -- I've smelt H2S from a -- like if your hot water heater sits there and it kind of spoils the water if you don't use it, and this is nothing like that. This is extremely strong.

Q. Have you -- you know, is there -- does there appear to be a pattern in terms of, you know, when you smell the H2S from the water and versus when you don't or if you don't?

A. It -- it varies, you know, like I just said in strength, and it will be real high some days and real -- and then low. It almost acts like it does in a pipeline. We -- we have pockets of H2S that sometimes get in our gas, and you'll see real strong H2S, and then it will back off, and then here come another pocket. It's similar to that. Let's see. This is December 2012. In January of this year, it was extremely low. I thought, "Well maybe, whatever's causing it we're about to get rid of it." And in April, you know, we kind of monitored. We're busy. We're farming and ranching, but in April, I seen that they were working on their well, DCP, and that was April 28th. We were working our calves. We were out there all weekend long. Two weeks later, I checked it. It was back up high again. So I don't know if that has anything to do with it, but that's the fact.

Q. Have you -- I guess you've got a number of wells

on your property?

A. Yes, I have four irrigation wells and four domestic wells.

Q. Have you had similar issues with the other wells?

A. No, but I have not sampled any other well but this well.

Q. You were here during the testimony about the plugged and abandoned well -- plugged and abandoned wells. Do you recall that?

A. Yes.

Q. And do you recall that one of the wells, the Goodwin Well, Goodwin #3 was identified as being located on your property?

A. Yes.

Q. Do you have -- is there any indication on the surface of your property where that well is?

A. No.

Q. Were you aware that there was even an abandoned well on there?

A. When I seen it on the map, I don't see it.

Q. Are there other abandon wells on your property?

A. Yes, there's several.

Q. Okay. Are those, you know, typically marked or they're --

A. Yes, they're -- yeah, I know where all those are.

This one, unless they dug it up, you know, and covered it up, I don't -- I don't see it. Sometimes you can see where they've had a well pad, you know, if there's nothing there if there's no pipe sticking up, but on this particular one, I do not see it.

Q. There's been reference in this case to Maddox Lake. Are you familiar with that?

A. Yes, yes.

Q. Can you tell us what that is?

A. That Xcel Energy has blowdown water from their coolers, and they put -- they used to put that water into this Maddox Lake, and in the last couple two or three years, we have -- I am taking that water now and putting it on the farm. There is no water in the Maddox Lake for the last three years.

Q. There was also reference to an Xcel pond?

A. Yeah, they -- the way it was, Xcel owned half of the land and the State owned the other half. They would pump their blowdown water in there. They had it stocked with fish. People fished out of it, swam in it. It's good water.

Q. Is that -- is it still operational?

A. No, it's not any more. They give me all that water, and I have two pivot systems that I spray the water on the ground over. Those pivots are a hundred acres, and I

put that water out over that hundred acres on both pivots back and forth.

Q. So you use it to water your field, irrigate your fields?

A. Yes.

Q. Now, is that done pursuant to an NMED permit?

A. Yes, that is a State permit.

Q. And is there -- are there any testing requirements, you know, in terms of water?

A. Yes, they have monitoring wells that they are watching the groundwater. They also -- they do every year a soil analysis of the farm as part of their permit.

Q. Mr. Smith, what is it that you'd like this Commission to do?

A. I need your help. I've got a well that has H2S in it, and I do not have the resources. It's a very expensive sampling and trying to figure this -- where this is coming from, and I'm afraid it's going to effect all my wells before it's over with. Right now, we've got it in just this one that we've sampled. We need to do some more sampling, and I'm willing to do anything, but I do not have the resources to find out. What we need is a fingerprint of this H2S, and then we can find the source, and I need some help if -- to do this. It is very hard to get a water sample with H2S in it, because that -- the minute you turn

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that faucet on in the kitchen, that H2S is trying to get out of there. It's coming away from that water, and that's why we put the monitor right there and put the jar, just so that we're catching that gas as it comes up, and I need the OCD and -- that's one reason why I called Geoff. I seen that it's going to be a very difficult thing to prove and -- but it needs to be taken care of.

I am in the main water system. These wells are in the main aquifer, Ogallala Aquifer, all my wells. That's my water, and if we are putting H2S, it needs to be found.

MR. ALVIDREZ: Thank you, Mr. Smith. I'll pass the witness.

MS. BAILEY: Mr. Rankin, do you have questions?

MR. RANKIN: Madam Chair, I do.

CROSS-EXAMINATION

BY MR. RANKIN

Q. Mr. Smith, hi. How are you doing? I'm sorry your having this H2S problem in your water. I apologize for that. I just want to review some of the testimony you gave and ask you some additional questions.

A. Okay.

Q. You said that you first hooked up the trailer to the well in April of 2011?

A. Yeah, around April 15th is what I'm thinking.

Q. And prior to that, you used the well for stock

watering?

A. Yes.

Q. And you only really started noticing this smell after you hooked it up to the trailer; is that right?

A. Right, right.

Q. Had you ever -- what was the trailer used for before? Where was it before?

A. It's a brand-new trailer. I bought it from the local trailer company.

Q. So it had never been used?

A. Never been used, brand-new.

Q. And you testified that your farmhand began -- came to you early May after it had been hooked up indicating that it had a bad smell, somewhere around that time?

A. Around May 1st, somewhere in there.

Q. And when did you first -- you didn't treat the well with bleach until July; is that right?

A. No, once -- once he told me about the water, I went in there that day to see what he was talking about, and then we treated the water within a week there.

Q. So sometime in May probably?

A. Yeah.

Q. Okay.

A. It was bad enough I didn't want him using it, the water well.

Q. And so when you poured the bleach into the well, you followed the steps, the procedures that the County instructed you to do?

A. Yeah.

Q. And how much bleach did you pour down the first time?

A. I poured two gallons.

Q. Two gallons, and is that what she told you to use?

A. Yeah, yes.

Q. And --

A. She said two to four.

Q. And you followed the instructions on what she told you to do, and you let it run for a while from the faucet?

A. Yeah, you just let it set, and it's supposed to kill all the bacteria in that well.

Q. And did you smell bleach after you started running the faucet?

A. Oh, yeah.

Q. And you didn't hear anything from your farmhand again about the water quality for a while?

A. Yes. Now, he went away for a week, and he come back, and then about a week later, he -- he mentioned to me that the smell was back.

Q. So sometime in June maybe he told you the smell was back?

A. Yes. Now, if you want, I can get all the correct dates. I am terrible with dates and birthdays and --

Q. It's okay. I am, too. You testified just now that based on your sniffer -- do you calibrate that?

A. Yes.

Q. How do you calibrate it?

A. You have a known gas, H2S gas, and you hook it up to it, turn it on, and it should read what's in that.

Q. What do you use as a known gas?

A. It's H2S.

Q. I mean, what source do you use when you calibrate?

A. You just -- what are you --

Q. I guess I'm asking like when you calibrate your instrument, what do you have -- where do you get your H2S from?

A. We have a small cylinder where I work that has H2S gas in it, and it has a known H2S, you know, so many parts per million, and you take and put the hose on the very end of the sensor and then turn on the gas, and it should read the same as what's in that bottle.

Q. So do you calibrate it frequently?

A. Once -- with this deal I calibrated it more, because I want to be accurate of what I'm looking at.

Q. So you bring your instrument to your work and calibrate and bring it back?

A. And take it back over, yeah.
Q. But you don't stay or live in that trailer, right?
A. No, no.
Q. And you never have; is that right?
A. No.
Q. Using that sniffer, you indicated that you've got readings as low as 3 parts per million and as high as 20 parts per million?
A. Yeah, Tuesday I took it and -- before I come up here, and it was running 3 and 4 parts per million.
Q. And wouldn't a fluctuating biological activity help explain some of that variation in the levels?
A. I have done everything I can to tie it to bacteria.
Q. So now you've -- you flushed your well with bleach once in the May time frame?
A. Yes.
Q. And then how long after that did you wait before you --
A. My wife and son did it again.
Q. Used four gallons?
A. Yeah, they used four gallons.
Q. How long after the first time did you use the four gallons?
A. You need to ask her. I can't remember.

Q. Was that the last time the well was treated with bleach?

A. Yes.

Q. That would have been in the summer sometime of 2011?

A. Yes.

Q. And after that application of the four gallons did -- how long --

A. I never checked it -- you know, I didn't put the monitor on the faucet when it would have the bleach smell. You can't smell anything but bleach after you test it.

Q. So in May when you originally flushed the well with bleach and you indicated that all you smell was bleach, how long before it came back again before --

A. A couple of weeks.

Q. A couple of weeks.

A. But I said, you know, he was gone for a week. He was living in there. So it may have come back sooner. I don't know, but when he got back, he said, "It's back again," and so then that's when we went and treated it again.

Q. And you don't know after the second treatment how long, if at all, it eliminated odor or smell?

A. When we started the sampling with Cardinal, it was extremely high, the H2S.

Q. Okay.

A. So we can kind of look back. June and July is when I started using the H2S monitor.

Q. Just out of curiosity, why didn't you use your H2S sniffer after you treated the well? I mean, wouldn't that be kind of an interesting experiment to see if you get anything?

A. At that time I was -- when I treated with bleach, I was thinking it was bacteria, and I thought we'll treat it with bleach, and we'll get rid of this bacteria. I -- you know, in the back of my mind, I thought it could be H2S, but I just don't think so. They're 10,000 feet down there.

Q. What is 10,000 feet down there?

A. I mean, your AG 1 well is. That and then there's an oil well, and they have H2S. They have 30 pounds, you know, on their gas part of it, and so I'm still thinking it's not H2S. I'm thinking it's bacteria. That's one reason I didn't put the monitor on there. Then when it come back and when it come back, you know, it come back hard. Now, at this same time I'm running irrigation wells, and I'm running them hard, because we're right in the middle of a drought, and I'm trying to keep my crops alive, and that's when it -- that summertime when we're pulling that water, that's when it was its highest, and that's when we started taking the samples to try to prove that it was not bacteria.

It was H2S.

Q. But you never tested your water with your sniffer after treating with Clorox, with bleach; is that correct?

A. Yes, I checked it.

Q. Yes or no?

A. Yes.

Q. Now, are you aware that most sources or authorities advise if you're going to treat -- I mean, were you instructed by the County that you should periodically, maybe once a month, treat with bleach for a continuous period of time?

A. I think they recommended once a year.

Q. Once a year?

A. Yeah.

Q. So they didn't tell you that if it came back, that you should treat it more frequently?

A. I can't -- I don't think we called them when it come back. We just went ahead and thought, well, maybe I didn't get it. So we just went ahead and did it again.

Q. When did your farmhand quit, just out of curiosity?

A. I think around June 1st.

Q. So that same summer of 2011?

A. Yes, and that's when we went in the trailer, and here it is again.

Q. When you testified last in July, you indicated that you would take some samples, and Commissioner Dawson asked you to submit them to the Commission. You took the samples over the period of the end of July through the end of October of that year, but you never submitted them to the Commission. Why didn't you do that, just out of curiosity? I mean, if you felt like you got your results that you needed to make this proof, why didn't you submit them to the Commission?

A. I wanted to be sure.

Q. Well, what's changed between October of 2011 and now that's making you sure?

A. It just -- it didn't go away. It was just persistent, and with this hearing, it give me an opportunity to come up here and present my case.

Q. You testified that you got four irrigation wells and four domestic wells; is that correct, total?

A. Yes.

Q. And you only sampled the one domestic well attached to the trailer?

A. Yes.

Q. Are any of your other wells as close to the Maddox wetland or the Xcel pond as the one that's attached to your house?

A. I have -- I have one domestic well that is right

next to the Maddox well.

Q. The Maddox Lake?

A. Yeah, I mean, the Maddox Lake.

Q. Now, the Maddox Lake is an unlined -- was an unlined container?

A. Yes.

Q. And so you testified that there were fish and people would swim and fish for the fish; is that right?

A. Yes, it was a public pond.

Q. But now, the biological activity that would cause H2S would be subsurface and anoxic, and so it wouldn't necessarily effect fishing?

A. I wouldn't know anything about that.

Q. And just because it's an unlined pit, that sediment that would settle would accumulate and create that anoxic condition and --

A. I know -- yeah, there's no water in that now. The only time there might be a little bit of water is if it rains. We haven't had a whole lot of rain in the last couple years.

Q. Yeah, I know. But to your knowledge just because there's no water in the lake doesn't mean that in the subsurface there isn't biological activity breaking down that form of sediment producing anoxic --

A. Our next witness can answer those questions a lot

better than me.

Q. Okay. Have you investigated how much it would cost to put a treatment system on your trailer to treat the water?

A. No.

Q. Did the County instruct you that you might want to look at a water treatment system to your trailer?

A. That water out there is good. It's good water. I do have a ranch house. You all are aware of it. It's about two miles away, and we do everything with that water. There's nothing wrong with that water. I don't even need a water system.

Q. One of your samples showed a level of sulfate of 500 milligrams per liter, correct?

A. In this well?

Q. Uh-huh.

A. I'm not --

Q. It's right here in Number 3.

A. Yeah.

Q. Are you aware that high levels of sulfate, about 500, will start causing --

A. I leave the sampling to the experts. I'm just a farmer and a rancher. All I know is facts. The fact is I have H2S in my well. I can't tell you what's underneath there, underneath the ground. I don't know nothing about

faults, but I do know for a fact I have H2S in my well.

Q. You have a septic tank or a leech field that treats the waste from your trailer?

A. The trailer has a septic -- cement septic tank with a leech line going -- it would be running from the -- the trailer is facing each and west, and the septic line is running east and west about a hundred feet -- I mean, the leech, the line, the leech.

Q. So it sort of parallels along the same line as the trailer?

A. Yes.

Q. Going out to the east?

A. Yes, about a hundred feet or so.

Q. And where is your well in orientation to that?

A. It's back to the north.

Q. North of the leech line?

A. It would be -- yes, north and west.

Q. Okay. About how far from there?

A. Oh, probably a couple hundred feet.

Q. Are you aware that, you know, septic systems and leech fields create anoxic and anaerobic conditions?

A. Yeah, I put that one there, because I have been told that the water is flowing southeast.

Q. Okay.

A. Away from.

Q. But you testified that you're drawing from that cone of depression all sorts of -- I mean, you're pumping hard on your irrigation well, which is --

A. I'm drawing, yes, from the north, from the --

Q. Yeah.

A. -- from the west.

Q. I think the testimony was, yeah, the point was you're drawing towards -- from the south and --

A. I'm drawing -- I'm just drawing water from the aquifer.

Q. So your water well is only about 220 feet deep; is that correct?

A. Fifty feet is where you hit water, and then this well, I believe is 150, -60 feet deep.

Q. And so you've got three sources right around your trailer that make anoxic conditions that are ripe for anaerobic bacteria. You've got the Maddox wetland which Mr. Leking testified to. You've got the Xcel pond, which is less than 200 feet away, and you've got your septic system, which is less than a couple hundred feet from your water well.

