STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	)	
APPLICATION OF VERSADO GAS PRODUCERS, LLC, OPERATED BY TARGA RESOURCES, LLC, FOR APPROVAL OF AN ACID GAS INJECTION WELL, LEA COUNTY, NEW MEXICO	)	CASE NO. 13,865 (Reopened)

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: WILLIAM V. JONES, Jr., Hearing Examiner

July 26th, 2007

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, WILLIAM V. JONES, Jr., Hearing Examiner, on Thursday, July 26th, 2007, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

I N D E X

July 26th, 2007
Examiner Hearing
CASE NO. 13,865

* * *

E X H I B I T S

	Identified	Admitted
Applicant's		
Exhibit A	8	15
* * *		
Division		
Exhibit 1	33	33

* * *

A P P E A R A N C E S

FOR THE DIVISION:

MICHAEL THOMAS
Assistant General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

MIKAL ALTOMARE
Assistant General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

SONNY SWAZO
Assistant General Counsel
Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR
110 N. Guadalupe, Suite 1
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 11:20 a.m.:

EXAMINER JONES: Okay, let's go back on the record this morning and call Case Number 13,865, which is reopened and continued from the June 21st Examiner Hearing. It's the Application of Versado Gas Producers, LLC, operated by Targa Resources, LLC, for approval of an acid gas injection well, Lea County, New Mexico.

Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe office of Holland and Hart, L.L.P. We represent Versado Gas Producers, LLC, and Targa Resources, LLC, in this matter, and I have one witness.

EXAMINER JONES: Other appearances?

MS. ALTOMARE: Mikal Altomare and Sonny Swazo, with the Oil Conservation Division. We have two witnesses today.

EXAMINER JONES: Any other appearances?

Will the witnesses all please stand to be sworn?

(Thereupon, the witnesses were sworn.)

MR. CARR: May it please the Examiner, at this time we'd call Mr. Cal Wrangham.

CALVIN W. WRANGHAM,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your name for the record, please?

A. Calvin Wayne Wrangham.

Q. Mr. Wrangham, where do you reside?

A. In Midland, Texas.

Q. By whom are you employed?

A. Targa Midstream Services Limited Partnership.

Q. Could you explain to the Examiner what is the relationship between Versado Gas Producers, LLC, and Targa Resources, LLC?

A. Yes, Targa Resources is a C corp, which owns Targa Midstream Services, LP. And Versado Gas Processors, LLC, is owned by Targa Midstream Services, LP, and Chevron, Inc. And Targa actually owns 63 percent of Versado, and Chevron owns 37 percent. And Targa operates the Versado assets.

Q. Now will Targa actually be the operator of this proposed acid gas injection well?

A. Yes, Targa Midstream Services, LP, will operate the well.

Q. What is your relationship to Targa Resources, LP?

A. I'm employed by Targa Midstream Services, LP, my title is senior environmental safety and health specialist, located in the Permian Basin office in Midland, Texas.

Q. Mr. Wrangham what does an ES and H specialist actually do?

A. I function as an environmental and safety and health information resource for three gas processing plants and their associated compressor stations which are owned by Versado and located in Lea County, New Mexico. My duties include supporting facility managers and employees with resources to comply with all company, state, federal standards and regulations.

Q. What were you asked to do for today's hearing?

A. I was asked to present additional information on Targa's proposal and respond to questions from the Division concerning the Application for the acid gas injection well.

Q. Now this case was previously presented, was it not?

A. Yes.

Q. And we're presenting supplemental information here today?

A. Yes.

Q. Have you previously testified before the Oil Conservation Division?

A. No, sir.

Q. Could you summarize your educational background and work experience for Mr. Jones?

A. Yes, I have a degree from Midland College and have worked in the gas processing industry for 24 years, 12 of which I've been working environmental safety and health field.

Q. Are you familiar with the Application filed in this case on behalf of Targa Resources?

A. Yes.

Q. Are you familiar with the proposed acid gas injection well?

A. Yes.

MR. CARR: Are Mr. Wrangham's qualifications acceptable?

EXAMINER JONES: Any objections?

MS. ALTOMARE: No objections.

EXAMINER JONES: Mr. Wrangham's qualifications are acceptable.

Q. (By Mr. Carr) Mr. Wrangham, could you briefly summarize for the Examiner what it is that Targa and Versado are seeking in this case?

A. Well, we propose to drill an acid gas injection well at a location which is locally known as the South Eunice Plant, and it's located 2580 feet from the south line and 1200 feet from the west line of Section 27,

Township 22 South, Range 37 East, in Lea County, New Mexico.

And we seek approval to utilize this acid gas injection well for the injection of acid gas into the San Andres formation. In addition to the acid gas, the proposed well will take some or all of the wastewater currently being injected in the existing Class II disposal well at this facility.

Q. Mr. Wrangham, this well is located in Versado's South Eunice Compressor Station, is it not?

A. Yes.

Q. And what is the status of the land on which the well will be drilled?

A. The land is deeded, it's owned by Versado Gas Processors, LLC.

Q. And Targa is the lessee of the oil and gas rights under this tract?

A. Yes, it is.

Q. Does Targa have all necessary rights to use the land for the well and the related facilities?

A. Yes, they do.

Q. Could you identify for the Examiner what has been marked as Targa Exhibit A? Is Targa Exhibit A, Mr. Wrangham, a letter dated July 16, 2007?

A. Yes, it is.

Q. And are there various attachments with that letter?

A. Yes.

Q. Could you go to that letter and review the information contained thereon, contained in that packet of material?

A. Yes, I wrote the letter and supplied the attachments, and the Exhibit A consists of sonar surveys, and these sonar surveys and subsequent surveys showed us that the well tubing was clear of all obstructions, and the bottom of the casing was set at a depth of 2038 feet.

The density run indicated that brine water was at a level 50 feet below the wellhead. So the brine completely filled the cavern and was actually up in the casing. And the survey also indicated there was no product or pockets of product in the well. The density and CCL strip chart are attached to the letter.

And what we did on July 12th, we had Gray Wireline and Sonarwire of Abita Springs, Louisiana, conduct a sonar survey. And this process was witnessed by myself and Mr. Leonard Lowe of the OCD in Santa Fe.

The survey showed the cavern to be circular with a maximum radius of 61.6 feet. The supporting data is attached to the exhibit letter and titled as Maximum Range versus Bearing, and north-south and east-west vertical

cross-sections.

Q. Mr. Wrangham, what conclusions can you reach from this information?

A. The survey identifies the cavern radius to be approximately 20 yards in the direction of the proposed acid gas well site. The horizontal distance from the Skelly Number 4 Y-Grade storage well and the proposed site is approximately 170 yards. So the survey demonstrates there's no potential impact since the borings are approximately 150 yards horizontal distance separating the two.

Q. Mr. Wrangham, Mr. Jones raised certain questions concerning the Application that was filed in this case. Are you prepared to respond to those questions?

