**Volume 11**

**Pages 2141 - 2376**

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

Before The Honorable Jeffrey S. White, Judge

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| UNITED STATES OF AMERICA, Plaintiff, | ) | |
| VS. | ) | NO. CR 11-00573 JSW |
| WALTER LIEW; ROBERT MAEGERLE; and USA PERFORMANCE TECHNOLOGY, INC., Defendants. | ) | |

San Francisco, California
Tuesday, January 28, 2014

**TRANSCRIPT OF PROCEEDINGS**

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# I N D E X

Tuesday, January 28, 2014



## E X H I B I T S

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**Tuesday - January 28, 2014** **7:44 a.m.**

**P R O C E E D I N G S**

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(Proceedings were heard out of presence of the jury:)

**THE COURT:** Good morning, everybody. Please be seated.

**MR. FROELICH:** Good morning, Your Honor.

**THE COURT:** Call the case.

**THE CLERK:** Calling case No. CR-11-573, United States versus Walter Liew, United States versus Robert Maegerle, United States versus USAPTI.

Counsel, please state your appearances.

**MR. HEMANN:** Good morning, Your Honor. John Hemann, Pete Axelrod, and Richard Scott for the United States.

**THE COURT:** Good morning.

**MR. GASNER:** Good morning, Your Honor. Stuart Gasner, Simona Agnolucci, and Katie Lovett for Defendant Walter Liew and Defendant USAPTI. Mr. Liew is present.

**THE COURT:** Welcome, everybody.

(Counsel greet the Court.)

**MR. FROELICH:** Good morning, Your Honor. Jerry Froelich for Mr. Maegerle. And Mr. Maegerle is standing next to me.

**THE COURT:** Good morning.

I understand there's some issues that counsel wishes to

bring up.

**MR. GASNER:** Yes, Your Honor. The first is just a general concern that if the government's case goes past next Thursday, that it's going to compress the defense case.

And Mr. Hemann had said, originally, next Thursday the government would be done. He said from time to time other things suggesting it might bleed over slightly into the following week. And I'm just concerned that the pressure to get done is going to fall on the defense side and we're going to be compressed.

We have four experts. We have several witnesses. We had originally said two to three weeks. I think two weeks is realistic; that is, eight trial days. But I'm just getting a little bit worried that the bleeding over will compress the defense unfairly.

**THE COURT:** All right. Mr. Hemann.

**MR. HEMANN:** So, Your Honor, I think our estimate at the time of the joint pretrial statement for the government's case was five to six weeks. I think we're at just over five weeks now, at the longest.

And the comments that I made to the Court when the Court first raised the scheduling issue on -- I guess a couple of weeks ago, when Mr. Zisko was testifying, or last week, was that we would be done in three weeks from then, which is a week from this Thursday. And then I said maybe a day or two into

the next week, early the next week. I think we're very easily on that schedule. We could possibly be done on next Thursday, depending on some cross-examinations.

I would observe to the Court that this issue with Mr. Gibney is going to lengthen his testimony. I had believed, based on the adjudication of the motion in limine -- or the *Daubert* motions, that his qualifications were settled and that there had not been a challenge.

So I went pretty quickly with him yesterday. I feel now I've got to go back and lay a much more painstaking foundation, and then we're going to have voir dire. And so things like this will potentially lengthen it.

Again, he's certainly entitled to -- the defense is entitled to make the objections it wishes to make, and the Court shall rule on them. But there are things about this that they are now going to go a bit longer.

Again, I do feel even with a bit longer we're talking about end of next week and, as I said, possibly early into the week after that, meaning Monday.

**THE COURT:** All right. Well, let me say to you, Mr. Gasner, there's not going to be any compression of the defense case. We're not all going to turn into pumpkins on March 1. And the Court is not going to unfairly prejudice the defendants.

I think the bigger -- if there's a bigger issue, the

bigger issue is more the jury because we promised the jury a certain period of time.

But I think if we continue to get updates, especially, let's say, before we close of business tomorrow, which will be our last day of the week, if I kind of give them a little bit of a warning that we might spill over into March, then -- so give them plenty of notice and they can make arrangements for whatever they need, I don't think it's going to be an issue.

So, you know, I certainly want the case to move along in an expeditious fashion, but not at the risk of compressing the defendants' case in any way.