A. You ask me why I didn't come sooner. Because I've been trying to make sure that I'm not dealing with a bacteria.

Q. Okay. Were you told by Mr. Leking which direction

you understood the gradient, groundwater gradient to be?

A. No, I heard that. I've been out there for 20 years, and I've always heard that that's the way that aquifer flows.

Q. So if it's flowing to the southeast --

A. Yeah.

Q. -- wouldn't that drive the AGI contaminant away from your well?

A. Yes -- no, that would -- I don't know about that.

Q. Okay.

A. You're under pressure, 1,500 pounds of pressure. I thought you were asking me would it drive the septic tank. Yes, it should go away from the --

Q. Okay. You testified that you're using water from the Xcel plant to irrigate your fields?

A. Yes.

Q. And those fields are all around where the ranch is located -- where the trailer is located? Have you ever --

A. They're north.

Q. Okay. Just to the north?

A. Yes.

Q. Have you ever had that water tested or analyzed?

A. They do it all the time.

Q. Probably with these permits, and these permits --

A. Yeah, and Scott will testify to all that.

Q. And that's a national pollution discharge elimination system permit; is that what that is? Is that permit from the environment department?

A. New Mexico Environmental Department, I guess.

MR. RANKIN: Okay. Thank you. Nothing further.

MS. BAILEY: Mr. Warnell -- Commissioner Warnell?

EXAMINATION

BY MR. WARNELL

Q. Mr. Smith, I think you testified earlier that in one of your H2S meter readings it was high. Could you better define that for me? What do you mean by "high"? Is that --

A. Yeah, the little instrument I have, at 10 parts per million it starts blinking a red light, and that's for you to get out of the area, and well, I can hit that sometimes real easy, and I've seen it over 20.

Q. Okay. So at least 10 and possibly over 20 would be high?

A. (Nods head.)

Q. It's been a long time since I've had H2S training, but seems to me like we were always taught that anything over 500 parts per million, you probably wouldn't live to tell anybody about it?

A. Yes.

Q. That will kill you, right?

A. Yeah, I'm not -- if I hadn't -- there are certain parameters. You know, you can only work in it so many -- a certain -- maybe it's 10 parts per million for eight hours, and then they have different levels of it, and there is a point there it is deadly. It will kill you before you can take another breath.

Q. It's pretty lethal stuff. Your water well, has anyone tested the water level in your well in the last few years? I mean, is the Ogallala Aquifer out there that you're drawing from, is that dropping?

A. It seems like it's holding real good. Right there in that area, there's three power plants. There's the Maddox, the Cunningham and the Lee Powell. They're sitting right on top of an ocean underneath it. There's lots of water in that area, and I checked it, and I'm right at 50 foot. I don't see -- you know, when the well is off and I can run a tape down there, and it looks like I'm hanging right at 50 foot.

Q. I think it was noted in your prehearing statement that the AGI #1 well has had numerous operational problems?

A. Yes.

Q. Could you expound on that a little bit?

A. We hear sirens, smells, and we don't know which way to go. We're never contacted by them. I've called them, and the numbers they've got in their contingency plan,

I just go down through there, and a number of them are no good. The last time I come by that AGI facility and I seen lights flashing, no one around it. I could hear a noise like a compressor knocking and a terrible smell, which give me an instant headache, and I called them up -- well, I called -- tried to call them, and I ended up getting a guy in Denver, and he immediately called the control room, and then he called me back and told me, yes, they're aware, and they had done something over there. I don't even -- I didn't even understand it, and I've been in the business for 32 years, what he was saying, and but that it was no -- don't worry about it.

MR. WARNELL: Okay. Well, thank you. That's all the questions I have.

MS. BAILEY: Ms. Gerholt, did I skip you from the cross?

MS. GERHOLT: Madam Chair, you did, but I do not have any questions for this witness, so that's okay.

MS. BAILEY: Sorry for the oversight there. Commissioner Balch, do you have any questions?

EXAMINATION

BY MR. BALCH

Q. Can you try and place these water wells?

A. I can show you.

Q. I've got a map here. Anything -- you can just

pull it up and you can describe it, and other people can mark it as well.

A. Which tabs is that?

Q. Well, it's Tab 3 in Figure 7?

A. There was one of those that was a real good picture.

MR. RANKIN: I think Tab 13, Mr. Smith.

Q. This is regular wells?

A. I was hoping you'd have that PowerPoint.

MR. RANKIN: The water wells.

Q. Water wells. Figure 7 identifies water wells.

A. Do you see where it has a WW?

Q. That's what I was --

A. This one. You see that WW, WW, WW, water well. That's what that --

Q. Okay.

A. That's what that stands for.

Q. Okay.

A. Now, the well that I'm having the H2S in, it's not on here. Where that road kind of makes that corner and heads north, that well's right there.

Q. Right at the south end of the corner?

A. Let me show you.

Q. Place that one right there. That's the domestic water well for the trailer?

A. Yeah, but I don't think that's -- I don't think that's in the right place, but it's close. I mean, it's right there in that area.

Q. Somewhere in that area?

A. Yes.

Q. And these are your irrigation wells?

A. This one is an irrigation well. This one here is a -- it used to be an irrigation well. It is dried up.

MR. BALCH: Would it be helpful to get Mr. Gutierrez's presentation on the screen?

MR. RANKIN: Do we have it -- I don't know that we have it hooked up right now, the slide, the water well slide.

MR. ALVIDREZ: Madam Chair, I think it may be useful, and perhaps the Commission would like in its record, I would gladly volunteer to make this an exhibit and have -- have Mr. Smith mark on the exhibit, so we'll have it in the record and perhaps a cleaner record of the location of his wells.

MS. BAILEY: That would be very helpful.

MR. BALCH: That would be very useful.

MR. ALVIDREZ: If I can approach the witness, I will do that.

MS. BAILEY: Yes.

MR. ALVIDREZ: And I'm going to mark this as Smith

Exhibit 4, and for the record, so everyone can follow along, what I've clipped is figure seven from the permit application if I may.

Q. (By Mr. Balch.) Mr. Smith, if you could mark those as domestic or irrigation, that would helpful.

A. Okay. I don't believe this is -- can you see that?

Q. Perfect. Thank you.

A. Now, that one irrigation well --

Q. I guess we'll need copies of this for everybody at some point.

I didn't make the observation that it seemed to be seasonal, the H2S was more in the summer and less in the winter?

A. Well, 2011, yeah, we were pulling so hard on them wells, and then it did -- once we quit, it seems -- it's still there, but it's not as heavy.

Q. Only when you're running the irrigation wells?

A. That's -- you know, that's a theory that -- I'm looking at everything I can think of trying to figure this out, and it seemed like when I wasn't running that irrigation as hard, that well wasn't as sour when I was really pulling in water, and that one well will put out a thousand gallons a minute, and so when I was -- when I was running it -- and so when we went along there September,

October, and then we started not running it as much -- and that's in 2011 -- it seemed that the -- that the H2S, you know -- and I'm just going by that monitor. You know, I'm not -- that's all I got.

Q. What do you grow out there, primarily hay?

A. I grow alfalfa --

Q. Alfalfa.

A. -- hay and also, I grow wheat, Sudan grass.

Q. Do you -- do you run winter irrigation?

A. Yeah, I do run it, not as much. See, I'm getting the water -- in the wintertime I don't run the irrigation near as much, because I'm getting water from that power plant, and in the wintertime, they seem to have -- you know, in the summertime they don't have as much because of evaporation and everything. So I would run my wells more. In the wintertime I run them less.

MR. BALCH: Thank you very much. I don't have any more questions.

EXAMINATION

BY MS. BAILEY

Q. It sounds like you have a nice operation.

A. Well, thank you.

Q. With wheat and alfalfa and --

A. Yes, and I have cattle, too.

Q. How many head do you run?

A. I got about a hundred momma cows.

Q. Do they stay in that pasture all the time, or do you take them elsewhere?

A. No, I have some State land north, a couple sections, and also, my ranch house, I've got another 160 acres and another irrigation well and a couple of domestic wells down there. They're not on this map so -- but yes, ma'am, we try to do the best that we can. Sometimes -- that alfalfa drought is terrible on it and bugs and everything else, but we're hanging in there.

Q. Did I note that when you brought in the trailer, you put it near the barn?

A. Yes, ma'am.

Q. So is the water well for that trailer within the zone of influence by that barn? Would the barn and the critters being in that barn for periods of time have an effect on the --

A. No, this particular well was put in very nice. The people -- whoever drilled it knew what they were doing. There is no way contaminants from -- can get into this well.

Q. Do you fertilize, also?

A. Yes, I do.

Q. What kind of fertilizer do you use?

A. Pot ash --

Q. Commercial?

A. Commercial, whatever they'll let me.

Q. Okay. And that fertilizer may also have some calcium sulfate in it?

A. Yeah, but this well -- the fields that I put the fertilizer on --

Q. Yeah.

A. -- are north of this well. There's no -- I don't know what you're wanting here.

Q. No, what I'm looking for are all the potential sources, and we've come up with four. We have the barn. We have the Xcel pond. We have the Maddox pond. We have the AGI wells. We have other sources that may contribute each to the problem that you're experiencing.

A. Right, right.

Q. So I'm just checking out all possible sources here.

A. Yeah. You know, the fertilizer, it dissolves right on top of the ground. It goes down a little ways. I maybe fertilize once a year.

MS. BAILEY: Okay. That's all I have. Thank you. Do you have any redirect?

MR. ALVIDREZ: Just very briefly.

REDIRECT EXAMINATION

BY MR. ALVIDREZ

Q. Mr. Smith, did you mark the locations of your

wells on what we've marked as Smith Exhibit 4?

A. Yes.

Q. You have to answer out loud.

A. Yes.

Q. And did you note whether they were irrigation wells or wells for domestic use?

A. Yes.

Q. And did you note the location of the well we've been talking about that has the H2S in it?

A. Yes.

Q. You marked that?

A. Well, I didn't put the H2S -- of course, it's the one right there by the barn.

MR. BALCH: If I can trouble you, while you have that map handy, do you know where this North Eunice well -- well #6 are?

THE WITNESS: I don't have any idea. It looks like -- I thought I seen where it was back down here. I have the closest well to this, and they can see it from their facility. I mean, it's right there.

MR. ALVIDREZ: Madam Chair, I'd move the admission of Exhibit 4 into evidence.

MS. BAILEY: Any objection?

MR. RANKIN: Madam Chair, if I might, I might ask Mr. Smith if he could also mark on that exhibit his

understanding of the direction of flow of the shallow groundwater, if that would be okay? Any objection to that?

MS. BAILEY: If you know.

MR. RANKIN: Based on your understanding.

MS. BAILEY: And now that is accepted as Exhibit number 4. Okay.

Q. (By Mr. Alvidrez.) And you were asked some questions about irrigation and potential relation between your operation of your irrigation wells and perhaps levels of detected H2S. For 2012, have you been using your irrigation wells?

A. No.

Q. In 2012 are you still getting readings of H2S?

A. Yes.

Q. How would you compare the reading for this year?

A. You know, like I told you, it's 3 or 4 right now. In 2011, we were seeing -- it was in the high 20s in the summer of 2000, and so we've been seeing 6, 7 parts per million most of the year.

MR. ALVIDREZ: Okay. Those are my questions. Thank you.

MS. BAILEY: Okay. You may be excused.

MR. RANKIN: Madam Chairman, if I might just -- the Commission asked some questions about -- of Mr. Smith. If I might just have one other question about the phone

calls to DCP? If I may be able to address that?

MR. ALVIDREZ: I think he had a chance to address that on cross-examination before.

MR. RANKIN: It wasn't brought up on your direct, and it was brought up by the Commission. You mentioned it in your opening, but it wasn't brought up on direct examination. So I didn't think I needed to address it, but since you raised questions about the phone numbers, if I might be able to ask Mr. Smith some questions about that?

MR. ALVIDREZ: I don't have a problem with that if that's all right.

MS. BAILEY: You don't have a problem?

MR. ALVIDREZ: I don't.

MS. BAILEY: Okay.

MR. RANKIN: Thank you, Madam Chair.

RECROSS-EXAMINATION

BY MR. RANKIN

Q. Mr. Smith, I'm going to hand you a piece of paper. I'd ask if you could identify it? Do you recognize it? Have you seen that letter before?

A. I think so. I think we got it in the mail.

Q. Can you just briefly describe what the letter is?

A. Yeah, it's saying that, "Should you have any questions about the attached document, please do not hesitate to call me, Mr. Kelly Jameson, 575-397-5539," and

is that when I got the notebook of your contingency plan?

Q. I believe that's the case, Mr. Smith. I'm not sure, but I believe that's the case, but there are two phone numbers identified on this letter.

A. Right.

Q. Do you remember seeing this letter before?

A. I think so. It came with the contingency plan. I never had got one until last meeting, and we got one at the end.

Q. Now, there are two numbers here, and neither one of those is a Denver number; is that correct, as far as you know? This one's a New Mexico --

A. Yeah, one of them's a Hobbs number, and one of them might be an Odessa or Midland.

Q. That's right. And so I just wanted to -- maybe you'd forgotten about this letter, but DCP did give you some direct phone numbers to call?

A. It's in there -- we have the contingency book, and we keep it in the trailer, and that's where I'm having trouble. Either you guys are not updating those numbers, people are changing them, people are leaving the company, or it needs to be -- I need to get updated numbers to call.

Q. I understand. I'll check with our client and make sure you understand, but I just also wanted to remind you, too, that there are direct lines that you can call.

A. Okay.

MR. RANKIN: Thank you, Mr. Smith.

MS. BAILEY: Anything further?

MR. ALVIDREZ: No questions.

MS. BAILEY: Then you may be excused, and let's take a ten-minute break and reconvene at 20 after.

(Note: A short recess was taken.)

MS. BAILEY: Let's go back on the record.

MR. RANKIN: If I might, Madam Chair, add this Exhibit Number 8 for DCP.

MS. BAILEY: Any objection?

MR. ALVIDREZ: No, no objection.

MS. BAILEY: Then it is admitted.