A. Yes.

Q. Could you first just identify for us the correct name that will be used as operator of this well?

A. The correct name will be Targa Midstream Services Limited Partnership.

Q. And is that the name as it appears on the bond?

A. Yes, it is.

Q. And what is the footage location for this well?

A. It is 2580 feet from the south line and 1200 feet from the west line of Section 27, Township 22 South, Range 37 East, in Lea County, New Mexico.

THIS is the original well & NOT the new proposed well.

Q. And Mr. Wrangham, Mr. Jones had questions concerning the well construction. By e-mail dated July 19, 2007, Mr. Chris Williams, District Supervisor of the Hobbs District Office, District 1, advised Mr. Jones that the surface casing should be set at least 50 feet into the Rustler anhydrite at about 1150 feet and that the production casing should be set through the San Andres and circulated to the surface or at least 200 feet into the surface casing.

Are the recommendations from Mr. Williams acceptable to Targa?

A. Yes, they are.

Q. Why is Targa abandoning the existing saltwater disposal well located at the South Eunice facility?

A. Well, the existing injection well is a Class II disposal well, and it was originally constructed for plant waste streams, which consisted mainly of cooling tower water and some produced water that came in with the inlet gas.

Those plant operations were shut down in the year of 2000, so the service of this well was no longer needed. And basically we can't use that well, or decided not to, because the construction isn't suitable for the disposal of H_2S and CO_2 under pressure. So we plan to plug it after there's no further need for it.

Q. Could you explain to us how Targa plans to mix the CO_2 and H_2S and inject at a constant pressure?

A. Yeah. Well, first, liquid is a desired phase to inject this type of material in. It's easier and it's safer to inject it, but it takes a relatively high pressure to saturate acid gas with water, even though acid gas is water-soluble. The high pressure facilitates a liquification of the acid gas when it's mixed with water. It basically saturates it, thus changing its phase to a liquid.

And how it will work is, there will be a pressure control valve on the wellhead which will maintain a set backpressure on the well, which is allowing for the liquification of the acid gas. And the average and maximum injection pressures will be approximately 600 pounds per square inch and 750 pounds per square inch, respectfully [*sic*].

There will be an acid gas compressor at the site, which will compress the gas from the pipeline to the desired injection pressure, and a high-pressure water pump which will increase the water pressure to this desired injection pressure. These two streams will mix at a T near the wellhead and will be injected as their pressures meet the required injection pressure, which is a control valve backset pressure.

Q. Has Targa ever injected acid gas into the current Eunice saltwater disposal well?

A. No, Targa has never injected acid gas into any of its existing disposal wells.

Q. Now Mr. Wrangham, you have met with the OCD staff concerning this matter, have you not?

A. Yes, I have.

Q. And the information in Exhibit A was previously provided to them; is that right?

A. Yes.

Q. Will Targa provide the Division's Environmental Bureau, and in fact anyone in the Division, all the information on the well that it has requested and keep it advised of whatever is happening out there and provide additional information as requested by the Division?

A. Certainly.

Q. What benefits are there that will result from the approval and use of this proposed acid gas injection well?

A. Well, the benefits of the well are that it will give Targa the flexibility to shut down the sulfur recovery unit at its main Eunice gas processing plant. This sulfur recovery unit has a 90-percent recovery efficiency and is an emission source and a very costly process to maintain. And the proposed well will enable Targa to inject the H_2S and CO_2 into the San Andres formation. This formation and

others is where the gas originally came from when it was produced with the natural gas by the producers.

This existing sulfur recovery unit is permitted through the New Mexico Environmental Department, Air Quality Bureau, at a maximum emission rate of 280 pounds per hour, or 1226 tons per year of sulfur dioxide. This sulfur dioxide is created by burning or incinerating the H_2S in the acid gas.

The other 86 percent of the acid gas, which is CO_2, is not flammable so it does not destruct in the SRU incinerator and is emitted with the SO_2. Based on today's average acid gas volume to the SRU, the unit is emitting approximately 200 tons per year of CO_2, which is a greenhouse gas.

To conclude, this project will potentially reduce emissions up to approximately 1226 tons per year SO_2, and up to approximately 200 tons per year CO_2, from being admitted [*sic*] into the atmosphere near Eunice, New Mexico.

Q. And Mr. Wrangham, does Targa request that the order in this case be expedited to the fullest extent possible?

A. Yes, we do. We believe that we're just pending OCD approval, and we request that.

Q. Was Targa Exhibit A prepared by you, or have you reviewed it and the attachments and can you testify to

their accuracy?

A. Yes, I prepared the exhibit, and the attachments on the survey were handed to me on site at the conclusion of the sonar survey by Mr. Sean McCool of Sonarwire, Incorporated. I believe all parts of the exhibit are accurate.

Q. In your opinion, will approval of this Application be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, sir.

MR. CARR: Mr. Jones, at this time we'd move the admission into evidence of Targa Exhibit A.

EXAMINER JONES: Exhibit -- Pardon?

MR. CARR: A, A.

EXAMINER JONES: Any objection?

MR. SWAZO: No objection.

MS. ALTOMARE: No objection.

EXAMINER JONES: Exhibit A will be admitted into evidence.

MR. CARR: And that concludes my direct examination of Mr. Wrangham.

EXAMINER JONES: Go ahead.

MR. SWAZO: I did have a few questions, Mr. Examiner.

EXAMINATION

BY MR. SWAZO:

Q. Mr. Wrangham, my questions concern the wells that are in the vicinity of this proposed acid gas injection well.

A. Uh-huh.

Q. My understanding from your testimony is that the saltwater disposal well is to be plugged and abandoned?

A. Yes, sir.

Q. I also understand that there's four other wells in the vicinity of the proposed acid gas injection well. Do you happen to know what Targa plans to do with those wells?

A. Four other what type of wells?

Q. Well, my understanding is that there are four other wells that used to store LPG.

A. Oh, yes, one of which we did, the Sonar --

Q. Yes.

A. -- and there's three other ones. Those wells would be plugged, they're no longer in service.

Q. Okay. And will that occur before Targa starts injecting the H_2S into this well?

A. I do not know. We're trying to get it done, but it's hard to get companies to -- everybody's so busy. But yeah, we plan on plugging them. The other three wells

really aren't even in the vicinity. They're on the far north border. They're approximately another -- I would say in excess of 200 yards away from the well that we did the sonar on.

EXAMINATION

BY MS. ALTOMARE:

Q. I just had one follow-up question. You had testified about the various pressure -- pounds per square inch that you anticipate with regard to this well. What is the maximum anticipated pressure that you anticipate with regard to this well once it's up and running?

A. 750.

Q. Is the maximum anticipated pressure --

A. Yes.

Q. -- total?

A. Yes.

Q. My understanding, and maybe I'm misunderstanding the prior testimony of Mr. Gutiérrez, is that he testified that the maximum anticipated pressure was actually 2000 pounds per square inch previously, and I'm wondering if something has changed in the analysis.