I often find in civil cases that compressing cases usually makes them more effective, and lawyers thank you at the end, and say, Thank you for limiting my time in civil cases because it made the case more efficient. Now, they weren't under oath when they said that --

(Laughter)

**THE COURT:** -- or on a polygraph, but that's what they say.

So we'll deal with it. I would suggest the following: My practice in this court, and I think it's the practice of other judges, if you are simply laying a foundation with respect to qualifications, you are entitled to lead the witness because there's not going to be a dispute about -- you know, the defense has a view about his qualifications, the government has

a view, but they are what they are. And I think you can move it along.

And I think when you start asking open-ended questions particularly, the witness may not understand that you're dealing only with his qualifications rather than the substance, and you get into issues such as concerning Mr. Froelich yesterday, having to do with things he was saying that might be part of his opinion.

So you can lead him on that issue and on the issue of -- you know the foundation of his qualifications. And if it gets into something really critical and the defendants want to object, you know, I'll rule on those.

So let's just keep going expeditiously.

I understand you had another -- or Ms. Agnolucci had another issue with respect to scheduling.

**MR. GASNER:** Yes, Your Honor.

**MS. AGNOLUCCI:** It has to do with the brief, Your Honor.

We intend to file a brief in response to the brief that was filed by Ms. McNamara, as promised, by 4:00 p.m. today. One kind of administrative matter that I wanted to raise is that we had planned to attach the emails at issue and file it under seal.

Does Your Honor have any concerns about us attaching the emails to a declaration in support of the brief?

**THE COURT:** Well, first of all, I think it would be helpful to the Court to -- you all have the exhibits that are at issue. Just give them to the Court.

**MS. AGNOLUCCI:** We will do that today.

**THE COURT:** I would like to get those sooner rather than later.

And then if you're going to further -- if you need to present them again in your brief, then you need to follow the procedure for filing them putatively under seal. Pending further order of the Court, I would seal them. So file them under seal. But I would like to get them earlier rather than later so I can continue to work on this.

**MS. AGNOLUCCI:** And we will file them under seal, Your Honor. We think that it's important for Your Honor to look at the emails because one of the points that we hope to convey is that many of them are not privileged at all.

One question, from a housekeeping perspective, would it be acceptable to Your Honor if we submit the brief and all of the attachments by 4:00 p.m., but the administrative motion to come -- to file under seal may come a little bit later?

**THE COURT:** That's fine. As long as I have the actual exhibits.

**MR. HEMANN:** I mean, Your Honor, I would be amenable to, since we're on the record, at some point today just lodging them with Your Honor on the record, with the understanding that

the Court will use them in reviewing and will return them.

I mean, this is a process that's frequently used with magistrates in terms of the -- you know, assessing these sort of privileged issues, and the Court will look at them and return them. They are exhibits that have been designated in the case.

I don't want to cause anybody undue strain in having to file complicated administrative motions.

**THE COURT:** All right. Well, that's absolutely acceptable. I just want to get the exhibits. I'll treat them appropriately until the Court rules on the privileged nature of them.

**MR. HEMANN:** So we'll lodge the six, I believe, that are at issue during a break --

**THE COURT:** Yes. That would be appreciated.

**MR. HEMANN:** -- today. And then the Court will have them and then we can move along.

**THE COURT:** Let me ask, without prejudice to the brief that you'll be filing, Ms. Agnolucci, is there going to be a contention that somehow -- that somehow, by virtue of actions by Mr. Jian Liu and/or Mr. Bernstein that somehow the privilege was waived? Or are you simply going to argue -- not simply, or argue that the documents are not privileged? Because that's -- Mr. Bernstein filed a very conclusory --

**MS. AGNOLUCCI:** Yes.

**THE COURT:** -- document.

**MS. AGNOLUCCI:** Your Honor, we have independent knowledge of the content of those emails because at the time Mr. Bernstein was in conversation with Mr. Walter Liew's civil attorney, who then subsequently informed us of the nature of those conversations.

We believe that the privilege was waived, yes.

**THE COURT:** All right.

**MS. AGNOLUCCI:** And we will address that in our brief.

**THE COURT:** Okay. That's certainly an issue because to the extent you're distinguishing existence of the privilege, potential waiver of the privilege, then there is the issue of, assuming a privilege, what does the Court -- this is the issue that the Court raised yesterday: To what extent does the privilege have to yield to constitutional rights of confrontation?