(Note: Hearing in recess at 3:12 p.m.

and reconvened at 3:23 p.m.)

MS. BAILEY: We can go back on the record. Would you like to call your next witness?

MR. ALVIDREZ: Well, I do want to make clear, were there more questions of Mr. Smith?

MS. BAILEY: Did you need additional information on well locations or maps, Commissioner Balch?

MR. BALCH: No, I've located them on the map in Exhibit 4.

MR. ALVIDREZ: Okay. Then we'd like to call Mr. Scott Brake, please. Mr. Brake, are you on the line?

MR. BRAKE: Yes, sir.

MR. ALVIDREZ: This is Rick Alvidrez. I'm the lawyer for Mr. and Mrs. Smith. Nice to meet you by telephone. Thank you very much.

MR. BRAKE: Yes, sir,

MR. ALVIDREZ: Thank you for dialing in. I guess he's ready to be sworn.

MS. BAILEY: Please do swear him in.

WILEY SCOTT BRAKE

after having been first duly sworn under oath, was questioned and testified via telephone as follows:

DIRECT EXAMINATION

BY MR. ALVIDREZ

Q. Mr. Brake, can you tell the Commission your name and spell it for the record, please.

A. Yes, my full name is Wiley Scott Brake. That's B-, as in boy, -r-a-k-e.

Q. And, Mr. Brake, where are you employed?

A. With Xcel Energy. That's X-c-e-l.

Q. And can you tell the Commission what your job title is?

A. I'm the environmentalist.

Q. And where are you based out of?

A. I'm off at the Cunningham Maddox complex.

Q. And where is that?

A. Approximately two miles west of Hobbs on Highway 62/180.

Q. And can you tell us where that is relative to the Linam AGI well #1?

A. I have an office at the Maddox power plant, which is approximately, oh, 1,500 feet west, southwest of the AGI well.

Q. And how long have you officed at that location?

A. About six and a half years.

Q. And were you working at that location when the well was installed?

A. That's correct.

Q. And have you been there at that location, officed at that location continuously to the present time from when it started operations?

A. Yes, sir, until present. That's correct.

Q. And can you tell us about your educational background.

Q. Yes, sir, I have a Bachelor's Degree in Biology with a minor in Chemistry. Also have graduate work -- I've got a registered environmental certification. I also have a water system operator certification from the State of New Mexico as well as a certified sampler certification from the State of New Mexico.

Q. And how long have you had these certifications in

terms of water sampling?

A. For about ten years. I believe my first certification was in '02.

Q. And can you tell us about your job responsibilities for Xcel?

A. Yes, sir, I'm in charge of, oh, air, water, soil compliance pertaining to emissions, to discharge, to waste, handling disposal relating to DOT as well, shipping, handling, that sort of thing. I'm also responsible for administering the discharge permits at our location at Maddox and Cunningham and coordinating with Mr. Smith and Ms. Smith, and I go out and sample the monitoring wells quarterly for groundwater quality, and I go out and sample soils for soil quality as well.

Q. Okay. So do you have, I guess, training and experience in multiple media, environmental media, water, soil, air?

A. Yes, sir.

Q. And how long have you been involved -- how long have you worked as an environmentalist?

A. How long have I been working in the environmental field?

Q. Yes, sir.

A. Since I graduated from college in 1989.

Q. Prior to going to work for Xcel, where did you

work?

A. City of Hobbs --

Q. And what did you do?

A. -- as their compliance coordinator.

Q. And what were your duties as compliance coordinator for Hobbs?

A. Safety and environmental and accident reporting and risk management.

Q. Okay. Are you familiar with what's commonly referred to as the Maddox Lake?

A. Yes, sir, I've been working on that quite a bit.

Q. And what -- can you tell the Commission what the Maddox Lake is?

A. It's an old public lake. You're talking about the one that's abandoned, correct, not our current discharge pond?

Q. That's correct.

A. Yeah, Maddox Lake, formally Maddox Lake was an old public lake about, oh, I don't know, several hundred yards north -- or actually west, northwest of Maddox Station, and when the plant was first built, it just seemed convenient to discharge the utility tower blowdown water to that pond, and then the New Mexico Game and Fish Department subleased the lake and stocked it with fish so the public could come out and fish. Do you want me to continue with what happened to

it?

Q. Yes, please tell us up to the present time what --

A. Currently, the lake has been decommissioned and is empty. At our Cunningham station, the State of New Mexico wanted to -- us to get a discharge permit for that, and they asked us if we have any similar plans close by with a similar application, and we said, "Yes, Maddox." So we -- the company elected to go and apply for discharge permits and part of that discharge permit stipulated that we close Maddox Lake and we build a new lined pond and set up a discharge situation where we're irrigating to Smith Farms Ranches.

Q. Okay. And is Maddox Lake now completely dry?

A. Yes, sir, it should be completely dry. Every now and then we get a few rains once in a while, and then there'll be a little water in it, but it dries up pretty quick.

Q. Do you still have any responsibility for assessing the conditions or what's happening over at Maddox Lake?

A. Yes, sir. Currently we're evaluating what we can do to have some kind of successful conclusion with Maddox Lake. We have to do something with it rather than just leave it there as an empty lake bed.

Q. Do you do any monitoring of any type at the lake?

A. Did I do any monitoring?

Q. Well, do you currently do any monitoring?

A. No, sir.

Q. Do you know what its status is, current status is with respect to biological materials at the lake?

A. There's a bunch of old dead cattails, kind of, and then the soil's all cracked -- the bottom of the lake is all cracked and dried up, if that's what you mean. It's pretty much dead.

Q. Are you familiar with what's called the Xcel pond?

A. Are you talking about our wastewater line containment immediately north of the plant, probably immediately west of the AGI?

Q. Okay. Well, let's talk about that. You have a lined pond at -- is it at your Maddox -- is it one of your facilities?

A. Yes.

Q. Which facility?

A. It's immediately north of the plant on our property. It's our wastewater -- our current wastewater pond. Our utility tower blowdown water is going out there, and it's a line pond. That was a stipulation of the discharge permit.

Q. And you indicate that it's lined?

A. Yes, sir, uh-huh.

Q. And is that part of your discharge plan

requirements?

A. Yes, sir, uh-huh.

Q. And is that to prevent --

A. Always, uh-huh.

Q. Okay. Can you tell us -- can you tell us about the lining?

A. It's a poly lining, plastic lining that's been fused together on all the seams preventing any leaking. We have a monitoring well immediately down gradient, probably within 50 feet to monitor for any leaking to the water table.

Q. And is that -- has that pond shown any signs of leaking over the years it's been monitored?

A. No, sir.

MR. ALVIDREZ: I'm going to ask him some opinion testimony. So I would tender Mr. Brake as an expert in environmental compliance.

MS. BAILEY: Any objection?

MR. RANKIN: What kind of environmental compliance?

MR. ALVIDREZ: Just general environmental compliance, air, water.

THE WITNESS: I also used to work for an EPA contract lab if that helps any.

MR. RANKIN: No objection.

MS. BAILEY: Then he's so admitted.

MR. ALVIDREZ: Thank you.

Q. (By Mr. Alvidrez.) Can you tell us about the lab that you worked for that is an EPA contractor just very briefly?

A. Yeah, I worked for an EPA contract lab there in Dallas, Texas; started out in the organic section, a lot of mixed chemistry stuff, and then I moved into the -- or picked up the inorganic section as well. That's going stray down, move into instrumentation, and I worked DC mass -- gas chromatography applications and a lot of the inductively coupled plasma, inorganic analyses and chemistry.

Q. Let me ask, have you had occasion to be -- to take a look at any of the Smith water wells?

A. Are you referring to his water well by his trailer, by his barn?

Q. Yes, sir, specifically that one.

A. Yes, uh-huh. Yes, sir.

Q. And do you recall about when -- was it just one time or more than one time that you've visited that well?

A. Frequently, because initially, you know, we were connected to his system there, supplying him some extra water, and so that required some regulatory issues for us, and so I was over there at least weekly to inspect, you know, his facility, because we were -- we're business

partners, and I noticed on several occasions Mr. Smith had asked me about water quality at some point. That's one of the things I did at City Hall as well, and so we were over there looking at his well numerous occasions. I'd say at least once a month, if not more frequent.

Q. What time frame were you out there looking at this well?

A. If we're referring to when they first started detecting odor in their well, that would have been probably this last spring. Mr. Smith started talking to me about some of the odors he was getting out of there, and he was worried about it, and at first, I was really skeptical. I'd seen it before, you know, where you get funny smells out of the water, and a lot of people mistake it, and I told him I'd come over there and check it out.

So we went over there, and the first thing we did was we went into the kitchen area, and he ran the sink, and I took a few whiffs of it, and it was definitely something sulphur based, and I said, "Well, you know, we can get to the bottom of this. I'll bring some H2S detection stuff over here, and we'll find out whether it's mercaptans or H2S. Mercaptans are sulphur.

And so I went and got our ITX monitors, which are calibrated and butt checked every day for H2S and also got some lead acetate strips, which are specifically for H2S.

They won't read false positive on mercaptans. They give a brown stain color, and so then we went back over to his kitchen, and then we ran some water. After we got some water running for probably 30 seconds or so, I laid the ITX monitor by it just to kind of get some vapors into the monitor, and the thing just lit off, and it passed the monitor within five seconds up to past 100 parts per million. So then I put some water in a jar and put some lead acetate into the jar, not down in the water, but above the jar and closed the lid. Within I'd say five seconds the lead acetate paper turned a distinctive brown color showing that there was H2S present.

Q. Okay. Have you done any other sampling or analysis -- well, let me ask, about what time frame was this?

A. Oh, it was in the afternoon, probably 2:00 or 3:00 o'clock in the afternoon, and it was back in -- shoot, I don't have any of my notes in front of me, and so I would say approximately -- oh, I'm thinking the spring sometime, April maybe. I'd have to check my notes on the exact time.

Q. Okay. Now, I think you'd indicated you had quite a bit of experience with -- I guess with the well that supplies this trailer; is that -- was my understanding about that correct?

A. Yeah, Mr. Smith and I looked at it quite a few

times, and he was concerned about it, and he had asked me, again, because I had some water quality experience, which initially he didn't know anything, but I told him many times I had seen where you needed to treat the well, to disinfect the well, and that would take care of some of the odor issues, and Mr. Smith did indeed -- I think I took him some bleach even, and he maybe got some of his own, and he tried to treat the well in order to remedy the problem, and at first you could smell some bleach if you're just close to the well, but very quickly, the smell came back.

Q. And based on your experience what did that suggest, that the smell came back quickly after the application of bleach?

A. That some of the bleach had obviously dissolved in the water, and that whatever was cause -- was the source of the odor was, you know, not in the water. Otherwise the bleach, you know, should have taken care of it. In other words, I was under the impression we were off -- he was offgassing something.

Q. When you say "offgassing something," what do you mean in laymen's terms?

A. There was gas coming out of the -- bubbling out of the water, coming out of the water.

Q. Now, can you tell us a little more about this acetate tape and what it does, how it works?

A. Yeah, there's -- yeah, there's a reaction of the lead acetate strip. The lead acetate is specific to H2S meaning no other compound will interfere or cause it to change color, only H2S, and I also might note, I spent about 10 years working in oil and gas, and every week, I will sample probably a hundred, at least a hundred gas streams using a gas processor association method, and when we would get a stain tube that would show positive for sulphur carbons, we would then run a lead acetate stain tube to verify we weren't getting false positives for H2S, and the lead acetate will turn brown when exposed to H2S.

Q. Would the lead acetate turn brown if the source of the sulphur was a biologic origin?

A. You say biologic origin. I was listening earlier. You guys were talking about microbial production of H2S?

Q. Yes.

A. Is that what you're referring to?

Q. Yes, it is.

A. Yeah, well, H2S is H2S regardless of where it comes from, and it will turn the lead acetate strip, but it should be noted that in our utility tower blowdown water, we disinfect and chlorinate those cooling towers to prevent any kind of growth in them for obvious reasons, and that's the discharge, and that's one of the reasons why we have a discharge permit, because our water is hard mineralized

water, high in chlorides, a wonderful disinfectant, and that's the water that's being sent to the Smiths.

Q. And have you conducted any other sampling or testing at the Smith well or in the kitchen area?

A. No, sir, I have not.

Q. Now, before the Linam AGI well was operating, as I understood it, you did have, I guess, some fairly regular involvement with the well in this area, and what I'm talking about is the water well?

A. Personal involvement in the well?

Q. Yes.

A. As in talking to DCP about them installing the well or going and meeting with them? Is that what you're talking about?

Q. No, not at all. I'm sorry if I wasn't clear. I'm still talking about the Smith well that's located, you know, around in the area where they're barn is.

A. Oh, working with the Smiths on their water wells?

Q. Right.

A. That's correct.

Q. And in your -- in your experience in working with the wells, I take it that occasionally the wells were turned on, water was -- you know, flowed from the wells; is that a fair understanding?

A. Yes, sir.

Q. And prior to the operation of the DP -- AGI well #1, did you notice any sulphur odors associated with that well?

A. No, sir.

Q. One of the possibilities that DCP has raised is that the Maddox Lake is a potential source for the H2S in the well. Do you have any opinion on that?

A. If you're talking about through transmissivity; i.e., going through the water table, is that what you're suggesting?

Q. In any way?

A. I think through the air it's not going to happen, because the top of the lake, like I said, is dry, or the lake bed is dry. There's still some water probably still contained down below, although it's a short distance to the water table. Going through the ground and to the groundwater and making the Smith's well, I would be highly skeptical if you look at the flow gradient in that area.

Q. The -- another potential source that has been identified as a possibility by DCP is the -- what's known as the Xcel pond.

A. Uh-huh.

Q. Do you have an opinion about the likelihood of the Xcel pond being a source for the H2S that you've seen in Mr. Smith's well?

A. Through the air or through the groundwater?

Q. Through any media.

A. Well, definitely not through the air, and then, again, the pond is lined, so -- and then on top of that, if you look at what we're discharging, you know, if you go there and look at the pond today, you know, we don't have a swamp going on over there, you know, which swamps are great. You always hear the stories about swamp gas because of anaerobic digestion, but that water is -- you know, we don't have any algae growing over there, and everything that we're discharging is basically hard water components. You know, chlorides is our biggest offender, sulfates and, you know, potassium, calcium, that kind of thing, and if we had a leak, I'd expect to see stuff like that.