A. I don't know. I guess I need to check that.

Q. Okay. But in any event, whatever the maximum pressure that's anticipated is, if it exceeds OCD standards is Targa willing to do whatever is necessary, to do

whatever testing is required to make sure --

A. Yes --

Q. -- that everything is --

A. -- yes. Yes, my understanding is that this pressure is -- from a calculation based on the volume of the acid gas, a calculation to understand how much pressure it's going to take to actually saturate the acid gas. So I really think the pressure will probably vary with the volume.

MS. ALTOMARE: Okay.

MR. CARR: And Mr. Examiner, if the pressure does go over limits established by the OCD, we would confirm that the pressures used are safe in a manner required by you, but certainly with witnessed step-rate tests if that's needed.

EXAMINER JONES: Okay, I think there was a step-rate test on the old well --

MR. CARR: I think you're right.

EXAMINER JONES: -- that was run in the past, that may be -- It's only 200 feet away; is that right? This new well?

THE WITNESS: From the existing saltwater disposal?

EXAMINER JONES: Yeah. Or I'm thinking 200 feet away from where it was originally anticipated to be. So it

may be quite a ways away from the --

THE WITNESS: Yeah, it is.

EXAMINER JONES: It is, a long way from the --

MR. CARR: 170 yards, I think, is the number that Mr. Wrangham stated was the distance between the Skelly 4 and the proposed AGI well.

EXAMINER JONES: Okay. So 170 yards away. But anyway, we've got an operator, we've got a depth. The depth is going to be -- it's on this -- I'm sure it's -- before, there was a -- they were talking about injecting down to 5000 feet, but the depth of the well was 4500, so --

MR. CARR: Right --

EXAMINER JONES: -- I was confused.

MR. CARR: -- that's right.

EXAMINATION

BY EXAMINER JONES:

Q. Now we've got a depth, we've got a well, we've got a -- Have you gotten the APD approved by the District Office to drill the well with a certain casing design and everything?

A. No.

Q. So you still have that to go?

A. We're working -- yeah, we're working --

Q. And so you're going to work with them to --

A. Yes.

Q. -- protect the fresh water and --

A. Yes.

Q. -- and set up a well that's cased adequately enough to --

A. Yeah, we've communicated with Chris about that and know what the OCD is asking and agree with that.

Q. Okay. Are you involved in that, or do you guys have like a drilling consultant that is going to be working with Chris?

A. Yes, we will hire a drilling consultant to do that. I won't be involved in that.

Q. Okay. And you'll just tell him your objectives as far as isolating the --

A. Yes.

Q. And then he'll go to Chris and try to get all that done?

A. Yes, sir.

Q. Okay. So as far as the next item, we're -- I guess I'm kind of jumping ahead, but you've already got an API number, right, for the well? Is that correct? It looks like -- I thought I saw an API number in here somewhere. But anyway, we'll need to know, as soon as you get that information --

MR. CARR: What information, the APD?

EXAMINER JONES: The APD, yeah --

MR. CARR: Okay.

EXAMINER JONES: -- and the API number and --

THE WITNESS: Okay.

MR. CARR: We'll do that.

EXAMINER JONES: For purposes of well construction, mainly, just to make sure everything is okay on that.

EXAMINER JONES: So let me rephrase -- I may have been too hungry here and I can't think very well right now.

(Laughter)

Q. (By Examiner Jones) Do you have a bottomhole choke on that, on the thing? Is that what you're doing to keep the solution into some kind of supercritical liquid phase that you can -- it won't be as corrosive or -- is that what you -- Is the choke going to be on the surface? You were talking about a choke --

A. I don't know about the engineering in the well, but there will be a control valve on the wellhead --

Q. On the wellhead.

A. -- which will maintain the backpressure.

Q. Backpressure on the flow line --

A. In the well.

Q. -- coming to the well?

A. In the well.

Q. But the well itself might be on a vacuum for a while. In other words, how -- between the surface and the bottomhole --

A. Correct.

Q. -- depending on how porous and permeable your reservoir is, you know, it may not stand a column of fluid.

A. Yeah, I don't know how that will be engineered. That's --

Q. But you have a consultant working with --

A. Yes.

Q. -- Chris on that?

A. Yes, that will do that. Yes.

Q. But up until the wellhead, it's going to be control conditions for sure?

A. Yes.

Q. Okay, I guess we'll talk to the environmental group later about that --

A. Yeah, we can do that.

Q. -- what you're going to do there, but --

A. We do operate an acid gas injection well just like this one we're proposing in Crane County, Texas, for our Sandhills gas plant --

Q. Okay.

A. -- and have had very good luck. So it's my belief that Targa will hire the same people to engineer and

design that as it did the other one.

Q. Okay. So they will -- you've got your compressors and -- You said that you don't want the old well because you want to use the liquid to mix with acid gas; is that correct?

A. Well, the old well is basically out of service now. It's not even being used.

Q. Okay.

A. Right.

Q. So it's basically -- the permit expired on it, because our wells -- the permit expires after one year of non-injection, so --

A. Yeah, it's --

Q. You could always apply for a permit on that well, though, so why didn't you do that, if you're going into the same zone?

A. They decided that it would be better just to completely drill a new well.

Q. Now why did they decide that?

A. I do not know. My understanding is, the construction and the materials of the existing well aren't suitable for acid gas.

Q. Did they have any problems with that well as far as leaks or --

A. No, there's -- No. That well was worked over a

few years ago. The well is in good condition.

Q. Okay. Okay, yeah, we had a lot of geology testimony from Mr. Gutiérrez about this, and --

A. Yeah, that well was -- you know, when the South Eunice facility was an operating gas plant, that well was utilized for the cooling tower and the normal gas plant stuff. But that facility was shut down in the year 2000 and basically converted into a compressor station. So all that equipment is out of service, and the only thing running at the facility presently are two gas compressors.

So in fact, we're in the process -- Targa is in the process right now of demolishing the facility and cleaning the site.

Q. Okay. So how far away is this well going to be from the source of the H_2S that's going to go into the well?

A. Approximately five miles.

Q. You're going to have a five-mile pipeline?

A. Yes, sir.

Q. Okay. You're not asking here for pipeline permitting --

A. No, the --

Q. -- at all?

A. -- the pipeline and compressor and that process, we will permit separately.

Q. Okay. How far along is that? In other words -- I know you want this order out real quick, and we'll try to do that, but --

A. Right. Well, the reason we want the order out now is so we can get a contractor and get going on the well and get it finished --

Q. Yeah.

A. -- and do some water in it and make sure that it's going to operate properly for what we want to do.

Q. Okay.

A. And then we will permit the pipeline and set up the actual equipment for the acid gas.

Q. Okay. So as far as -- this location that's finally arrived at, it's real similar to what Alberto had talked about, maybe 200 feet away, so --

A. Yes.

Q. Okay. And now as far as these -- I guess these wells that are storing -- or used to be storing propane, they're no longer being used and they're going to be plugged; is that correct?