And the law on that issue, as Ms. McNamara correctly observed, is unsettled in the Supreme Court and even in the Circuit because in the *McClintock* case, which is 609 F.3d 893, the -- 983, excuse me, 609 F.3d 983, in a habeas case the Ninth Circuit *en banc* said that the issue is indeed unsettled in the Supreme Court as to what -- how you balance the constitutional right of confrontation, right to present a defense, et cetera, versus the right of a party to confidentiality of communications with the attorneys.

So it seems like what will have to happen -- I'll look at the briefs, but I think the way to make the record on this is in addition to reviewing the briefs and the factual information that's presented, is to first allow Mr. Liu to testify fully on direct, and let's see what he says. Because it may be -- I think the devil may be in the details.

It may well be that the defense need not go into the substantive -- the physical communications and put them before the jury rather than the facts that support those. And then the defense would be, you know, entitled to make a record about why, given the nature of the substance of Mr. Liu's direct testimony, why it may be that a particular document, assuming privilege and assuming no waiver, why it is -- a particular document may be central to the defense.

And the Court will then need to do the balancing test that is implicated in some of these decisions, such as the *Grace* case in the District of Montana. And that case, of course, relied on the Ninth Circuit panel decision which was ultimately withdrawn based upon the *en banc* decision in *McClintock*.

So I think it's a very complicated issue, but I think the best way to do it is to make the full record so the parties, we can kind of get real with what is the need and all that.

But, you know, it's an interesting issue because if you're right, Ms. Agnolucci, the issue would have been, if the government hadn't inadvertently produced these, then we might

have had a *Brady* issue --

**MS. AGNOLUCCI:** Right.

**THE COURT:** -- if they came up later on in the proceedings.

So now, by virtue of inadvertence, the government has actually satisfied its *Brady* obligation, and the issue is now to what extent may the defendant use such disclosed documents.

It's sort of like a law school exam question here. I don't like those, but they exist.

**MR. HEMANN:** Precisely what I was looking for in the middle of trial, Your Honor.

**THE COURT:** That's right.

(Laughter)

**MR. HEMANN:** I would, I guess -- I have a lot of thoughts about the *Brady* issue that are not apropos right now, I guess. But this may not become the complex issue that we -- we -- that it might be, because I feel like, in just talking to Mr. Liu prior to having looked at the emails, I knew all of these things because -- and I certainly intend for him to testify as to all of these things on direct. I would guess that -- without reference to his attorney or attorney-client communications.

I believe that the defendants would be able to cross-examine him effectively, without reference to his confidential communications with his attorney.

**THE COURT:** Let me interrupt you.

Clearly, it is the case that if he says, you know, fact A on direct, or if he doesn't say it on direct, and he says -- let's say he says the light was red on direct, and then on cross the defendants say isn't it true the light was green, and the defendant says, yeah, the light was green, then the -- any statement that he would have made would then become hearsay, as to which no exception would apply.

That's why I say the devil is really in the details, and it really depends upon how much he gives up on direct and how much he gives up on cross, without the documents.

And then when we get to the point where the defendant needs to use the documents, then we'll get into the real crisp issue of the balancing test.

So I think we need to just sort of take it a step at a time.

**MR. HEMANN:** I think the good news is that we've been able to make some scheduling adjustments so that we -- we certainly won't get to Mr. Liu today. I think it is unlikely that we will need to get to him tomorrow.

So it may be that that issue doesn't need to be addressed by the Court until next Monday, and the Court has a little bit of time to sort through the issues.

**THE COURT:** Very well. So nobody is prejudiced by that.

Are we ready to bring in the jury? Let's bring in the jury.

Yes.

**MR. AXELROD:** I just wanted to alert the Court to a smaller witness issue, relating to a witness tomorrow, who is Tony Duong.

The Court may recall, that's the witness the Court issued an immunity order for his testimony. And we filed a short brief this morning, with a request that we treat him as a hostile witness. And so I just wanted to let the Court --

**THE COURT:** I haven't seen that yet, but I'll look at the brief.

**MR. AXELROD:** Yes, just to let the Court know that's coming.

**THE COURT:** Very well.

All right. Let's get Mr. Gibney in here, and let's get the jury.

**THE CLERK:** All rise for the jury.

(Jury enters at 8:00 a.m.)

**THE COURT:** All right. Please be seated.

Good morning, ladies and gentlemen. Once again, thank you for your punctuality. It continues to keep the case flowing smoothly and promptly.

Just to remind you, we are still in the government's case, and we are in the midst of Mr. Gibney's direct examination by

the government.

And I want to remind the witness, as we do all witnesses, that you're still under oath.