Q. Okay.

A. But, you know, that liner is very, very new. I'd say three years old, and if it were leaking, I don't see how it could be H2S. And then through the air, I don't see any signs of offgassing activity, you know, going on, and not to mention, you know, if -- you know, they built earthen berms, I guess, if you will, and the water level is quite a bit lower, and H2S is heavier than air. It would be kind of hard for it to -- if it was escaping from something going on in the pond, it would have to make it up the embankment, you know, some eight odd feet and get over the top and then make

it over to another location, and while I'm not saying that's absolute, but some of it could not get blown out of there. If there was any H2S, most of it would stay down in there.

Q. Well, do you monitor that pond for H2S?

A. No, sir, but we have H2S sensors in the area that hopefully would indicate any kind of problem.

Q. And have you had any, any indication in your -- with your H2S sensors with any problem related to that pond?

A. Not related to the pond.

Q. Have you had any indications of problems with your H -- having problems indicated by your H2S sensors at all?

A. Not ours, not H2S sensors in that field or that are on the perimeter of our property adjacent to the AGI.

Q. Are there H2S sensors in the area that you're aware of that have gone off?

A. Yes, sir.

Q. And can you tell us what the circumstances were?

A. To my knowledge these were the H2S sensors that DCP has on their property in proximity to the AGI and have gone off on a few occasions, and that was one of the agreements between DCP and Xcel is that they would give us that information in our Maddox control room.

Q. And where is the -- oh, the Maddox control room?

A. Yes, uh-huh.

Q. And do you get that information?

A. Yes, they're supposed to send that information over there. We're electronically connected, so if their alarms go off, we're supposed to know it, and then they're supposed to contact us.

Q. And do they do that when the alarms go off?

A. I'd say sometimes.

Q. But I take it not always?

A. That would be my experience.

Q. Now, one other potential source that DCP has pointed to with respect to the H2S in the Smith well is irrigation, I guess, from -- irrigation that they utilize -- the water that they utilize from your facilities. Do you have an opinion on the likelihood of that?

A. Let me clarify. You're saying that there's a question whether the source of H2S to be from our irrigation water?

Q. Yes, the water that you -- that Mr. Smith utilizes from your facilities to water his -- his crops.

A. Has H2S in it?

Q. Yes.

A. Yeah, again, I would be highly skeptical since the water we're discharging is mineralized water or hard water which, you know, those are alkaline solutions, basically dissolved in water type components, a lot like your table salt. You know, put your table salt in the water, and it

doesn't just start, you know, offgassing or gas getting into the area like H2S. You know, H2S is partially soluble in water but not much. It likes to be a gas and float through the air, albeit, low to the ground.

Q. Is there another pond that's no longer in use besides the Maddox pond that's no longer in use by any of the Xcel facilities in that area?

A. Immediately south of the plant they have what's called a blowdown pond, and it is wide, and it's quite a bit smaller pond. Basically they -- it's a drainage pond, catch pond for like when you get water in a basement facility, they can send, you know, just water -- say, a water pump bursts or something, boiler feed pump bursts, they can send that water out there, and that's a catch pond, and it's probably, oh, I'd say 50 feet by 60 feet maybe and maybe, oh, 8 feet deep, and it's lined and has always been lined a long, long time.

Now, immediately east of this is an old rocky, caliche depression in the earth. I don't know if you really want to call it a pond or not, but many, many, many decades ago, the plant used to discharge utility tower blowdown water to there, but there's been no indication of any problems with that -- that area, and it's just a low lying area full of caliche rocks, and there's some dirt in there. I sampled it on occasion before but really haven't found anything. We

don't discharge to it any more; haven't for decades.

Q. Can you think of other potential sources for H2S in Mr. and Mrs. Smith's well?

A. I don't know. I tried to come up with all kinds of ideas about where I thought it was coming from, because I was, you know, very -- as deep as that AGI well is, I was very skeptical that in that short amount of time that H2S could make it from that deep down through the geological formations up to the water table. It just -- I was really, really skeptical. I kept telling Mr. and Mrs. Smith, "Yeah, it's got to be something else. It's got to be something else," and I've tried to figure out all kinds of possible culprits and just not really coming up with a lot.

About the only other thing I can think of is that there was some kind of microbial activity down at the bottom of his well that, you know, through anaerobic digestion, you know, was generating, you know, the H2S. That's about the only other thing I could think of.

I mean, it is an agricultural area around there. There is a lot of livestock and stuff, but in general I've had some other people tell me, some other water quality experts, that there's -- seems to be some microbial activity, you know, at the top of that water table, but you see a lot of nitrates from that, not H2S.

Q. Were you aware that there was a plugged and

abandoned well that's been estimated to be about 250 feet from the well we're talking about on the Smith property that extends down into the same formation where this AGI well is injecting?

A. I know that there's an old injection well. I'm not sure how far. It's south of the AGI well. Is that the one you're referencing?

Q. This really is not, and from what I understand there's no visible remnants of this well that DCP has identified, and the Smiths didn't even know about it until this hearing. Are you -- the well is called the Goodwin -- Goodwin #3. Do you have any --

A. And where is it located?

Q. It's located near the west pivot.

A. Near the west pivot. Is that immediately west of the pivot or actually inside the pivot area?

Q. It would be inside the pivot, I'm told.

A. Really? No, I was not aware of that plugged well there.

MR. ALVIDREZ: Okay. Those are my questions. Thank you very much, Mr. Brake.

MS. BAILEY: Do you have --

THE WITNESS: You're welcome.

MS. BAILEY: Do you have any cross-examination?

MR. RANKIN: I have a few, Madam Chair. I want to

go fast, to try make it before break.

CROSS-EXAMINATION

BY MR. RANKIN

Q. Hi, Mr. Brake. How are you?

A. Hi.

Q. You said -- you testified you're not doing any monitoring at the Maddox Lake area; is that correct?

A. Not currently, no, sir.

Q. So you're not aware of whether or not there's anaerobic conditions in the subsurface at all, are you?

A. I'm sorry.

Q. You're not aware if there are anaerobic conditions in the subsurface, are you?

A. I'm not aware of those conditions, no, sir.

Q. So you wouldn't know if there's a reducing environment in the subsurface that would reduce sulfate to H2S in the subsurface?

A. No, sir, I don't have any data for that.

Q. You mentioned that when you went over and Mr. Smith tested -- bleached his well and the smell came back quickly --

A. Yes, sir.

Q. -- how quickly did it come back?

A. I would say within approximately ten minutes.

Q. And --

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A. -- to where the -- to where the H2S smell or the -- whatever, the sulphur smell was stronger than any residual bleach, and I also was just going to add, we do have a monitor well immediately down gradient from Maddox Lake where three or four successive quarters we tested for everything and never had any -- and that included bacteriological as well as any inorganics, and we never had anything come back except for our hard water components.

Q. Thank you, Mr. Brake. You mentioned that you've got monitoring wells down gradient. Which direction would you say is down gradient?

A. Southeast of Maddox Lake.

Q. Southeast of Maddox Lake, and down gradient being in the alluvium or the shallow groundwater zone?

A. I'm sorry?

Q. When you're talking about the gradient, which groundwater gradient are you talking about, which level?

A. I'm talking about the Ogallala.

Q. You're qualified as an expert in environmental compliance, and you don't have a background in hydrology, do you?

A. A background in what did you say?

Q. Hydrology?

A. No, I just got a few classes. I have no certification in that area.

Q. So have you done a study of the hydrology of the area to be able to say what direction the gradient is?

A. No, but our company has, our environmental principal who has that certification. Those reports are at my office as well. Mr. Jerry Bryan who's a hydrologist and geologist has issued reports to us, because he's drilled monitoring wells for us out there and has given me those ground -- those gradient, subgradient reports. That's what I'm referencing my answers off of.

Q. In your monitoring wells, Mr. Brake, do you -- have you sampled or indicated -- found any indication of H2S in your monitoring wells that are southeast of --

A. No, sir.

Q. I'm sorry?

A. No, sir.

Q. So your monitoring wells are downgrade and to the southeast of Mr. Smith's well; is that correct?

A. We have several monitoring wells in the area. I'm mainly referencing the monitoring well that was southeast of Maddox Lake. We have monitoring wells southeast of both his pivots, also.

Q. So, Mr. Brake, I'm just trying to understand the orientation of these. These would be roughly approximately in between the AGI injection zone and -- or the injection point and Mr. Smith's property and his wells?

A. To clarify, you're saying there are monitoring wells between Mr. Smith's property and the AGI?

Q. Yeah.

A. These monitoring wells are on Mr. Smith's property, but yes, they're between the -- Mr. Smith's pivot and the AGI well.

Q. And you're not reading any H2S?

A. No, sir. We've also got an H2S monitor on the furthest east monitoring well, which is southeast of his east pivot, probably a couple hundred feet from the AGI well.

Q. So wouldn't you expect to see an H2S reading in your monitoring wells if you're between the AGI and Mr. Smith's property?

A. You know, I'm not sure. Our monitoring wells only go ten feet on top of the water table.

Q. Now, on the Maddox Lake, you testified that you had no idea whether or not there were reducing conditions below the lake. The alluvium, as you testified, is in the southeast direction of gradient, and if there are anaerobic conditions below the lake, isn't it possible that the bacterial activity below the lake would transport H2S after having existed in a reducing environment in the direction of Mr. Smith's property without also conducting the bacteria?

A. Okay. Just so I'm understanding, you're saying

that there -- if there was an anaerobic condition below the lake that was producing H2S or getting into the water table, that then that water table could then carry the H2S to Mr. Smith's well north and then come up in his well? Is that what your question is?

Q. Yeah, without the bacteria.

A. Without the bacteria?

Q. I'm saying that the bacteria wouldn't also migrate with the water.

A. Oh, that the -- that the bacteria would or would not migrate with the water?

Q. Would not.

A. Would not migrate. I believe that the bacteria would also migrate, you know, with the water if the flow was in that direction.

Q. Okay. But you don't know one way or the other?

A. It's highly unlikely that the water would flow north. You know, I can -- there are certain geological formations from time to time from all the various reports I've seen in the area where the water table will -- the gradient, the flow gradient will take a jog, if you will, to the east or to the south and then -- but most the time it heads in a southeasterly direction, and I think for it to go north would be pretty difficult.

Q. Were you on the -- were you on the phone when

Mr. Smith was testifying about the effects his irrigation pumping was having on the alluvium in the groundwater?

A. No, I was not, but Mr. Smith has shared that information with me.

Q. So his theory is that his irrigation pumping is pulling water to the north, and that's what his theory -- I mean, and you're saying that's unlikely?

A. Information from Mr. Smith was that by pumping his big irrigation well, that he was drawing the water table down in that area and allowing the water table to flow differently and, you know, pulling different contaminants of interest, I guess, in a different direction than what the natural flow gradient is. In conversations with Mr. Smith that's what I understood.

See, the thing for me on Maddox Lake, if there was H2S production going on underneath Maddox Lake in that anaerobic environment and that somehow H2S was getting into the water table, you're talking about flowing H2S gas into the water table uphill, which is not -- it's hard. I have never seen that accomplished, because it's not what was involved in regular contamination with the City of Hobbs when I was in charge of a project, and you would be shocked to see, even pumping a giant 1,200 gallon down to redbed, 200 some odd feet, you cannot pull (inaudible) a minute 50 feet up gradient, just sizable water. I mean, it's just salt water

crazy, and it is shocking that this giant well could not pull that contamination a mere 50 feet uphill.

However, there was a former dry cleaners, you know, 500 feet away, but it was almost up gradient, and that well had no problem pulling all that contamination right into there, but in relation to the H2S and possibly being in Mr. Smith's well, if you had a source of H2S from a different direction from underneath, then I can see that happening, but I can't see pulling a contaminant along the water table.

Q. Mr. Brake, I'll just remind you that you've been qualified as an expert in environmental compliance, and you said you don't have any background to qualify you as a hydrologist, but it seems unlikely if it can't pull -- if Mr. Smith's irrigation or groundwater pumping can't pull from a couple hundred feet away, 200 feet down or less, 50 feet down, how can it pull from 9,000 or 10,000 feet, three-quarters of a mile away the treated acid gas from the AGI well?

A. You're right. I have no certifications in hydrology or geology, but I have had a lot of experience trying to figure out contamination sources for City of Hobbs drinking water wells, which are all hunched down to redbed, and it was the same thing there, and I could go on and on, story after story after story where we had to figure out where these were all getting contaminated from, and it's

really hard to tell what's going on below the ground, because you know, we can't just look at it and see, but it depends on where the point of introduction of the contamination occurs relative to the well, how it gets into the well.

Q. Thank you, Mr. Brake. Are you representing today yourself or Xcel Energy, your employer?

A. I'm sorry?

Q. Are you representing -- are you speaking for yourself today or Xcel, your employer?

A. For myself.

Q. And you were aware of the application for the AGI #1 back in 2005?

A. Yes, sir.

Q. But you didn't speak at that hearing, did you? Did you have any concerns then?

A. Yes, sir.

Q. Yes, sir, you did speak at the hearing back in 2006?

A. No, sir.

Q. Can you explain to me the arrangement between Mr. Smith and Xcel and how he gets his water? Does he buy it from Xcel?

A. Yes, sir.

Q. And that's -- and that's the water he uses for

irrigation?

A. Yes, sir.

MR. RANKIN: Nothing further, Madam Chair. Thank you.

MS. BAILEY: Ms. Gerholt, do you have any questions?

MS. GERHOLT: I have no questions for this witness.

MS. BAILEY: Commissioner Warnell?

MR. WARNELL: No questions.

MS. BAILEY: Commissioner Balch.

EXAMINATION

BY MR. BALCH

Q. I'm looking at an exhibit. I don't know if you have the exhibits, Mr. Brake, but it just basically shows a map of water wells around Mr. Smith's farm and the AGI site. There's at least six Xcel Energy water wells, monitoring wells that are labeled on the map.

A. Yes, sir.

Q. Are those monitoring now, or did they monitor for a fixed period in the past?

A. They're currently active.

Q. All of the wells? All of the monitoring wells?

A. If the ones you're looking at are the ones I'm thinking of, yes. There's -- and real quickly, monitoring

well #1 is immediately north of his -- Mr. Smith's west pivot. Monitoring well #2 is immediately southeast of his west pivot, and monitoring well 3 is immediately southeast of his east pivot. Monitoring well #4 is immediately southeast of Maddox Lake, and monitoring well #5 is immediately southeast of the current Xcel Energy fueling tower, blowdown wastewater pond, lined pond.