A. That's correct.

Q. And the nearest one is --

A. The nearest one is the one we did the sonar on, and it's 170 yards from the proposed site.

EXAMINER JONES: Okay. Asking questions you've

already answered. I think that's pretty much -- Unless you guys have some more questions based on any of that.

FURTHER EXAMINATION

BY MR. SWAZO:

Q. I would just like to clarify that the well that you did the sonar test on is the Skelly 4 well?

A. Yes.

MR. SWAZO: That's the only question I had.

FURTHER EXAMINATION

BY EXAMINER JONES:

Q. The backside fluid on your well down in Crane -- is it around Crane, Texas?

A. Yes, it's in Crane County.

Q. Crane County?

A. Yeah.

Q. Has it got diesel on the backside? Is that what you use to protect the --

A. I don't know.

Q. -- between the annulus --

A. I don't know.

Q. But your consultant would be -- you will probably do -- whatever we put in the order or Chris Williams requires, you'll --

A. Yes, we will.

EXAMINER JONES: Okay, that's all the questions

I've got.

MR. CARR: That's all we have of Mr. Wrangham.

MR. SWAZO: At this time the OCD would like to call Mr. Carl Chavez to the stand.

CARL CHAVEZ,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. SWAZO:

Q. Good morning. Could you please state your name for the record?

A. Carl John Chavez.

Q. And Mr. Chavez, by whom are you employed?

A. Energy, Minerals, Natural Resources Department, Oil Conservation Division, Environmental Bureau.

Q. And what is your current title?

A. Environmental engineer.

Q. And what are your job duties with that position?

A. My main job responsibility is, I am a quality assurance/quality control officer for the EPA Underground Injection Control program. We oversee mechanical integrity testing, scheduling, surface inspections of facilities, quarterly reports to the EPA, annual reports for UIC Class I industrial/commercial oilfield exempt/nonexempt, nonhazardous waste injection to Class I wells, Class II LPG

storage and special storage wells, and Class III brine-extraction wells.

Q. And how long have you held that position?

A. Two years.

Q. And how long have you been with Energy, Minerals and Natural Resources Division?

A. Two years.

Q. And could you please describe your educational background?

A. I have a bachelor's of geological sciences degree from New Mexico State University with a minor in economics. I attended the California Polytechnic University and Cal Poly Pomona for two and a half years, taking courses in mechanical engineering, petroleum option. I've attended Western Michigan University and Michigan State University, taking continuing education graduate courses in contaminant hydrogeology, environmental geology, environmental geophysics, and continuing education courses in business from the Lansing Community College, in Lansing, Michigan.

Q. And real briefly, what was your employment history prior to your current job?

A. As part of my student work at Cal Poly I served as an assistant chemist at the Unocal 76 Wilmington, California, refinery where I conducted laboratory testing on oil and gas at a major refinery. The following summer I

was an assistant petroleum engineer with Unocal 76 in the Orchid, California, area near the Santa Maria.

I've worked for six years as a geologist with the Michigan Department of Natural Resources, Geological Survey Division, overseeing the cleanup of oil and gas contamination in the ground and soil and air-quality issues.

I worked for four and a half years as a superfund project manager overseeing the cleanup of superfund sites such as landfills, industrial facilities, leading environmental assessments on brown-filled sites, investigations in-house, investigations in the field, team leader for field sampling, everything to do with CERCLA, Comprehensive Environmental Response, Compensation and Liability Act.

I served for about five years in the environmental sciences and services division as the lead contact for the remediation/redevelopment division as a technical contact and source, public outreach, technical contact, education, publications, everything to do with all aspects of air, land, water, pollution prevention.

I spent one and a half years with the New Mexico Environment Department, Hazardous Waste Bureau, in the Waste Isolation Pilot Plant project group. I oversaw the monitoring program for the Waste Isolation Pilot Plant.

And more recently, I've done my two years with the Oil Conservation Division.

Q. Now as part of your job duties did you review the C-108 application for authority to inject Targa's South Eunice Gas Plant, Lea County, New Mexico --

A. Yes.

Q. -- the report that was --

A. Yes.

Q. What did you think of the report upon your review?

A. The report had a diagram that identified some LPG storage wells, and part of my duty as an Environmental Bureau review was to look it over for Environmental Bureau concerns. And so I guess we identified those LPG storage wells that I'm involved with as a quality assurance/quality control officer as being very proximal to the proposed acid gas injection well.

In addition, as we understood, there is going to be a pipeline emanating from the Targa middle plant to the south plant, proposed acid gas injection well, that I don't believe was mentioned during the first hearing back in February 1st. Those were the two main concerns on the report.

MR. SWAZO: Mr. Hearing Examiner, before I proceed any further I'd like to tender Mr. Chavez as an

environmental engineer expert.

EXAMINER JONES: Any objections?

MR. CARR: No objection.

EXAMINER JONES: Mr. Chavez is qualified as an expert environmental engineer.

Q. (By Mr. Swazo) So what were your concerns again regarding the information that you read in the Application?

A. Well, one of the things I noticed is that Mr. Alberto Gutiérrez of Geolex, Incorporated, had -- was attempting to utilize spherical formulas to estimate the radius of the caverns associated with the LPG storage wells, specifically the Skelly Number 4 well, which is located about 500 feet to the northeast of the proposed AGI well; in addition, that the J.V. Bakers 1, 2 and 3 caverns, which are twice the size of the Skelly 4, which are within 800 to 1200 feet from the proposed acid gas injection well.

And one of our concerns immediately was that there were some mistakes on his calculations, and I believe he revised those radiuses based on these algorithms that he used.

But in addition to that, we were requesting a sonar test at a minimum on the closest LPG storage well, the Skelly Number 4. And that's because we don't believe that all caverns are spherical in nature, that due to the bedded nature of salt, the anhydrite salt nature and

depositional environment, that we could have solution features and fingers that extend on beyond just a spherical cavity and could transect the location of the proposed acid gas injection well. And we wanted to be sure that that well was not drilled through any type of cavern that would compromise its structural well integrity and so forth.

Q. Are you familiar with the June 5th, 2007, letter authored by Alberto Gutiérrez addressing the Environmental Bureau's concerns?

A. Yes, I am, and that was in response to an e-mail with Environmental Bureau concerns that I sent Mr. Gutiérrez on June 1st, 2007.

Q. Do you have a copy of that letter in front of you?

A. Yes.

MR. SWAZO: Mr. Hearing Examiner, at this time I would like to move for the admission of this letter.

MR. CARR: Mr. Examiner, we have no objection. We included the letter, the original letter, in the materials that we included as part of our Exhibit A.

EXAMINER JONES: Do you still want to admit it as part of your exhibit?

MR. SWAZO: Yes, I would, Mr. Hearing Examiner, the reason being is, there are some diagrams with the letter that weren't included with Targa's -- with the

exhibit offered by Targa today, and the witness may want to refer to those diagrams.