**THE WITNESS:** Yes, Your Honor.

**THE COURT:** All right. Please proceed.

**ROBERT GIBNEY,**

called as a witness for the Government, having been previously sworn, testified as follows:

**DIRECT EXAMINATION (resumed)**

**BY MR. HEMANN:**

**Q.** Good morning, Mr. Gibney.

**A.** Good morning.

**Q.** We had, sort of, summarily gone through your career at Kerr-McGee slash Tronox quickly yesterday. Do you remember that?

**A.** Yes, I do.

**Q.** I want to talk a little bit more about that in a moment, but, first, after you left Tronox in -- 2011?

**A.** 2012.

**Q.** -- 2012, what did you do?

**A.** So I took some much needed time off.

But towards the end of that year, December, I began doing some consulting work, and established my own consulting practice as of January last year, 2013.

**Q.** Could you briefly describe the nature of the consulting

work?

**A.** Well, I do work for a variety of clients, some in the mineral sands industry, helping them better understand the needs and requirements of the titanium dioxide customers; looking at strategy; worked on the due diligence effort for them in terms of trying to -- I can't go into specifics of it, but it was a due diligence look at a potential acquisition.

Also did some work for a private equity firm, doing due diligence around the acquisition of the titanium dioxide manufacturer.

Worked with investors to better understand the industry.

**Q.** And in the course of your consulting work over two years, 2012 and 2013, have you studied the titanium dioxide industry in detail?

**A.** Yes. Part of the work that I had to perform for a number of the clients was put together reports with my opinion on supply/demand, on competitive strengths and weaknesses, basically a swat analysis on the various competitors within the various industry as well as the mineral sand suppliers.

**THE COURT:** Just a moment. I need to consult with the reporter.

Madam Reporter.

(Interruption in proceedings.)

**THE COURT:** I'm sorry, Mr. Hemann. You may continue.

**MR. HEMANN:** Thank you, Your Honor.

**BY MR. HEMANN:**

**Q.** We were talking about your consulting, your consulting work in the due diligence that you had done for certain clients with regard to titanium dioxide manufacturers?

**A.** That's correct.

**Q.** And did that due diligence work -- can you just describe, briefly, what due diligence means in the context of acquisitions?

**A.** So when a company decides that they want to grow through an acquisition, they'll begin analysis in preparation to understand, better understand the company that they're looking to acquire.

So they'll do -- due diligence means they're assembling, you know, a full understanding of their products, their markets, their strengths, their weaknesses, everything about the company, trying to find out if there's any areas of concern, any opportunities that have been missed by the current incumbent, the company that owns the assets. That type of work.

**Q.** And does that work, in particular, require you to develop an understanding of the potential acquired company's technology and technological abilities?

**A.** Yes.

**Q.** Through that work -- now, I'm just focusing on consulting. We'll go back to the Kerr-McGee/Tronox stuff in a moment. But

through that work did you develop an understanding of what sorts of information are available publicly about a company's technological capabilities and technology?

**A.** Yes. Essentially, starting out fresh as a consulting firm like I did, virtual scratch, you then have to rely upon information you can gather in the public market. So it's not anything that I had with me coming into my own firm.

So I quickly discovered that it's -- and everyone has known that within the TiO2 industry that it's very opaque. The information is not readily available. That's why there are a number of consulting firms active in the industry.

**Q.** And I want to step back, now, to Kerr-McGee and Tronox for a moment or two.

You described for the jury yesterday a number of positions that you've held at Kerr-McGee and then Tronox, correct?

**A.** Correct.

**Q.** Would it be fair to say, Mr. Gibney, that you performed a full range of executive management positions while at Kerr-McGee and Tronox?

**A.** Yes. I wore virtually every hat that there is to wear within the executive management team, so to speak.

**Q.** And do you have a preference as to whether I refer to it as Kerr-McGee or Tronox? I could probably shorten up a little bit here.

**A.** Tronox is fine. It's the eventual owner of the asset, so

that's fine.

**Q.** If I refer to Tronox, I'm meaning the entire career with Kerr-McGee and Tronox, unless you explain otherwise.

**A.** That's fine.

**Q.** Is the range of experience that you had as an executive rare?

**A.** Yes. I've been told by -- I was --

**MS. AGNOLUCCI:** I'm going to object, Your Honor.

**THE COURT:** Sustained.

Unless you're specifically asked a question, because of hearsay problems please refrain from talking about what somebody told you.