Q. And you said you monitor for H2S at some of those sites?

A. We have H2S sensors, remote sensors all up and along our property line and in and around our facility.

Q. And there weren't -- and you haven't -- how often do you sample the water in those monitoring wells?

A. Once a quarter.

Q. So all different times of the year. You haven't seen anything -- H2S doesn't fluctuate or does it fluctuate?

A. I've seen no indications of H2S. Also, when I go out to sample, being mindful of the proximity of the AGI well, I take a personal monitor with me as well as I take a remote read out of all the fixed remote H2S sensors, because I just don't, you know, want to get caught. In case there's an accidental release out there, I'd like to know about it before it gets to me, and at no time have I ever picked up any H2S.

Q. How about -- is pH one of things that's measured

in those monitoring wells?

A. Sure, uh-huh.

Q. Can you recall off the top of your head what an average pH for the water is in that area?

A. Pretty sure it fluctuates between about a 6.8 to about a 7.1.

Q. So pretty close to normal, maybe slightly basic?

A. Slightly acidic maybe --

Q. I guess --

A. -- seven being neutral.

Q. That's what I remember from college, down to seven being neutral.

A. There you go, and if you go down, it's acidic, and if you go up, that's basic.

Q. Do you direct any measure for sulfides or other sulphur minerals in those monitoring wells?

A. Sulfates, we analyze for sulfates, SO4.

Q. Have you seen anything in that data that indicates those values are changing over time?

A. No, sir. Now, originally we did four quarters -- at least four quarters, maybe a little more, sampling everything, volatile organics, semivolatile organics, inorganics, wet chemistry, inorganics. I mean, we did everything, gasses, the whole thing, and we never saw anything, and the State allowed us to cut back to a lot of

the hard water components. That's pretty much what we're seeing out there.

Q. You state this is all reported to NMED? We could find that on line or in a file somewhere?

A. Yes, uh-huh. They should have it, uh-huh, Groundwater Bureau.

Q. Great. Directly north of the Maddox pond there's an irrigation well maybe about a quarter mile or less and then another one to the northwest about a quarter of a mile. If those wells were having a drawdown effect, would they be able to divert the flow?

A. Now, you said Maddox pond. Do you mean old Maddox Lake or our new wastewater blowdown pond?

Q. The unlined lake.

A. The unlined -- okay. So old Maddox Lake. All right. And you're saying that -- you're wondering if those wells if they have sufficient drawdown, could they pull any potential or possible contamination towards them?

Q. Well, maybe not directly towards them but divert the flow from a southeast direction, which everybody apparently thinks is the natural flow. You don't necessarily have to completely pull it all from there, but you may be able to divert some of those vectors enough to sweep a couple feet into Mr. Smith's well or the drainage field of that well?

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A. Do I think it's possible it could divert that contamination in that direction of Mr. Smith's well? Is that what you stated?

Q. Sure.

A. You know, I don't -- I don't think it's impossible for some kind of tangential flow change of direction, but I definitely think the uphill thing is virtually impossible. I just don't -- I don't see how that can happen. There's too many times I've seen where, you know, you can be pumping with a significant high production well, and you just can't even pull contamination up gradient, and I think that's the key word, up gradient.

Q. All right. So the Goodwin #3 that was also brought up, that looks to be about 2- or 300 feet slightly north of the west of Mr. Smith's water well, the one in question.

A. Uh-huh.

Q. So it essentially would be pulling up gradient from there if there was contamination of groundwater from that well?

A. That Goodwin well is in what direction from Smith's well at his house there or his barn there?

Q. I'm going to say about maybe 250 or 300 feet east and maybe 25 feet north of the well location.

A. So it's -- so it's east, northeast from Smith's

well that we're talking about?

Q. Very approximately.

A. Yeah, if that was the H2S contamination point, I would find it very unlikely that given the size of the well in question that it could pull that contamination up gradient. Now, I could still see it changing the groundwater flow direction by Mr. Smith running both his irrigation wells and his domestic well over there, but you know, if you look at cones of depression, you know, elliptical, you know, like a teardrop kind of, and the center of the well is kind of in the bottom of the teardrop, the top of the teardrop goes up gradient, and I just don't see those irrigation wells or his domestic well pulling that far almost down gradient in that direction. Like I said, I'm -- I've worked a SEDE contamination site before, which is eminently titled in water and couldn't even pull it 50 feet up gradient with a 1,200 gallon per minute well.

MR. BALCH: Thank you very much, Mr. Brake.

THE WITNESS: Okay.

MS. BAILEY: And I have no questions. Do you have any redirect, Mr. Alvidrez?

MR. ALVIDREZ: Yes, just very briefly.

REDIRECT EXAMINATION

BY MR. ALVIDREZ

Q. You were asked by the lawyer for DCP about whether

you had testified at the 2005 hearing with respect to this, the permitting for this well. I believe you said that you did not, but you were also asked whether you had any concerns back in 2005 about this AGI well, but we didn't get an answer on the record. Do you have --

A. I said yes, I have concerns. No, I did not speak.

Q. What were your concerns?

A. About the AGI well?

Q. Yes.

A. That I've got a monitoring well about 200 feet from that well.

Q. And what was the issue with regard to that monitoring well and your -- and the AGI well?

A. Personal safety.

Q. Were you worried that there would -- that gas would get released through that monitoring well?

A. No, I was more worried about a catastrophic failure on the AGI well, and given the distance and given the concentration of H2S, you know, you get pulling in at 300 parts per million and look at the concentrations they're injecting at 200 feet -- you know, when you look at safety for nuclear exposure, it's all about time and distance, and at those concentrations, 200 feet away, if they had a catastrophic release, which I know is not likely -- you know, I know they built the thing real sturdy, and they've

got lots of safety measures and stuff, but things fail, especially H2S being corrosive, and I was just kind of nervous being 200 feet from something that, if it fails under that kind of pressure, I'm not going to have any time or any distance. So I had a concern about my personal safety. That's the reason why I go out there with an SEDE and a monitor, and I try to use my old oil and gas training, and only when there's a real strong wind from the north, northwest I try to go out there.

Q. Now, you were also asked about testing of the monitoring wells, and I wanted to get some clarification. Are you -- are you testing for H2S in those monitoring wells when you're doing the sampling?

A. No, sir.

Q. So you don't -- you don't stick a monitor, you know, when you open up the well or anything like that to confirm whether or not H2S is present I take it?

A. There's an H2S sensor on that monitor well #3 right at the wellhead on the casing, itself.

Q. And that's outside of the well?

A. Yeah, it's sitting there right -- it's mounted right there right next to the well. I mean, I think it's cemented in the pad, so it's right there next to the monitoring well #3. That's one of our fixed remote H2S sensors.

Q. Okay. Do you test any of the other monitoring wells for H2S, or are there --

A. No, sir.

Q. I'm sorry?

A. No, sir.

Q. And are there H2S monitors in close proximity to these other wells as close as you've described with respect to monitoring well 3?

A. No, sir.

MR. ALVIDREZ: Those are any questions. Thank you very much. Thank you very much, Mr. Brake.

THE WITNESS: You're welcome.

MS. BAILEY: So your witness may be excused?

MR. ALVIDREZ: Yes.

MS. BAILEY: Yes, thank you, Mr. Brake, for your participation.

THE WITNESS: All right. You bet. Thanks. Have a good day.

MS. BAILEY: Bye bye.

Do you have any other witnesses?

MR. ALVIDREZ: Yes. Our final witness is Naomi Smith. We call her to the stand.

NAOMI SMITH

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. ALVIDREZ

Q. Ms. Smith, can you state your name for the record.

A. Naomi Smith.

Q. And I take it -- can you tell the Commission your relation to Mr. Smith?

A. I am his wife.

Q. And how long have you been married?

A. Thirty-seven and a half years.

Q. So is there any of his testimony you'd like to correct right now? That's a poor attempt at humor, but I want to ask about your involvement with the sampling, because there's been some question about how the samples were handled, and can you tell the Commission about what your role in the gathering of these water samples was that were submitted to Cardinal Laboratory?

A. Yes, I was supposed to take the samples, so she told me let it run for several minutes and then take the sample in the bottle that she gave me. She told me to pack it on ice, close it in an ice chest and drive straight to her lab, and that is what I did on those days.

Q. Do you recall which dates you did that on and for which tests?

A. The first one was in July. I did it on all of them, but the first one was that one in July.

Q. And with regard to -- there's been an issue about the barn that's located close to this trailer.

A. Yes, sir.

Q. Can you tell the Commission how many -- how much livestock houses in that barn?

A. Zero.

Q. What is that barn used for?

A. It's used for equipment and hay.

Q. And have you been present during any of the readings that have taken place with regard to the water coming from the sink in the trailer?

A. Yes.

Q. And what have you -- what have you observed?

A. When I would take the samples, the first one, you know, there was always a smell. On I believe it was the third one -- the third one was the worst one, and it had a just -- just the smell got worse and worse. As I took it, at that point she had the solution in, and I boxed it up, and we -- I left to go there, and I had problems. I didn't realize it was -- I don't know what it was from, but my nose and throat and eyes were burning and itching and watering, and by the time I got to Cardinal Labs, I had trouble with my throat. I had to keep clearing my throat to be able to speak to her and was very horse, and my head was hurting, and that's when I delivered that third sample.

Q. Now, how long have you all lived out at the -- well, how long have you owned the Smith Ranch?

A. We bought the ranch in November of 1994, and there was other occupants on the farm. We have to go through the farm to get to our ranch, so when they lost the ranch -- the farm in '98, then we contacted the owner and started the proceedings to buy it.

Q. And I take it there's a ranch house out there?

A. Yes.

Q. And do you live at that ranch house from time to time?

A. Yes.

Q. How often do you spend out there?

A. Well, in the summer when we're doing the -- a lot of the farming, we can be out there I would say 90 percent of the time. In the winter, we might not be there quite as much.

Q. Do you have family out to the farm?

A. Yes, sometimes I do. We have cattle workings. We have all of our family there, and then other times, I have my grandchildren with me, and they're there.

Q. When did you first start noticing anything that smelled like H2S starting on happen?

A. I didn't go into trailer until the ranch hand left. Then I went in, and we ran the water and I started

smelling it.

Q. Have you noticed, you know, whether the smell's changed throughout the seasons or any of that sort of thing?

A. Yeah, it gets -- well, it was strong, real strong, and then last year at the end the year, I would say in December, it started getting probably a little weaker, and then it left for a while. Like in April, there was none, and we thought, well, it's gone, and then in May, it came back.

Q. That's of this year?

A. Uh-huh, yes, for 2012.

Q. Now, have you had occasion to have to call DCP about -- about any concerns?

A. Yes.

Q. Can you describe the situation that lead to the call?

A. It was the last -- well, one time we called, we were in the field doing hay, and the alarm started going off, and we called one of the numbers in the book, and they -- I don't think they were out there then, but they said they were headed out there, and they was going to check it out and --

Q. Do you recall when that was?

A. It would have probably been June, July. That's usually our hay -- it was at the beginning, and then the

last time I called them was later. I want to say November probably, and I got the book. I started calling the numbers I called in the past. It took me four numbers before I got anybody. All the alarms would go off. I was working at the barn, and I wanted to go back up to the house. It was about lunch time, and I didn't want to go by there with the alarms, unless I knew there was nothing wrong.

Q. So was there some type of alarm going off --

A. Yes.

Q. -- at the -- up at the plant or at the well?

A. It was at the well up there, the injection well.

Q. Okay. And do you know what numbers you called? Well, let me ask, what numbers were you using to call? Where did they come from?

A. They came from our book that -- it is called contingency plan book that they sent us. They were in that book. One said disconnected, and one just rang and rang and rang, and nobody answered. I think the other one had a problem, and so I asked the guy, I said, "I'm sorry I had to bother you," because I had just kept calling up the list, and he said they were having trouble with their phones, but he assured me there was nothing wrong, and I could go ahead, and they were checking their equipment or something, their instruments.

MR. ALVIDREZ: Those are all my questions I have.

Thank you.

MS. BAILEY: Do you have any cross questions?

MR. RANKIN: Just have two quick questions, Madam Chair, real quick.

CROSS-EXAMINATION

BY MR. RANKIN

Q. You're talking about when you stay at the property, you stay at the ranch house; is that correct?

A. Yes, sir.

Q. And that's two and a half miles or so north of the AGI injection site?

A. Yes, sir.

Q. And then on the -- are you aware that the monitors that you're looking -- you're seeing going off, that they may be triggered at different levels?

A. Yes.

Q. And so you're aware that if it does trigger the contingency plan, then DCP would contact you?

A. I've never been contacted by DCP.

Q. And let me be -- maybe the contingency plan's not available, but the monitor levels have never gone off at that level?

A. Those ones with the signs that have the red lights?

Q. Yes.

A. They have went off, and that is pretty scary when those go off, and I've never been contacted by DCP.

Q. I understand. Thank you, ma'am.

MS. BAILEY: Ms. Gerholt.

MS. GERHOLT: I have no questions for this witness.

MS. BAILEY: Commissioner Warnell.

MR. WARNELL: No questions.

MS. BAILEY: Commissioner Balch.

MR. BALCH: For a change, I have no questions.

MS. BAILEY: And I have no questions. So do you have any redirect at all?

MR. ALVIDREZ: I don't have any redirect.

MS. BAILEY: All right. Then your witness can be excused?

MR. ALVIDREZ: Thank you very much.

MS. BAILEY: Thank you. Does that conclude your case?

MR. ALVIDREZ: Yes, those are all our witnesses and all our evidence.

MS. BAILEY: Do you have rebuttal witnesses?

MR. RANKIN: We have one rebuttal witness, and we can go as quickly as we can. May I call Mr. Gutierrez back to the stand.

MS. BAILEY: Yes. You are still under oath.

MR. RANKIN: Madam Chair, if I might approach, I have one rebuttal exhibit that I might distribute.

ALBERTO GUTIERREZ

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. RANKIN

Q. Mr. Gutierrez, you prepared an exhibit on rebuttal; is that correct?

A. I did.

Q. I'm just going to let you provide us a rebuttal on each of the points that the Smiths have raised, so I'll let you take the floor.

A. All right. Basically the Smiths have made three assertions that came directly out of their prehearing statement. This is how I developed my rebuttal report.

First assertion is that DCP has not proven that it can safely and reliably operate its proposed Linam AGI #2. Their second assertion is that the AGI #1 has had numerous operational problems that have threatened the health and safety of the neighboring landowners. And their third assertion is that the Lower Bone Springs does not fully contain injected acid gas, and that such gas has made its way into the water table underneath the Smith's property. These assertions simply aren't true.