EXAMINER JONES: Okay, this is OCD Exhibit Number 1?

MR. SWAZO: That's correct.

EXAMINER JONES: Okay, OCD Exhibit Number 1 will be admitted.

Q. (By Mr. Swazo) When you reviewed the June 5th letter, were any of your concerns addressed?

A. I believe all of the concerns were addressed, with the exception that Mr. Gutiérrez seemed to be unwilling to conduct a sonar -- three-dimensional sonar test of the Skelly Number 4 LPG storage well cavern.

Q. So what ultimately happened?

A. Subsequent to that, I believe my Bureau Chief, Mr. Wayne Price, had some discussions with Targa and Mr. Calvin Wrangham, and they reached agreement to schedule a sonar test.

Q. And do you know the results of that test?

A. I do. On January 12th, as Mr. Wrangham had alluded to, they had conducted a sonar test, north, south, east, west, three-dimensional, and that was done by Grayline Wire [*sic*] and Sonarwire, Incorporated.

MR. CARR: Do you mean July?

THE WITNESS: July 12th, excuse me. And based on

what we could tell from the results of that test, that it was a legitimate test, and based on their radius they came up with a radius of about 61 feet. And this was significantly larger than their estimated radius from Mr. Gutiérrez's June 5th letter of about 43 feet.

And I would just want to add, since we're looking at a table here from the June 5th, 2007, letter from Mr. Gutiérrez, and also it's the exhibit that Mr. Wrangham provided to us in his July 16th letter, that he has the incorrect -- or he submitted to us the incorrect table. It was corrected by Mr. Gutiérrez and re-sent out to us, where they had estimated a 13-foot radius on the Skelly Number 4, versus a 43 feet. And then based on the sonar, we know it's around 61 feet.

Q. (By Mr. Swazo) How many wells -- well --

A. I would add that on that Monday, July 9th, I believe, they also gauged the well for obstructions before the sonar test, and they did conduct the density test, density survey, and we concur with Mr. Wrangham on the depths and the results and the fact that there are no LPG pockets that remain in the LPG well, Skelly Number 4.

Q. And so my understanding is that only one sonar test was conducted and it was conducted on the well that's nearest to the proposed acid gas injection well site?

A. Yes.

Q. And that's the Skelly 4?

A. Yes, 500 feet to the northeast.

Q. Now in your opinion would this well -- would the Skelly well in any way interfere with the proposed acid gas injection well?

A. We believe that it would not. When we look at the Figure 3 that was submitted by Mr. Gutiérrez and the locations of the acid gas injection well, the saltwater disposal well and the four LPG wells including the Skelly, that if you look at Figure 3 and you look at that dot, that green dot, that's basically the radius of the cavern at the Skelly Number 4.

And I think it's important to mention based on that sonar test for the J.V. Bakers 1, 2 and 3, which are about twice the size of the Skelly, that we would probably have radiuses -- a conservative guess, about 120 feet radius. And as you look at those and you look at the radius of the cavern, the size on those, that would also not interfere with the saltwater disposal well and/or the proposed acid gas injection well.

Q. Do you have any other concerns with regard to the information that you have reviewed in this case?

A. You notice from the sonar a peculiarity in the configuration of the brine cavern at the Skelly Number 4. At first we were thinking it could be due to lithologic

variation, and we've got a -- what appears to be a cavern and -- you know, near the top it necks down into a very narrow channel, almost like a wellbore, and then it expands out again. We wouldn't anticipate or expect to see that type of configuration. This certainly becomes a concern to us when it comes time to plug and abandon the well.

And looking at fluid levels where they estimate 50 foot of head below well casing, and you know, we'd probably recommend MIT testing of the casing and of the formation to see whether there's any leaks in the piping that might explain that upper cavern. But we're open for some explanation from Mr. Wrangham, if he has it, on that unusual configuration.

It's important to note that the J.V. Baker Wells 1 through 3 were installed back around 1952, and they are old. And based on RBDMS, our database system, I could not find any type of mechanical integrity testing associated with them. And the Skelly was installed in '71.

But when it comes time for plugging and abandonment of these wells, these are the type of issues we get into with odd configurations of brine caverns, plugging them correctly and looking for any type of leaks in the casing and determining where that fluid level is coming from. Is it from the upper cavern, is it from the lower, et cetera. So we would be privy to any explanation that

Mr. Wrangham might have for that configuration.

And then lastly, I guess, in the hearing back on February 1st, there was no mention of the pipeline, which is going to extend around four miles from the Targa middle plant to the south plant. And we noticed that the middle plant is situated about 3000 feet southeast of the city of Eunice with a population of around 2700 people.

And also, that pipeline will emanate down between two major highways, Highway 18 and Highway 8. And so we're obviously -- we're going to be concerned about hydrogen sulfide gas, a very toxic gas, and there's going to be a need for safety plans. And we've had verbal and written assurances in the June 5th, 2000 [*sic*], letter from Mr. Gutiérrez that these are going to be addressed in the discharge plan modification process for the south plant and the middle plant.

And so I just wanted to mention those as other concerns with public and populations.

There seems to be no concern with subsidence of roadways. These caverns are at depth, they are very secure, they're very -- seem to be very small, not interconnected. And so subsidence issues of public health don't appear to be of concern.

Q. Is there anything else you would like to say in this case?

A. I have no further comments.

MR. SWAZO: And I have no further questions.

EXAMINER JONES: Okay, Mr. Carr?

EXAMINATION

BY MR. CARR:

Q. Mr. Chavez, you testified that you have reviewed the Application and supplemental material filed by Targa?

A. Yes.

Q. And at this time has Targa responded to your request?

A. Yes.

Q. There are other questions concerning what happens when -- the plugged wells and permitting of the pipeline, but we're looking, you understand, at this time just at the well so we can go out and do some testing to be sure it will perform as we hope it will?

A. Yes, in our correspondence with Mr. Gutiérrez, he assured us that Targa was merely seeking a Class II -- a permit to drill, a Class II saltwater disposal well to replace the existing saltwater disposal well, at which time they would conduct an injectivity test to determine the porosity and its suitability for acid gas injection.

Q. After we submitted this additional data to you, we understood that we had met the concerns of the Environmental Bureau. Are you objecting to this

Application?

A. We have no -- the Environmental Bureau has no objections to the saltwater Class II disposal.

MR. CARR: Thank you, that's all I have.

EXAMINATION

BY EXAMINER JONES:

Q. Mr. Chavez, the well itself would have an H_2S continuously planned -- is that right? -- release?

A. It would. Under Rule 118 any wells, any storage gathering -- gas gathering facilities, pipelines would be subject to Rule 118 and an H_2S safety plan.