If counsel wants to ask you a question like that, and have the Court determine whether it's appropriate for you to answer, I'll do that. But please don't volunteer something somebody told you, because that's hearsay. And without some rules the Court has to apply, it's not admissible.

**THE WITNESS:** Thank you, Your Honor.

**THE COURT:** You wouldn't know that as witness, but it's something that we have to deal with here.

**BY MR. HEMANN:**

**Q.** And this may elicit the same answer, but how do you know that your experience is rare?

**A.** Well, being in charge of human resources at Tronox part of my responsibility was to recruit new executives for our team or

for the company. And we would review, on a regular basis, resumes and backgrounds of potential employees that we were trying to hire. And it's rare to find someone with a wide variety of positions within the company.

**Q.** When was the last time at Tronox that you had a job in sales?

**A.** 2000.

**Q.** Have you ever testified before as a witness on behalf of Tronox?

**A.** Yes, I have.

**Q.** And can you describe the capacity in which you testified as a witness?

**A.** Following the bankruptcy filing in early 2009, Tronox filed a fraudulent conveyance case against Kerr-McGee, the former parent company.

What Kerr-McGee did, during the spinoff they took all of their environmental liabilities from 50 or --

**MR. FROELICH:** I'm going to object, Your Honor.

**MR. HEMANN:** I can shorten this just a bit, Your Honor.

**THE COURT:** Please do.

**BY MR. HEMANN:**

**Q.** You don't need to describe the context of the suit, but I'm looking more for what your role was as a witness?

**A.** I was what's called a 30(b)(6) witness on behalf of

Tronox. I represented, essentially, Tronox in the court case.

**Q.** Were you involved in discussions with regard to who should be the 30(b)(6) witness?

**A.** Yes.

**Q.** Why were you selected as the 30(b)(6) witness?

**A.** The chief legal counsel, as well as the CEO and our outside counsel, thought that I had the widest -- the broadest range of background, both throughout Kerr-McGee, my career with Kerr-McGee, and then, subsequently, the spinoff with Tronox.

**Q.** You talked a little bit about the technical reviews that you participated in over your years at Tronox.

Could you describe in a bit more detail what -- what those technical reviews were like and who attended in the company?

**A.** We would bring in, basically, the leadership of the company from both sales and marketing, R&D, plant technical services, the plant management came in, oftentimes our CEO would also sit in, because these were critical aspects of how we were performing against benchmarks and goals and how we were also performing against the industry.

**Q.** During those technical review meetings, did you and the other -- and your colleagues do some comparative analysis between Tronox's technology and the technology that you were able to understand as a competitor that some of your competitors possessed?

**A.** Well, we would benchmark ourselves off of how we were

performing both financially as well as on a performance basis.

But to know exactly what the competitors were doing with their technology was difficult. But we had a general understanding of their -- of their throughput, how much material they were producing by facility so we could measure ourselves against that. But specific equipment we didn't know.

**Q.** But as a Tronox executive were you involved in making decisions with regard to something called capital expenditures or cap X?

**A.** Yes. We would have annual capital expenditure reviews.

**Q.** Could you describe, a little bit, what capital expenditures means.

**A.** So on an annual basis you have to set a budget for how much money you're going to spend on equipment at your facility.

And oftentimes half of the capital that you're going to spend is for maintenance, basically. You're replacing pumps or equipment that's failed.

The other part of the budget is how you're going to grow your business by adding new equipment, new lines, new capacity, or how you're going to save costs or improve efficiencies or improve quality.

**Q.** As part of that, did you have to develop some knowledge as to manufacturing process and equipment in order to assist in making those determinations?

**A.** Yes. You have to have a basic understanding of when the

engineers are presenting a -- a request for expenditure. As part of the budget process, they have to detail out how that piece of equipment is going to affect the company or affect throughput or quality, and so on and so forth.

**Q.** You mentioned yesterday that you had some particular responsibilities with regard to a chloride plant in the Netherlands called Botlek. Do you remember that?

**A.** Yes.

**Q.** And let me just stop for a definitional point.

When I say "chloride plant" I'm referring to chloride TiO2 plants.

**A.** Correct.

**Q.** Is that typically how it's referred to in the industry?

**A.** Yes.

**Q.** So this chloride plant in Botlek, did you have responsibilities to -- particular responsibilities with regard to capital review?

**A.** I had to sign off on the budget and any capital expenditures so, yes, I did.

**Q.** And did you become familiar with the idea -- with the technology and the equipment that's used in the chloride process through that responsibility?