MR. ALVIDREZ: I'm going to object to the PowerPoint. I think it's fine to have Mr. Gutierrez testify, but you know, this is -- this is rebuttal, and I think that it's really not appropriate now to try and introduce another exhibit that is in the nature of a PowerPoint presentation. Certainly he can provide live testimony, but you know, the PowerPoint presentation is not something we can cross-examine or anything of that nature. If they've got discreet evidence, they've prepared maps, things like that, there may be portions of the PowerPoint that are fine, but this is more argument than anything else, and I think it's fine for him to testify, but I would object to the PowerPoint or use of the PowerPoint.

MR. RANKIN: Madam Chair, I would respond that this is perfectly appropriate evidence. It's from an expert who's been designated as an expert in groundwater hydrology as well as in AGI operations and petroleum engineering, and these are his opinions, and an expert opinion is absolutely acceptable for acceptance as a piece of evidence, and these are just a restatement of Mr. Gutierrez's expert opinion.

MR. ALVIDREZ: And, again, I don't have any objection to him testifying, but when you see stuff like this, big bold print and you compare it to the other parts, you know, it's really starting to get into more of the argument type of a situation, and I think it's inappropriate

in the context of this type of hearing, or really any other type of hearing to utilize, you know, exhibits in this manner. I'm fine with the facts, his opinions, but I don't -- I think the method of presentation is prejudicial and inappropriate, and I object on that basis.

MS. BAILEY: Mr. Brancard, do you have any guidance for us as our legal --

MR. BRANCARD: While Mr. Gutierrez does have an opinion, I don't think -- I mean, all the parties are going to get a closing argument when they can sum up their argument. I don't think that's really Mr. Gutierrez's point. If he can stick to the facts that have been asserted and the opinions that have been asserted and wants to counter with his opinions, that's fine, but making a general argument like this doesn't seem appropriate at this point.

MR. RANKIN: Can we take out -- Mr. Alvidrez, is your main concern this page?

MR. ALVIDREZ: That's one concern. I just received this. I haven't had a chance to look at it. So I don't think we want to take the time for me to go through page by page. Let's just have Mr. Gutierrez proceed as other witnesses have and give his opinion.

MR. RANKIN: Okay. And there may be some specific exhibits that we would like to enter into the record, and we can address those.

MR. ALVIDREZ: We can address those individually.

MR. RANKIN: Thank you, Madam Chair.

A. It's been asserted that the design for the AGI #2 is not safe or reliable, and I would offer an opinion that is based on my experience, extensive experience in design and operation of these types of wells, and I would have the following to say about that design: One is that it is specifically designed to protect the public and employee and contractor health and safety. The people who are closest to that facility are EP -- are DCP's own employees that, as we heard testimony, go to the facility several times a day, every day and every night, and the contractors that work there.

And the protection of groundwater and adjacent production is another key aspect of the design of the well. It's got, as we've reviewed extensively, four strings of casing, all cemented to the surface, all -- and in addition, a string, second string of intermediate casing that extends all the way to the immediate zone above the injection zone.

The -- I am absolutely convinced that from extensive work that I've been doing out there for the last seven years, eight years, that the Lower Bone Springs is one of the best AGI reservoirs I've ever seen. It has 3,000 feet of caprock above it with the -- the upper portion of the Bone Springs and the inner beds in the Abo. Above that, we

have a loss circulation zone that's almost 600 feet thick in the Glorietta that is grossly under pressure. Above that, we have another 3,000 feet of alternating formations that are also sour and producing. And above that, we have another 1,200 feet of salt in the form of a Castile and Salado formation, and it's only above that that we then have the Dockum Group, and in the skin, the upper 250 feet, we've got fresh water in the combination of the three zones that I talked about.

The casing and tubing integrity is assured by not only the design and the materials that are being used but, also, by the ongoing monitoring that's being proposed. We -- it will -- the well, the addition of another well as we have discussed and as the OCD has independently determined will add to the overall plant reliability and up time by allowing for one well to be worked on when another one is -- is being used to inject. It will prevent unplanned shut-ins of thousands of wells in the area.

In addition, we have added, not required by the OCD and frankly nonexistent in any other AGI in New Mexico for sure or none that I'm aware of frankly in the United States that will have realtime downhole monitoring of reservoir pressure and temperature, and you know, DCP has even agreed that when they go back in to work in the -- work over the AGI #1, that they would be willing to make those upgrades in that well as

well.

In addition, this well is --

MR. ALVIDREZ: I would like to object. I mean, I think that thus far, everything I've heard is really redundant of what we have already heard, and that certainly we had our prehearing statement filed in advance of the hearing, and you know, much our testimony has really been presented with respect to issues relating to H2S found in this well, and I think perhaps we could -- well, this is redundant. We ought to focus on that issue and not reash what we've essentially already heard.

We didn't talk too much about the well. We asked him a few questions about it but really didn't talk about the new well that much. We talked about some issues with the current well that's operating, AGI 1, and we talked about the H2S. I think this is appropriate. It's neither rebuttal, and it's also cumulative of what we've heard.

MR. RANKIN: Madam Chair, I would just say that last year in July, we heard the same exact testimony about operations by the Smiths, and we're just trying to make a point that nothing that they've presented is indicative of the problems that they claim come from AGI.

MR. ALVIDREZ: We're not here to talk about what happened last year. Again, this is cumulative, and I think all of us would really like to speed things a long as well.

Again, I object that this is neither rebuttal, and it is cumulative.

MR. RANKIN: Madam Chair, I'd be happy to ask some specific questions of Mr. Gutierrez to speed it along and avoid any redundancy.

MS. BAILEY: Yes, because we all have the opportunity to hear closing arguments.

Q. (By Mr. Rankin.) Mr. Gutierrez, you did an analysis using the same methodology that you used to determine footprint of a TAG; is that correct?

A. Yes, sir, I did.

Q. And you did that analysis to look at what the volume or what the expected radius is based on the current to date injection volumes have been from the AGI; is that correct?

A. Yes, sir, in fact, what I did was a calculation based on four million cubic feet a day, which is actually more than what they have actually injected if you were to take that average over the entire time of the operation, but yes, I calculated the extent of acid gas in the Lower Bone Springs as a result of the injection over the past three years.

Q. And what was the radius that you determined -- and, again, this is on page 7 of the -- out of the Exhibit, the demonstrative page 7; is that correct?

A. Yeah, I know it by heart anyway. So it was 478 feet if I remember correctly.

Q. And how far away is the Smith's irrigation well and their water well?

A. The well that we've been discussing is three-quarters of a mile away, over 4,000 feet away, and that's just over 4,000 feet away from the surface location of the AGI. If you look at the distance from the injection zone to Mr. Smith's well, it's in excess of 10,000 feet almost -- well, it's in excess of two miles directly, if you look from -- directly from the base of the well to the Smith's well.

Q. The next page of your demonstrative, page number 8, that's an aerial view; is that correct, of what that would look like? That's 479 feet out from the AGI #1?

A. That is correct.

Q. And that indicates to you -- that shows sort of an overview of how the extent of injection volume to date that based on your methodology that's been approved by the OCD, how far the injectate has gone; is that correct?

A. That's correct. It's barely to the edges of the Linam AGI facility.

Q. And the next page of this is page 9, which is more of a cross-sectional view of that same idea; is that correct, and you've got a vertical scale and a horizontal

scale?

A. Yes.

Q. And the two don't match up, but the vertical scale is consistent with the horizontal scale in this instance you have, right?

A. Yeah, I mean, if I tried to draw it to scale, it would extend from here to half way out the parking lot.

Q. And the bottom right hand corner next to what's been indicated as the AGI #1 well in blue is a little green square; is that right?

A. Yes, sir.

Q. And that little green square is your representation of the volume today of injected AGI fluids; is that right?

A. Maximum volume.

Q. Maximum volume. And the top left corner you'll see a little black line coming down, just barely penetrating what's been marked in red as the Dockum Group?

A. Yes, sir.

Q. And that represents the well, the scale, vertical scale of the Smith's well?

A. Yes, sir.

Q. And this -- this representation is meant to indicate the geology that any injection would have to overcome in order to even reach the Smith's well?

A. Yes, sir.

Q. And as you discussed in your previous testimony, the -- the top of the Glorietta, which is also known by another name; is that correct?

A. That's correct.

Q. And is that the Brushy Canyon?

A. Yes, sir.

Q. That Brushy Canyon, you indicated in your previous testimony is a loss circulation zone?

A. Yes, sir, it is.

Q. And any injected fluid that would happen to get through the extensive caprock would likely sit in the Brushy Canyon zone; is that correct?

A. It couldn't go anywhere else.

Q. In addition to that, you've got the Salado and Castile formation above, which is how thick? You said it was of salt?

A. About 1,200 feet, but between the top of the Glorietta and the base of the Salado and Castile, you also have the Yates, 7 Rivers, Queens, San Andres formations all of which are characterized by either sour production and/or sour water in general in this area.

Q. And isn't the Salado and other parts in the vicinity used as a -- or have been investigated as a possible storage facility for natural gas?

A. Oh, yes, it is. As a matter of fact, it's a storage facility for nuclear waste and WIPP.

Q. And that's because it contains it's waste, right?

A. Yes, sir.

Q. Looking at page number 12 of your demonstrative exhibit, this is a chart or a graph that you put together using the Smith's data they collected from Mr. Smith's wells and had sampled at Cardinal Laboratories; is that right?

A. That's correct.

Q. And you have also included here some additional samples, that -- that you had taken with DCP of their water wells; is that right?

A. Yes, the samples we discussed in my earlier testimony as well as samples that were taken on Friday, last Friday for sulfides in those two wells as well.

Q. And what this indicates to you is that -- just explain to me what this indicates to you?

A. Well, it's very simple. I mean, the fact is that the detections that Mr. Smith has had in his well have been intermittent. They react to an introduction of bleach. I think the testimony that was given was that approximately two gallons of bleach was put in on one occasion and approximately four or five gallons of bleach put in in another occasion. With a well that is 160 feet deep, in order to shock chlorinate a well to get rid of sulfate

producing bacteria or to get rid of anoxic conditions, you can't do with a few gallons of bleach. In fact, the most common way of treating hydrogen sulfide in water from bacterial activity is ongoing chlorination. I know this very personally, because for 17 years I had a home in Chama that had a well that untreated had probably 30 or 40 parts per million hydrogen sulfide in it coming naturally out of the sandstone in the Mancos formation. I -- also, I can fully sympathize with Mr. Smith's -- and I don't doubt that he detects H2S in his well.

From everything that has been presented, it is absolutely diagnostic of the kind of occurrence of H2S that you get from biological activity in a well and/or in someone's plumbing. I know it, because I did it myself. I ultimately had -- I could not stand to take a shower in my own house in Chama until I put a treatment system, which cost me about $4,500 that removed the H2S from the water, and once I did that, I didn't have a problem.

MR. RANKIN: Madam Chair, if I might approach, I have the water samples that he ran with Cardinal Labs. May I distribute those?

MS. BAILEY: Yes.

MR. BRANCARD: Is this already an exhibit?

MR. RANKIN: No, it's not.

THE WITNESS: This is the sulfide results.

Q. (By Mr. Rankin.) Mr. Gutierrez, looking at this exhibit, which I'll go back and ask to tender these as exhibits, and I'll number them at that time. Looking at this letter from Cardinal Laboratories, in the second page, if you would turn to the second page, looking at the top right corner where it says Sampling Conditions, you see where it reads, "Cool and in tact?"

A. Yes, sir.

Q. Okay. There are no stars or asterisks indicating that the sample was improperly collected or provided to Cardinal Laboratories?

A. That's correct.

Q. And looking at the analyte that was tested, you see it was sulfide; is that correct?

A. Yes, sir, that's what we requested.

Q. And what does the reading tell you?

A. It tells me there's no sulfide, and by the method that Ms. Keene just testified to earlier would tell me there's no H2S in those wells either.

Q. And I'll ask you to identify the well this was taken from in a moment. Now, turning to -- so there are two wells that are sampled; is that correct?

A. Yes, sir, that's correct.

Q. The Eunice North and the #6 water well?

A. That's correct, sir.

Q. And these were the same wells that were tested on your Exhibit Number 7; is that correct?

A. Yes, sir, the samples there were taken on Thursday. These samples were taken on Friday, I believe. I mean, I'm sorry. These samples were taken on Monday. The other samples were taken on Friday.

Q. And who collected the samples?

A. John Bettington who is the environmental engineer for DCP. He did that at my direction.

Q. And looking at tab number 13 on Exhibit -- DCP Exhibit Number 4 -- maybe, Deb, if you would, go to that on your PowerPoint. Does he have his pointer there?

Using the laser pointer, can you identify the location of the #6 water well and Eunice North water well, please?

A. #6 water well here, it's this one that is labeled El Paso Natural Gas Company, because that was the former owner of the well.

Q. And what's the distance from that well to the AGI #1 approximately?

A. It's approximately 4,000 feet or so.

Q. And can you identify the North Eunice water well?

A. It's over here. It's labeled as Jimmy B. Cooper, but that's because, again, it was a -- it's right in this location.

Q. And the approximate distance to the AGI #1 well?

A. It's about the same. It's actually a little closer, maybe 3,500, 3,800 feet.

Q. And both of these wells, how deep are they and what formation are they drawing water from?

A. They're roughly -- they're drawing from, water from the same formations, it's not just one, but formations that Mr. Smith's well is drawing from, which would be the Ogallala and the Dockum group and possibly alluvium above, especially since Mr. Smith has testified that his water level's only about 50 feet, so he's probably got some alluvium, some Ogallala and some Dockum Group as well.

Q. And these wells are approximately the same distance roughly? I think you testified that Mr. Smith's water well is approximately three-quarters of a mile?

A. Yes, sir.

Q. And these are roughly 4,000 feet or so?

A. Yeah, you can see they're about the same distance. Mr. Smith's well is right here. The AGI facility's here. The Jimmy Cooper is there, and the El Paso well is there.

Q. So based on these water samples, which identify no sulfides at approximately the same distance and the testimony we have from Mr. Scott Brigg that the monitoring wells surrounding the Xcel facility all indicate no sulfides, the only well that has indicated any sulfide is Mr. Smith's well; is that correct?

A. That's correct. One thing I will mention, however, is that as you could see, all of these wells when they were sampled for sulfate, all detected sulfate as -- and Mr. Brake mentioned that in his own testimony that they are wells that are high in organics including sulfate.

Q. And what happens when you have sulfate in an anoxic or anaerobic or reducing environment with or without bacteria?

A. You get some pretty smelly water.

Q. And that's just because it's in a reducing environment; is that right?

A. That's right, because it generates hydrogen sulfide, that that sulfate gets converted to hydrogen sulfide in a reducing environment under biologic conditions.