Q. After seeing this sonar run on this offset well, was that the closest offset well that you had records of?

A. Well, we looked at all boring records. But yes, the Skelly Number 4 was the closest well, and that's why we basically selected that, to --

Q. After seeing that, do you still have any concerns about the safety of the well that's proposed to be drilled in the --

A. Again, purely for the approval of a permit for a Class II injection well to replace the existing saltwater disposal well, at this time we have no concerns about that. But we will address H_2S and pipeline concerns through our discharge plan under the Water Quality Control Commission with public noticing at a later date.

Q. The timing of the plugging of these LPG storage wells, is that a concern to you? I mean, as far as when they start injecting acid gas?

A. Yes. We would like to -- as Mr. Gutiérrez had recommended to us in his June 5th, 2007, letter responding to OCD Environmental Bureau concerns, we would like to see those wells plugged and abandoned properly, with MITs conducted on the casing and on the formation in advance of the plugging and abandonment before acid gas injection occurs. The saltwater disposal well, that's a matter, I believe, for Mr. Chris Williams.

Q. Yeah. The MITs you're talking about, that would be something similar to a salt brine well, MIT?

A. Yes, and one facet, we would set a packer within a hundred feet of casing shoe and pressure up the formation for four hours at about 300 to 500 p.s.i. and look for any pressure loss in the formation, possible fluid migration through the back side in the cement, et cetera.

And then on the other hand, we would do an MIT 30-minute packer pressure-up of the backside casing that's in contact with the formation to ensure that there's no leakage -- there was no leakage from these older LPG storage pipes.

Q. Leakage as in up into the fresh water, or what?

A. Correct.

Q. You mean leakage that happened in the past?

A. If there was any pressure loss, then we would have them investigate the vertical nature of the pressure losses to determine whether freshwater versus subsurface salt cavern leakage that might have possibly explained a double cavern configuration on sonar.

Q. Okay.

A. You know, if you've got a leak in the upper part of the casing up here that could be leaking for many, many years, you could have dissolution of the salt.

Q. Okay.

A. We're just looking for any type of pressure loss or --

Q. Okay, so this is part of the Environmental Bureau monitoring freshwater contamination possibility, right? This is -- because you're going to plug the wells, so it just has nothing to do, really, with -- the MIT requirement would have nothing to do with our permit on this injection well, would it? It wouldn't be as critical as maybe even plugging the wells?

A. Well, it could be from the sense that if they began injecting the gas in advance of properly plugging and abandoning them, and if there were in fact conduits from fracturing if they overpressured those LPG wells at any time and from their pressuring up in the acid gas injection

well, they could potentially force acid gas to move and migrate and perhaps find conduits through these LPG storage wells and move -- and come up as potential H_2S sources, and potentially contaminate the Ogallala freshwater aquifer with freshwater sulfates, et cetera.

Q. You sound concerned that -- have you looked at the --

A. We think that those wells should be properly plugged and abandoned in advance of acid gas injection.

Q. Okay. Have you looked at the well design that was proposed for the acid gas injection well and the cementing requirements and everything?

A. I did, but our function was not to do the downhole engineering --

Q. Okay.

A. -- review.

EXAMINER JONES: Okay, I understand. I don't have any more questions.

MR. SWAZO: No further questions.

THE WITNESS: And our only involvement was due to the LPG storage wells, which the Environmental Bureau regulates.

EXAMINER JONES: Okay, thank you.

MS. ALTOMARE: OCD would like to call Chris Williams to the stand.

CHRIS WILLIAMS,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. ALTOMARE:

Q. Can you please state your full name for the record?

A. Chris Williams.

Q. And by whom are you employed?

A. The New Mexico Oil Conservation Division, Hobbs District Office.

Q. And what is your title?

A. I'm the District Supervisor there.

Q. And how long have you held that position?

A. Ten and a half years.

Q. Have you testified before -- Have you on prior occasions testified before the Oil Conservation Division?

A. Yes, I have.

Q. And have your credentials been accepted as an expert as a matter of record?

A. Yes.

MS. ALTOMARE: I would like to tender Mr. Williams as a practical oilman expert.

EXAMINER JONES: Any objection?

(Laughter)

MR. CARR: I'm sitting here, I don't know how practical I can say anything --

(Laughter)

MR. CARR: I reserve the right to object later, but I don't object to his general qualifications since he's testified many times and been previously qualified.

EXAMINER JONES: Mr. Williams is qualified as stated.

MS. ALTOMARE: I thought the rule was that you had to take it easy on me since this is my first time.

MR. CARR: May it please the Examiner, I have no objection to Mr. Williams' qualifications.

(Laughter)

EXAMINER JONES: It's like a volcano building up over there.

MS. ALTOMARE: I know. Goodness.

Q. (By Ms. Altomare) All right, Mr. Williams. As part of your job duties, did you receive the C-108 application for authority to inject Targa's South Eunice gas plant, Lea County, New Mexico, that was submitted by Targa in this case?

A. Yes, I have.

Q. And initially when you were reviewing that Application, what were kinds of things you were reviewing in that Application to evaluate and analyze, I guess?

A. Primarily what I look at is the casing design for the new well, and then I also look at the review of the wells in the area, half-mile radius, whether there's cement across the zone that they're going to be injecting to or whether they're going to be at that depth. And I looked for any notations on any kind of freshwater zones that are identified in there, and primarily it's the casing design that I'm the most concerned with and the wells that are surrounding it.

Q. Okay. And rather than having you reiterate a lot of information that's already been presented, do you have anything contrary to what's already been presented as to what was being sought by that Application by Targa?

A. No, no.

Q. Okay, so you agree with the general synopsis of the injection well and what they're seeking to do with the injection well?

A. Yes, I do.

Q. Okay. Did you have any concerns after reviewing the initial Application as to the casing design?

A. Yes, I did.

Q. And what were your initial concerns?

A. The initial concern that I had was the surface casing that originally was proposed was to be set at 500 feet. After reviewing some of the well files in this same

section where the well is going to be drilled, I noticed that in some of the old files back in the '50s and the '60s, that they had identified freshwater sands -- or not freshwater sands, protectible waters, waters that are less than 10,000 parts per million TDS. And they were identified at 715 feet, 750 feet and 850 feet. And I thought, well, we're not actually going down deep enough to take care of the waters that we have to protect.

And also a year ago I worked for the State Engineer's office on a well that was drilled a mile and a half of the plant, south -- southeast. And that well identified the same water source at 950 feet. And the top of the anhydrite in that particular section is 1100 feet. I figure if you go 50 feet into the anhydrite, then you've pretty well protected all the freshwater protectible water zones that are in there.

Q. And just for the record, does that particular water source have an identifying name?

A. Yes, it's called Santa Rosa.

Q. Okay. And I believe you heard testimony earlier from Mr. Wrangham -- Am I saying that correctly?

MR. WRANGHAM: Yes.

Q. (By Ms. Altomare) -- that Targa was aware of your recommendation of going 50 feet into the anhydrite so that the casing would then be set at 1150 and had no

opposition?

A. Right.

Q. If that is the case, then do you have any further concerns about the casing --

A. None.

Q. -- proposed by Targa?

A. No.

Q. Okay. What other specifications regarding the structure of this well and the construction of this well would you recommend?

A. Now one of the things I do recommend is that they have at least two inches of cement between casings, between the 9-5/8 and 7-inch, and also that they run either lined tubing or some kind of tubing that's resistant to CO_2 and resistant to H_2S. And those coatings are difficult to find.

Q. Okay, and are these things that you have discussed with any representative from Targa at any point?

A. I've since talked to Mr. Carr.

Q. Okay. Have you heard anything from any representative from Targa as to whether or not they are willing to accept these terms --

A. Yes.

Q. -- of your recommendation?

A. Yes, they are.

Q. Okay. Regarding the circulation of the cement, what recommendations do you have with regard to --

A. On the production -- on the 9-5/8, set at 1150, circulate that to surface. On the 7-inch, to set in sides because I'm assuming they're going to run 4-1/2 or 5-1/2 tubing, or possibly 3-1/2. They need to circulate that 7-inch to surface. That's my biggest recommendation. But if they aren't able to do it, at least 200 feet up inside the surface casing.

Q. And why do you feel this is important in this case?

A. Because it protects both the sets of well casings from like the salt deterioration that will actually start working on the cement, on the back side of the production casing at 7-inch, and that will hopefully block any migration upward.

Q. I'm sure that you heard testimony earlier regarding the maximum pressure, testified by Mr. Wrangham, his understanding that the maximum pressure of this well was going to be about 600, or I think 750 --

A. Uh-huh.

Q. -- in that third. Then prior testimony in this case by Mr. Gutiérrez that there was a maximum pressure of 2000 p.s.i. What is the standard for OCD in your district for wells of this nature?

A. Usually we calculate from the surface down to the base of wherever the bottom of the casing is set, and it's .2 p.s.i. per foot, and that would be about 950 p.s.i., would be maximum.

Q. And what would be required of Targa if they approached that maximum and needed to address that issue?

A. They'd have to perform a step rate test.

Q. Do you know of any other nearby wells or facilities in the area of the proposed site that could be affected by the proposed acid gas injection well in this matter?

A. The ones I've reviewed, no.

Q. Okay. We've discussed a little bit about the LPG wells. How important do you think it is that they be plugged and abandoned prior to injection of gas in this area?

A. They -- For Targa's sake I would plug them first, because what may happen is that there are fingers, and as they're drilling the well they may see pressure. So...

Q. So your recommendation would be -- ?

A. I'd plug them before I drilled the well, but you could do both, basically simultaneously.

Q. Okay. As far as -- So you're saying you would plug them prior to actual drilling?

A. Yes.

Q. What about in terms of the time frame of actually injecting?

A. Okay, I'm not following your question.

Q. I'm sorry, I'm being tangled up in my own questions.

Are there any other concerns that you -- that have not been addressed, either by previous testimony, by the report that was later submitted by Mr. Gutiérrez that was submitted as an exhibit, which I believe you have reviewed --

A. I have reviewed yes.

Q. -- or by testimony by Mr. Wrangham today?

A. No.

Q. What specific items do you think it would be important to include, specifically articulate in an order granting the permit in this case, with regard to the construction and the engineering of this well?

A. I think it would be important to basically have in the order where the surface casing is set, where the production casing is set, the cement that's going to be used, what size tubing is going to be run into the hole, the size packer that will be run in, whether these packers -- the packer and the tubing are metallurgically set up for CO_2 injection and H_2S injection and water. That's kind of a dangerous combination in terms of corrosion.

And just from a well-operation standpoint, part of my experience is, I'm a corrosion specialist and I worked on CO_2 wells over in Denver City and in Cortez, Colorado. And when you get water and you mix it with the CO_2 you get carbonic -- carboxylic acid. Well, you already have H_2S which forms its own type of acid, which is like sulfuric. So you basically have two acids, very strong acids.

And it's better that if your tubing is either coated or a special type of tubing, which in one case we use 13-chrome steel, which is highly expensive. And we also use several different kinds of coatings. We've tested them. And at that time -- that was a long time ago -- Tubescope had a coating that was probably the best for this type service.

But there's some things that -- when you run the tubing in, that you need to do differently than normal.

Q. Okay, so within that order granting the permit, you actually consider it important to specify a specially coated tubing --

A. Right, right.

Q. -- the depth of the surface casing --

A. Right.

Q. -- the 2-inch space --

A. Uh-huh.

Q. -- that you discussed, and the circulation of the cement back to the surface?

A. Uh-huh.

Q. Did I miss anything?

A. No.

Q. Okay. Is there anything else that you'd like to mention, or any other concerns that you have about the granting of the permit in this matter?

A. No.

MS. ALTOMARE: Okay.

EXAMINER JONES: Mr. Carr?

EXAMINATION

BY MR. CARR:

Q. Mr. Williams, typically do you review the casing program as proposed when someone seeks --

A. Yes.

Q. -- approval of an APD?

A. Yes.

Q. And the kinds of things you've been talking about, lined tubing and cement back to the surface, those are standard things that you would really require of anyone proposing --

A. Yes.

Q. -- to drill a well?

Are those things that you can just generically

require for all wells when they're proposed and drilled?

A. Yes, for the most part, yeah.

Q. And is it possible that if you were out there and actually drilling a well, that some of the things that you're recommending might need to be changed to accommodate the circumstances of the individual well?

A. Yeah, because there's a lot of things that can go wrong during the drilling.

Q. When this Application originally came for hearing Targa offered to, as to these kinds of questions, work with the District Supervisor or the District Office to satisfy the OCD --

A. Yes.

Q. -- at that time?

A. Uh-huh.

Q. In your opinion, is it more prudent to set these things in an R order, all of these requirements, or simply require that they be -- that the District Supervisor be satisfied before the APD is approved?

My concern is just having to come back and amend an order --

A. Right, yeah.

Q. -- when you get downhole and something changes.

A. No, I mean I can do it either way, I'm just saying.

Q. You talked about the .2 pound per foot of depth to the top of the injection or --

A. Yeah, interval.

Q. -- the casing, as a standard pressure limitation. Would you recommend that that number be applied in this case?

A. The 950 pounds?

Q. Yes, or .2 pound per foot of depth?

A. That's something that I'm not prepared to sit here and say right now, I mean not without doing some engineering work on it.

Q. Are you saying that the OCD's standard .2 pound per foot of depth --

A. -- is for water, is for water.

Q. -- is for water?

A. Right.

Q. And so you would have to adjust that here?

A. Yes, you could adjust it here because of the CO_2 in the gas.

Q. And that changes the -- what, different --

A. Yeah, the surface pressure on it, yeah.

Q. Yeah. And that relates to the density of the resource?

A. Yes.

Q. The Application as it stands before you -- I

mean, would it make sense to approve a pound limitation and then have an adjustment based on step-rate tests?