Q. So based on the testimony of Mr. Brake and all the testimony that you've heard today, including your own, the fact that the only well that had tested positive for sulfides was Mr. Smith's and intermittently so, what is your conclusion about the source of Mr. Smith's sulphur problem?

A. I don't know the specific source of his sulphur problem, but I believe that the source is -- I don't know the specific source of what is creating the anoxic condition, but I am convinced that what he has is periodic periods of reducing conditions in his well that create hydrogen sulfide, and that's what picks up when he showers

or when he turns on his faucet.

Q. And just to summarise for the Commissioners, we heard a number of potential sources today, some of which we didn't actually even think about originally. If you could, let's walk through a couple of them real fast. Can you recall some of the potential sources for reducing environment immediately in the vicinity of Mr. Smith's well?

A. Sure.

MS. BAILEY: Is this rebuttal or your closing argument?

MR. RANKIN: This is rebuttal.

MS. BAILEY: Okay.

MR. RANKIN: It's a summary, I suppose. I'm asking him to rebut the Smith's testimony relating to the source of the H2S in the water --

MS. BAILEY: Okay.

MR. RANKIN: -- based on the testimony that was provided as an expert in groundwater contamination.

A. First of all, I think everyone has stated here that the groundwater flow direction is towards the southeast, and I would concur with that. So frankly if any hydrogen sulfide was getting into the groundwater from the AGI facility, it would be getting transported in the opposite direction from the direction which we're talking about here, number one.

Number two, if the groundwater is locally subjected to reducing conditions such as could be from a well that is not used all the time but intermittently used and sits, that is a classic kind of situation for sulfate-reducing bacteria, and you have the food for the -- for the anoxic conditions. You have the food in effect or the material that can be converted to hydrogen sulfide available in the well at very high concentrations, 464 parts per million sulphur.

You also have the proximity to a -- a lake that was used for many, many years and that had significant organic matter in it. As a matter of fact, Mr. Brake indicated there was dead cattails there in the lake. So you certainly can have a very shallow groundwater situation. You've got potential reducing conditions there.

You also have a leech field that is adjacent to that, which provides additional organic material and possible reducing conditions in a shallow groundwater situation. I don't know -- I don't know specifically where the leech field is located relative to the groundwater flow direction from the well, but if it's in the general proximity of the well, in and of itself that can create a significant problem.

You also have a situation, which throughout southeast New Mexico, sulfate is a persistent problem in groundwater, and frankly, H2S is a common problem in water wells

throughout all of southeast New Mexico. As a matter of fact, in the Carlsbad water system alone, there's a Carlsbad -- the 2011 report from the Carlsbad water system. That's one of their major problems, and it comes from natural calcium sulfate in gypsum, just like what you find in the Dockum Group.

Also, you have a potential generation of H2S from organic material that's trapped in piping in a -- in like a p-trap. When you don't have it -- when you're not using it on a routine basis. So there's really many other sources that are much more likely than -- you know, as a hydro-geologist and as a geologist, I mean, the last thing I want to do is put my client potentially in a situation where they would be damaging anybody's well, whether it be a production well or whether it be a water well, and I just -- as a geologist, I can't conceive of a way to get hydrogen sulfide from the Lower Bone Springs through 3,000 feet of inner bedded caprock through 600 feet of a lost circulation zone that is under pressure and then another -- through another 3- to 4,000 feet of formations that already have sour water in them and that have production and then on top of that, to -- through another thousand feet of salt and then into the Dockum Group.

Another thing that was mentioned is that there is another -- there is a sour production well that is even

closer than our well to Mr. Smith's. I don't know what zone that well is completed in. I don't know how that well is completed. I don't know what surface transmittal of either oil, sour produced water or gas is. I mean, there's just a lot of other potential sources. And I wanted to speak specifically to the abandon well that I think we heard testimony both from OCD as well as my own testimony that that well, A, did not penetrate the injection zone. I put it in the application really out of an abundance of caution, because it came close to the injection zone, and the -- and frankly, in hindsight, I probably should have left it out, because it really didn't penetrate the injection zone, and the reason why it was in the original application is because the original application was for two injection zones; one being the Brushy Basin, Brushy Canyon, which is the under-pressured zone, and it definitely penetrated that zone, and that's how it found its way into the original application, but I left it in here because of an abundance of caution.

I just cannot conceive of any way in which the H2S which we've injected over the past three years which would have displaced approximately and occupied an area of approximately 480 feet in the Lower Bone Springs could be finding its way to Mr. Smith's well. Also, the intermittent nature of those detections, the reaction of the well to

bleach.

And furthermore, you've got to remember, we're not talking about parts per million H2S that we're putting in that well. We're putting in 18 percent H2S. That 18 percent is 180,000 parts per million. You know, it's -- and we're putting in 880,000 -- or I'm sorry, 820,000 parts per million CO2 in that well, and there's just no evidence that that is winding up in the groundwater.

Q. Let me ask about the CO2 real quick, Mr. Gutierrez. If there were any subsurface leaking of CO2, one of the conditions -- one of the indicators of CO2 leakages is dead vegetation; is that correct?

A. Yes, it is.

Q. And we haven't heard any testimony of dead vegetation, have we?

A. Except for the fact that the drought is pretty bad out there. That's correct.

Q. So if there is CO2 leaking underground, might you expect to see at that the concentration -- from your injection, wouldn't you expect to see some dead vegetation?

A. Yes, sir.

MR. RANKIN: Thank you.

Madam Chair, I would just like to number some of these exhibits, if I could, and move them to be admitted. Page number 7 of Mr. Gutierrez's exhibit, I'd like number that as

Number 9, Exhibit Number 9 if I might; page number 8 as Number 10, Exhibit Number 10; page number 9 as Exhibit Number 11; page 12 as Exhibit 12, and this Cardinal Labatories sulfide test as Exhibit Number 13, and I would move for their admission into the record.

MS. BAILEY: Any objection?

MR. ALVIDREZ: No objection.

MS. BAILEY: Then they are admitted.

MR. RANKIN: Thank you, Madam Chair. Nothing further.

MS. BAILEY: That concludes your case?

MR. RANKIN: That concludes our case.

MS. BAILEY: It's time for closing arguments.

MR. ALVIDREZ: Do I get any cross-examination?

MS. BAILEY: Oh, yes. I'm sorry.

CROSS-EXAMINATION

BY MR. ALVIDREZ

Q. Mr. Gutierrez, may I have you look at what's been admitted as DCP Exhibit 10, please.

A. I'm sorry. I didn't keep up with his nomenclature of those. Okay. Thank you. Yes, sir, I have it.

Q. You talked about in your rebuttal testimony about an oil and gas well that you're aware of on the Smith's property. Can you identify that for us in this aerial photograph, please.

A. I don't know specifically which one Mr. Smith was referring to, but one that I know of that is located -- is located right up in this area, right in here.

Q. Okay. Do you know what this -- isn't it right here?

A. Well, I believe that there is one there. It might not be there. It could be there. I do not -- I just can't recall.

Q. So you're not sure where that --

A. No, I haven't been up there.

Q. I would like for you to mark on DCP 10, the one that's actually going into the record, where the Goodwin 3 is?

A. Sure.

Q. Can you do that?

A. Sure. In this exhibit?

Q. Yes, and whichever one is going into the record, but I want that to --

A. Well, it's already marked on a map that is going into the record. It was marked -- it was on figure eight, which is in the original AGI application, C-108. It is clearly indicated, its location there, and its shown to be about 300 feet or so away from Mr. Smith's trailer house.

Q. Okay. And so can you mark that on the exhibit that we're going to be -- that's been admitted as rebuttal

10, DCP Exhibit 10?

MR. RANKIN: Maybe use this one here.

A. Which one do you want me to use? I'll mark it anyway. Yes, I'll mark it on there, and I'll just mark it as Goodwin #3.

Q. That would be great. Thank you.

MR. WARNELL: Will you do that with the laser?

THE WITNESS: Yes, sir. It is located right about there.

Q. (By Mr. Alvidrez.) Now, if we could have you go to DCP Exhibit 11.

A. And which would that be, the cross-section.

Q. It's the schematic cross-section.

A. Yes, sir.

Q. And as I understand it, this is a cross-section depiction, not to scale, of course, of the Linam AGI 1 and then the Smith water well, correct?

A. Well, it is to scale. It's just that it's got vertical exaggeration.

Q. And the -- so what you're depicting here is AGI 1 goes down to what's listed as the approved injection zone for Lower Bone Springs, correct?

A. That's correct.

Q. And you've got the Smith water well that's the little black line showing that it goes down into the, I

guess, uppermost part of the Dockum Group called the redbeds on this schematic?

A. That's correct.

Q. What I'd like for you to do on Exhibit 11 that's going into the record is draw the depth of Goodwin 3?

A. Sure, and just to tell you what I'm going to draw, the Goodwin #3 goes to about this depth right here, though they would not be on this cross-section, because it's north of here, but I'll project it onto there, and it would be drawn like this, and I'd be happy to provide it to you to look at.

MR. ALVIDREZ: If I may approach?

Q. And if I could have you just sort of depict it with your pointer how far you've --

A. Sure. I drew it this deep. Now, that's how deep it was drilled, and I put the total depth on there, but if you recall the testimony from Mr. Jones is it was plugged back to 6,700 feet. So actually the well was plugged back to here even while it was still operating, and then after it was plugged, it was plugged from there to the surface, and there's a diagram that shows that included in the C-108.

Q. Can I have you look at page 15 of Exhibit 4 that's on the application, and the -- what it is, is page 5. Have you been able to locate that?

A. No, I haven't.

MR. RANKIN: On tab 10.

Q. Correct. It would be tab 10.

A. Tab 10. Okay. That I think I can find. Yes, sir, I have it here.

Q. Okay. And looking at the -- this table, at the bottom it says, "Top Lower Bone Springs injection reservoir," and you have the depth, and for the Linam AGI 1, you have 8,710, correct?

A. That's correct.

Q. And that's the area of injection?

A. That's the top of the injection zone.

Q. The top of the injection zone?

A. Yes, sir.

Q. And is it -- all right. And with regard to the Goodwin 3, you have, "Unknown?"

A. Right, and it's because it is something quite a bit deeper than 8,700 feet, but we don't know, because it never got there, but the rocks, the dip of the rocks is to the northeast -- to the northwest there, the dip of the actual formations. As you recall from the cross-section that I showed in the application, we're coming off the northwest platform pretty rapidly there, and so by the time you get three-quarters of a mile away, I'd have to go back and look at the seismic, but my estimate is that the depth of the injection zone in that area is probably in excess of

9,000 feet or so, but we never -- that well never made it there.

Q. Now, with regard to the water samples that were taken, I take it you had some discretion as to what wells you would sample; is that correct?

A. No, sir, I really didn't, because you know, the water samples were taken in response to Mr. Jones original request to just have some more updated samples, and I got that request on like Wednesday of last week, and I called the plant, and I said, "I need a sample or two of some wells within one mile of the facility. Do you have any wells that we could sample that are within there," and the facility only had access to two wells. They are wells that belonged to them, so that's what we sampled.

Q. Why didn't you ask to come to the Smith's property and sample theirs?

A. Didn't need to, because they already provided the analyses. We already had analyses from their well, and I thought they were perfectly sufficient.

Q. Okay. So you're not questioning their analysis in terms of the results of the sampling?

A. That's not correct. I am questioning the result of the -- of the sample relative to the sulfate-reducing bacteria and whether that is definitive or not because of the -- I have no knowledge of the conditions nor could

Ms. Keene testify to it, because she subcontracted that work. I did actually speak to Greg Ogden from Martin Water Labs about that particular sample and obtained a copy of his actual report to -- to Cardinal and asked him about what they do when they culture these bacteria. He says these bacteria are extremely sensitive to temperature fluctuations, and that many times when they do those analyses, they don't get any results, because the bacteria die in the sample, because it's exposed to oxygen before it gets to be cultured. So I don't have -- I don't have a problem with the sulfate, the inorganic results from his analyses, but I do have some question about those sulfate-reducing bacteria.

Q. Now, if DCP were to come to you and say, "You know, this guy won't go away," what would you, Mr. Gutierrez, recommend we do in order to conduct testing or investigation to rule out the Goodwin 3 well as a potential source of H2S on his property?

A. Well, I think an examination of the plugging records and the fact that it doesn't penetrate or go anywhere near the injection zone is enough for me. I don't think that anything more needs to be done. And, in fact, by going back and reentering the well, if there's -- who knows if there could be a problem from any other producing formation that is sour that is, you know, in the range of

4,000 feet to the surface, much closer to the surface than our injection zone. There would be no way to determine what that -- what that was and that the reentering of that well itself and drilling out those plugs, you know, might be counterproductive. It could be worse than not doing anything at all, and both in the initial evaluation of that well when we did it back in 2005, when we relooked at it here, when the Division looked at it in 2005, when they looked at it again here, we are confident that's not a problem.

Q. But, again, the only analysis that's been done is with the records review?

A. That's the analysis that's done for every plugging investigation throughout this state for any application for injection whether it be salt water, CO2, enhanced recovery or acid gas injection.

Q. And you understand that the older the plug -- plugging and abandonment, perhaps the less reliable those records are, correct?

A. That's correct.

Q. And in terms of the Goodwin well, these go back 30, 40 years, quite a ways back, right?

A. It was plugged sometime in the 1980s, yes, sir.

Q. That's the last time it was plugged, correct?

A. That's when it was plugged.

Q. Now, so is it your testimony there's not really any type of analysis that could be done to -- beyond just looking at the paper trail, the record, to rule out the Goodwin well as a potential source of H2S on the Smith's property?

A. No, sir. I've done an analysis, an extensive analysis. We did seismic out there. We looked at seismic. We looked at the way in which these formations dip in the subsurface. We looked at the presence or absence of any faults. We looked at what are the characteristics of each of those individual formations, and it's just -- it doesn't even penetrate the injection zone. So I just don't comprehend how it could possibly be a conduit.

Q. Are there soil gas surveys that could be done?

A. No, soil gas surveys are not useful for H2S. I've been in this business for 35 years. I've never heard of a single time of one being used for that.

Q. What about testing of the water? Are there more sophisticated chemical analyses that can be done to identify the presence of H2S, confirm presence of H2S in the water?

A. No, I think that as Ms. Keene testified from Cardinal, the way to do is -- the best way to do it is analyze for sulfides, and that's the way it's routinely done.