A. Yes.

Q. Will that take care of the concern about the difference and the density --

A. Yes.

Q. -- of the CO_2 versus water?

A. Yes.

MR. CARR: That's all I have.

EXAMINATION

BY EXAMINER JONES:

Q. Okay, Chris. On that surface pipe, did you see any problem with thief zones on cementing down -- the 5000 feet to surface up there in the surrounding wells?

A. There's a possible -- there's always a possibility of a thief zone, especially when you go through the salt zone, because the salt zone can be washed out from other wells around there or just from other drilling applications. So that's going to be your major concern when you're trying to circulate the production casing back, is if you can circulate it past the salt zone.

Q. Are you going to specify that they just circulate it and let them figure out how they're going to do it, or do you specify DV tools and that kind of stuff?

A. I usually let them recommend it, and then if I

don't think it's going to work then I'll recommend a DV tool or something else --

Q. Okay.

A. -- that you can stage the cement in.

Q. Okay. And would you recommend a bond long on this well?

A. Yeah, a casing bond log and a cement bond log is recommended. Also a temperature survey.

Q. Okay. Even if -- Well, if cement circulates, do you still recommend the bond log?

A. Yes.

Q. Okay. And what about the surface casing down to the top of the salt? If they -- if somebody goes to sleep and they drill down in that salt before they try to set that pipe, isn't there kind of a problem there? I mean --

A. It's a possibility, especially since you're going to be using fresh water on that just to go down to that depth. You have to be real careful. The top of the anhydrite is pretty well mapped in that area, and I went through the well files of every well that was around it, and it looks like it's from 1100 to 1107 feet.

And if you go 50 feet into it you're still okay, because the salt doesn't actually begin till about 1190.

Q. Okay. It would -- They would set a conductor out there?

A. They don't necessarily have to set a conductor, they'd set 9-5/8 just straight down to that depth, and it circulates --

Q. That's redbeds above --

A. Yeah, there's some redbeds, and that's where these lenses of the Santa Rosa water are, is inside the redbeds.

Q. They have to get it done in a hurry and get that casing --

A. Keep them from sloughing off on them inside.

Q. Yeah.

A. But they can use caustic or something to control the redbeds.

Q. As far as the backside goes, do you want that specified as diesel or something, or would you rather let Targa come up with their own --

A. When you said that a minute ago, I was kind of -- What are you talking about?

Q. Well, at least it's less corro- -- you know --

A. Yeah, it's less corrosive.

Q. -- corrosive, and that's what they're putting in some of these acid gas wells --

A. Yeah.

Q. -- on the backside, is diesel, and --

A. I still think cement is your best bet.

Q. Okay. But what I meant was --

A. While they're drilling?

Q. No, no, I'm talking about between the tubing -- injection tubing and the casing --

A. Oh, okay.

Q. -- the actual annulus --

A. Yeah. Well, you could do that. We always used inhibited water --

Q. Okay --

A. -- which has --

Q. -- so --

A. -- which has -- and which I'd recommend that that goes in there.

Q. Yeah. Now the MITs, we've had, you know, Class II is required every five years. And this is an acid gas well, and we've had the Artesia District tell us they don't want their inspectors out there on these wells every year; they want some kind of a setup on the wells that will kind of maintain -- or determine whether they maintain mechanical integrity, that will keep their inspectors from the danger of --

A. You mean pressure monitoring devices?

Q. Something -- I guess a pressure monitoring device, yeah.

A. Yeah. Well, you can do that. But you really

need somebody out there to run the pressure test.

Q. How often do you recommend an MIT on these acid gas wells like that?

A. Don't know yet. Realistically, I would say probably about every two to three years.

Q. Okay, but more than --

A. More than a standard well. You could do a yearly test, it's really not that difficult to do. But at the same time, most of our wells were on a five-year schedule.

Q. Okay. I think -- is this -- the wellhead on the plant property itself?

MR. WRANGHAM: Yes.

Q. (By Examiner Jones) It's just a long ways away from one of those sites where it's bringing in, but it's on the plant property.

A. Uh-huh.

Q. So the inspector would have to come in on the plant --

A. Uh-huh.

Q. -- property? Is that commonly done?

A. Uh-huh.

EXAMINER JONES: Okay, I don't have any more questions.

MS. ALTOMARE: The only thing I wanted to clarify is, I don't think that we would have any objection that --

if the order was written up with certain specifics, that there was a caveat in there that, you know, any changes just be approved and run by Chris prior to -- so that we don't have to come back to address changes to the order or whatever. I think the OCD's primary concern is just that we have something -- some kind of structure on the record and established in the order, and then from there Chris can work with Targa to make sure that everything goes smoothly.

MR. CARR: Mr. Jones, we would ask that that be in the order. And the basis for my concern was, you know, we haven't had many applications for acid gas injection wells, and I sense there's sort of a feel-our-way-in aspect to a lot of this. When we were doing this with horizontal wells and we started putting in very definite numbers and requirements, we discovered after we drilled and completed the well we had to come back and amend the order so it matched what actually had happened in the hole.

And so if there would be a provision that there will be lined tubing and that the cement will be -- all those things, we have no objection to that. We're intending to do that. We just wouldn't like for that provision to limit Targa's ability to work with Mr. Williams as they get in there and start to do this.

EXAMINER JONES: Okay. So technically, the Division has not objected to this, just have concerns that

needed to be -- I'm just thinking about, you know, any kind of communication between now and the time the order is written. Would you want to be in the loop on all that, anything that, anything that comes by, or --

MS. ALTOMARE: I think --

EXAMINER JONES: I need to ask Mr. Wrangham a question, probably through Bill Carr, obviously, but --

MR. CARR: Mr. Jones, if you ask me questions about this case during the very short time frame we anticipate it will take to get the order, you should include your counsel.

EXAMINER JONES: Okay. I'd like to say, Mr. Wrangham, we're not -- Thanks for coming today, we appreciate it. And we're not -- We're glad you're putting this stuff back in the ground, instead of in the atmosphere, and don't feel like you're being picked on too much here, we're just --

MR. WRANGHAM: Okay, thank you.

EXAMINER JONES: But like Bill said, we're trying to get our procedures going on acid gas wells in the state. We've only got about five or six of them so far.

MR. WRANGHAM: Yeah. Sure, I understand.

MS. ALTOMARE: And I think the bottom line that we wanted to get on the record is that the Division does not oppose the approval of this permit. But again, we are

feeling our way around, and we want to make sure that there are certain things on the record that we can come back later and make sure that everything lines up properly.

EXAMINER JONES: Okay, thanks.

MR. CARR: Thank you, Mr. Jones.

MS. ALTOMARE: Thank you very much.

EXAMINER JONES: With that, we'll take Case 13,865 under advisement and try to get an order out as soon as possible.

(Thereupon, these proceedings were concluded at 12:38 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____, heard by me on _____.

_____, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL July 31st, 2007.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2010