Q. And what about tests for the presence of CO2 in

water?

A. As she mentioned, that's more difficult to do, but you have to do it kind of onsite. You could do it right onsite.

MR. ALVIDREZ: Those are -- that's my cross-examination. Thank you very much. Thank you very much, Mr. Gutierrez.

THE WITNESS: Thank you, sir.

MS. BAILEY: Thank you.

Ms. Gerholt, do you have any questions?

MS. GERHOLT: I have no questions.

MS. BAILEY: Commissioner Warnell.

MR. WARNELL: No questions.

MS. BAILEY: Commissioner Balch.

MR. BALCH: Of course I have questions.

MS. BAILEY: Go right ahead.

EXAMINATION

BY MR. BALCH

Q. Some of them will be reminding me a little bit about things I may have asked you already in other hearings, but the behavior of H2S as an injectate -- CO2 is super critical. Isn't H2S also super critical?

A. Yes, sir.

Q. And has a significantly different behavior than CO2? Is there going to be any separation or anything in the

reservoir?

A. Probably not, no. I mean, they do behave somewhat differently before they get to the super critical stage; in other words, in getting to the super critical stage. Once they're at super critical, they behave the same way.

Q. Let's see. We've already gone through the location of the test wells. The test wells, the #6 is an industrial well. The number -- I'm sorry, the North Eunice is an irrigation well. Do you have any idea what the draw on those wells is?

A. No, they're both actually -- they're both actually wells that supply water to the Linam plant, so they're both industrial wells, but I don't know the -- their production rate, but I would estimate it's probably in the hundreds of GPM.

Q They're producing at a good rate?

A. Yes, sir, they are. I don't know if they produce all the time, however.

Q. And the question you just had about what you could do at the surface, measuring H2S is kind of difficult, but you could measure CO2 with a flux?

A. Yes, sir, you can.

Q. And that would be a pretty good marker or indicator since 80 percent of the injectate is CO2. If you had elevated CO2 there compared to background, then you

might start to wonder if there was also H2S?

A. Yes, sir, you would.

MR. BALCH: That's what I have.

MS. BAILEY: And I have no questions.

THE WITNESS: And I have no answers.

MS. BAILEY: You may be excused.

THE WITNESS: Thank you.

MS. BAILEY: Now, are we ready for closing arguments.

MR. WARNELL: I think so.

MR. RANKIN: Thank you, Madam Chair. Just a few comments to close. This DCP application seeks approval for an injection well into a zone, Lower Bone Springs, that's already been approved by the Commission for injection of acid gas. The original application involved exhaustive review and analysis of the Lower Bone Springs formation as a suitable reservoir, and the Commission approved it then. And you've heard testimony today that that original approval has been confirmed, that the viability of the Lower Bone Springs is even a better reservoir for the injection of acid gas than was originally thought.

You've heard testimony that the AGI #1 has endured multiple MITs. In fact, it pressure tested at like 3,000 pounds and that the integrity of the wellbore is secure and solid, and there's been no leak of any kind out to the

environment from the AGI #1. It's a fully contained well.

You've heard testimony that the new AGI #2 will feature enhanced designs that will be even -- the new AGI #2 will feature enhanced designs that will benefit the industry, that will reduce flaring, that will reduce other impacts, potential impacts to the environment and human health. You have heard testimony that the treated acid gas plume will not extend beyond half a mile radius of injection zone after 30 years of injection, and you've heard testimony unrebutted that the measures -- that the calibrated distance of the injection to date is no are than 480 feet from the point of injection.

You've heard testimony confirming that the geology of the injection zone is sound, that there's no conduits and no wells that penetrate the injection zone and have any problems that have been identified by the Division or by DCP. All that you've heard are allegations.

Today the Smiths have alleged three things, that DCP has not proven it can safely operate the well. Well, you heard testimony today that the OCD believes that DCP is a prudent and diligent operator in all respects, that they communicate openly and continuously with OCD on all matters. You've heard an allegation today that AGI #1 has had numerous operational problems. And, again, you've heard testimony in rebuttal that there have been no H2S releases

from the AGI well at all, nor have there been any H2S releases from the plant that have gone beyond the plant facility.

You've heard testimony from Mr. Smith that the Lower Bone Springs formation does not adequately contain the injected fluid, but you've heard on rebuttal that there's absolutely no grounds for that conclusion. The Lower Bone Springs is a fully contained closed system, and there's no viable means for the injected fluids to escape.

You've heard testimony about water samples in the area. The only water samples that show any sulfides at all are those below Mr. Smith's property -- at Mr. Smith's property where there's calcium sulfate being used as a fertilizer. There's a leech field for his septic system. There's a potential anaerobic wetland and a potentially anaerbic wetland below the Xcel plant and among numerous other sources within a few hundred feet of his water well.

Madam Chair, I would ask that the Commission deliberate and approve DCP's application for a second well. It would be protective of the environment, human health and would protect against waste and correlative rights -- protect correlative rights. That's it. Thank you, Madam Chair.

MS. BAILEY: Ms. Gerholt, do you have a closing?

MS. GERHOLT: Thank you, Madam Chair, Commissioners. You've heard testimony today from two

Division experts, William Jones and E. L. Gonzales. Mr. Jones provided testimony that the criteria of the C-108 was met by DCP; that in his view, waste will be prevented and correlative rights will be protected, and that the injectate does stay within limits. Based on that the Division offers that this is an approval application.

In addition, you heard testimony from Mr. Gonzales that the well is beneficial, because it minimizes the possibilities of shutting in wells and shutting in fields, which in turn could cause waste if wells are having to be shut in. We request that if you do approve this, that you include a requirement for MITs every year. An MIT, as has been testified by many individuals, is the best indicator whether or not the well is compromised. The monthly reporting requirement that the Division is asking is to ensure that there is the continued communication, and also, if there are anomalies, does an MIT need to be done sooner than the scheduled one-year period.

In addition, OCD has their records forever. We get our records, and we keep them. Finally, to require the DCP and OCD to sit down and meet to determine what notification parameters should be used and to review those on a periodic measure. We believe with those requirements in place, that this well can adequately and sufficiently be monitored and that it will be protective of public health and the

environment and, again, prevent waste, protect correlative rights. Thank you.

MS. BAILEY: Mr. Alvidrez.

MR. ALVIDREZ: Yes, Madam Chairman and Members of the Commission, thank you very much for giving us this opportunity to present testimony, and the Smith's comments to you about what to them is very important, very important issue, and we realize that you changed the date to accommodate Mr. Smith's surgery and put us right in the holiday season, and this hearing has probably gone on twice as long as anyone ever anticipated. And we appreciate your indulgence and your patience to do that. We truly do.

The Smiths are here because of concerns for their quality of life, their concerns over their health and, you know, I think the DCP attorneys indicated that, gosh, it's passed all the MIT tests and whatever, and we seem to have forgotten why we're here in the first place, and in fact, you know, this AGI well 1 did not pass all of the MITs. They've twice tried to perform an MIT, and they were unable to do so, and we found out after investigation that there was fairly significant corrosion, 60 feet of corrosion below surface that no one anticipated.

Their expert, Mr. Gutierrez, certainly didn't anticipate that was something that was going to happen. Yet, it did and caused the well to be taken out of service

and presented, as everyone has admitted, a serious situation. So there are things that can happen that you may not anticipate happening, but they do, and we're dealing with something that is extremely dangerous and something that deserves a very high degree of safety and safety factors, and that's really what we're asking for here.

You know, you also heard the DCP lawyer say that no H2S escaped. That's not what the evidence is. It's really undisputed that there was an escape of H2S. Now, you know, it set off the sensors, and then they downplay it, say it wasn't that much, but it happened, and we are dealing with something that is extremely dangerous, and it's in very, very close proximity to the Smiths.

The Smiths have come before you before with their concerns. They have come before the Division with their concerns; had the, you know, Division environmentalist, environmental specialist come out in July. Ms. Gerholt said there have been two OCD experts testify. There really have been three OCD experts testify, and one of them said, you know, that we ought to look into this, you know, a bit more. In fact, two of them said it would be worth looking into this other -- this Goodwin well, because we don't really know exactly what the situation is with respect to that. We've got a paper trail. Everybody's looked at the documentation, but nobody's actually even been out to look

at where it's at, you know, identify it on the ground, do any type of assessment, sampling, you know, anything else.

You know, the Smiths have been waiting for quite sometime for the Department to take some -- the Division to take some type of action, and you know, we've huddled together. People we've talked to have expressed concern. We've brought them here as witnesses. They're not high paid witnesses like Mr. Gutierrez. These people didn't get any money to testify, but they've got concerns, and they've raise some issues about, you know, where is the H2S coming from. And all the Smiths are asking is that, you know, the Commission do what's right, and that is make sure that there are adequate safety measures in place in the second well. Sounds like it may be a good idea that it's going to have some enhanced performance and safety provisions that the first one is lacking that we saw failed in very short period of time.

We hope that's the case that if the Commission does grant this application, but we really think that as part of this process and as part of this approval process for the second well, that the Commission ensure that the first well be retrofitted in a way that we don't have a repeat of what occurred after a very short time in operation; that the better, more corrosion resistant tubing be required to be put in there; that the sensors that we talked about be

required to be put in there, but we also want some action on the ground on the Smith's property.

We would like the Commission to require appropriate testing of the Smith's well in the area where the Goodwin 3 is to rule those out. I mean, if we can rule those out, everybody will be happy, but as long as there are these question marks that exist and the concerns that the Smiths have exist, this is an issue that's likely to repeat itself.

So what we would ask you to do if you approve this well is that you put the conditions that I've talked about on the operation of the new well and the retrofit of the old well and then require these people to go out and conduct a study that can rule out or prove that, you know, these -- it's the old Maddox pond or what's causing the problem, or some other source of the problem, but let's get to the bottom of the problem, because we know we've got a problem, and that's really what we're here for today, and I hope that you'll take that into consideration in your deliberations.

Thank you very much again for the opportunity, and we appreciate it very much.

MS. BAILEY: Thank you. That concludes the hearing. We will go into executive session in accordance -- did I hear a motion and a second and a vote to go into executive session in accordance with New Mexico Statute 10-15-1 and the OCC Resolution on open meetings in order to

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deliberate on this case?

MR. BALCH: I will make a motion to go into closed session.

MR. WARNELL: Second that motion.

MS. BAILEY: All those in favor?

COMMISSION: Aye.

MS. BAILEY: If you will please clear the room, so that we have the opportunity to make findings.

(Note: Hearing in recess at 5:31 p.m.
and reconvened at 6:05 p.m.)

MS. BAILEY: Do I hear a motion for the Commission to come back into open session?

MR. BALCH: I will make that motion.

MR. WARNELL: I second that motion.

MS. BAILEY: All those in favor?

COMMISSION: Aye.

MS. BAILEY: The Oil Conservation Commission met and has come back into session in accordance with New Mexico Statute 10-15-1 and the OCC Resolution on open meetings. The only topic discussed was this particular case, 13589, and the Commission has reached a decision on their deliberations, and we will rely on our counsel to explain what that decision is.

MR. BRANCARD: The Commission proposes to approve the second AGI well from DCP Midstream under the

specifications that are set forth in the C-108 with one change, and that is that the location of the well is as specified during this hearing, which we believe to be 1,600 feet from the south line and 1,750 feet from the west line, and the C-108 should be modified to specify that location.

The conditions under which this approval is indicated include those conditions requested by the Oil Conservation Division with one change, and that is, that the Commission will not require a monthly reporting of the daily gathered information from DCP.

However, if under the parameters agreed to by OCD and DCP under these conditions an anomaly is found, then DCP will provide the previous month's data to OCD from the time of that anomaly, and at any time OCD may require that such data be provided to them to investigate any situation.

As to the AGI #1 well, the Commission requires that that well be retrofitted to the match the specifications of the #2 well if such is feasible, including corrosive resistant tubing and downhole monitoring. Also, for the #1 well, the order is modified to require that an MIT be required every year, and this be done for both wells, once the changes, the retrofitting of the #1 well is completed so that the new packing is put in place, and therefore, until that time, an MIT should be required every six months as is currently done under the agreed Compliance Order.

Based on the evidence presented, the OCC cannot find a connection between the injection of acid gas at the DCP facility and the hydrogen sulfide problem at the Smith well. However, no injection is approved at the second DCP AGI well until there is a hydrogen sulfide contingency plan that is developed for the well and is approved by OCD and there are any necessary changes to the current hydrogen sulfide contingency plan including making sure that all phone numbers are up to date and corrected and that copies of the hydrogen sulfide contingency plan are provided to both the Smiths and the Xcel Maddox station. Have I covered everything?

MS. BAILEY: And that going to the future, those contingency plans will be updated as conditions or telephone numbers change, and I think that's all.

Mr. Rankin, we would like for you to provide a draft order based on the decisions of the Commission and provide that to Mr. Brancard for his modifications, and the date by which that should be delivered to Mr. Brancard would be early January?

MS. BRANCARD: Yeah, within 30 days, because I think it will be two weeks for the transcript.

MS. BAILEY: Within 30 days, so that the Commission may sign it at the regularly scheduled February Commission hearing.

MR. RANKIN: I'd be happy to do so, Madam Chair. Thank you.

MS. BAILEY: Is there any other business before the Commission today? Then we are adjourned. Thank you very much very much.

MR. BALCH: You have to have a motion, please.

MS. BAILEY: Let's have a motion then.

MR. WARNELL: I make the motion that we adjourn.

MR. BALCH: I second the motion.

MS. BAILEY: All those in favor?

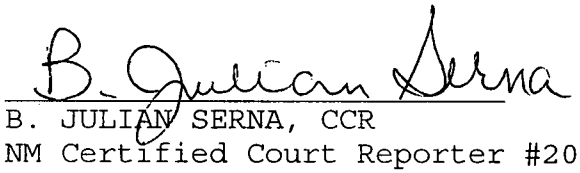
COMMISSION: Aye.

(Note: Hearing in recess at 6:11 p.m.)

THE STATE OF NEW MEXICO
COUNTY OF BERNALILLO

BE IT KNOWN that the foregoing transcript of proceedings was taken by me; that I was then and there a Certified Court Reporter and Notary Public in and for the County of Bernalillo, State of New Mexico, and by virtue thereof, authorized to administer an oath; that the witnesses before testifying were duly sworn by me; that the foregoing transcript contains a true and accurate transcript of the proceedings, all to the best of my skill and ability.

I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with (unless excepted by the Rules) any of the parties or attorneys in this case, and that I have no interest whatsoever in the final disposition of this case in any court.



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