**A.** Yes.

**Q.** And how is that?

**A.** Well, I mean, it -- it layered on to my previous

knowledge, but I understood better the issues that Botlek had in terms of trying to produce TiO2 at that facility: the maintenance problems; the chlorinator life; other issues with regards to oxidation and even finishing.

**Q.** Now, you're familiar, Mr. Gibney, with the titanium dioxide market and the major producers of titanium dioxide?

**A.** Yes.

**Q.** Can you, very briefly, describe how you gained that familiarity over the years?

**A.** Well, each -- I mean, starting off early in my career you -- you gain a familiarity. And then on an annual basis and sometimes even more often you're -- you're studying the industry to find out who's trying to build a new plant or a new line, how are we going to compete against that.

It's just a -- years of experience built on by doing all these studies.

**Q.** And as a competitor of DuPont, have you become familiar or did you as a Kerr-McGee executive become familiar with DuPont's position in the market?

**A.** Yes.

**Q.** And have you continued to add to that familiarity as a consultant?

**A.** Yes.

**Q.** Are you familiar with the kinds of information that's available to participants in the chloride industry in terms

of -- of technical equipment and technical matters?

**A.** Yes.

**Q.** And over the course of your career at Tronox, and then later as a consultant, have you been involved in evaluating expansion plans for TiO2 plants either through expansion or addition of existing lines, or evaluating the possibility of building a new greenfield facility?

**A.** Yes. We -- we ran through a number of those reviews over the years.

**Q.** And are you familiar, through your studies over the last couple of years, with historical expansions across the industry either by the addition of lines or by the construction of new plants?

**A.** Yes.

**Q.** Are you familiar, from your work at Kerr-McGee and Tronox, with how companies in the chloride industry take steps to protect their confidential information?

**A.** Yes.

**Q.** How did you become familiar with that?

**A.** Well, in terms of how Kerr-McGee and then Tronox, how we went about protecting our information, we had procedures in which people had to sign off on certain documents.

We kept our -- our most closely held documents in a fireproof safe in the R&D center. We had firewall systems in our computer systems.

Everything was managed by our legal staff. There was stamps put on confidential information.

Anytime you wanted to put out a presentation, it had to go through certain sign-offs with both legal as well as R&D and technical, to make sure that we weren't divulging anything through a public disclosure.

**Q.** You're familiar, also, with the history of licensing chloride technology through the chloride industry?

**A.** Well, because Kerr-McGee was probably the largest licensee of technology, yes.

**Q.** And have you gone through and looked at the history of chloride route licensing?

**A.** The history?

**Q.** Sort of what other companies have done in addition to Kerr-McGee.

**A.** Yes.

**Q.** And, Mr. Gibney, have you had HR, human resources responsibility over the course of your career?

**A.** Yes.

**Q.** And during the -- both during that and at other points in time as an executive at Kerr-McGee and Tronox, have you become familiar with industry norms with regard to the movement of employees from chloride route company to chloride route company?

**A.** In terms of industry norms, in terms of observing and

recruiting people within the industry, yes.

**Q.** Let me ask, probably, a better question.

Over the course of your career at Tronox and Kerr-McGee did the company hire employees from other companies?

**A.** Yes.

**Q.** And did employees of your company leave and go work for other companies?

**A.** Yes.

**Q.** And did you, over the course of seeing that happen, become familiar with the -- the circumstances surrounding their ability to share technology either from their former employer or share your technology with their new employer?

**A.** Yes.

**Q.** And are you familiar -- familiar with confidentiality and noncompete kinds of restrictions based on your work in human resources and as an executive?

**A.** Yes.

**Q.** You've been hired, Mr. Gibney, as an expert, or retained as an expert by the United States, correct?

**A.** Yes.

**Q.** And did you sign an agreement with the United States as part of that?

**A.** Yes.

**Q.** And did that agreement require you to maintain the confidentiality of information that had been provided to you?

**A.** Yes.

**Q.** Have you done so?

**A.** Yes.

**Q.** Could you describe for the jury your -- the payment arrangements that you have with the United States pursuant to that agreement.

**A.** I've been paid, I think, to date approximately $25,000. And under the contract it was for a maximum -- I think it was 36,000 with travel.

**Q.** And was there an hourly component to that?

**A.** Yeah, I believe it was 350 an hour.

**Q.** And how does that compare with the other consulting work that you do?

**A.** It's substantially less.

**Q.** Do you anticipate invoicing the United States for additional work beyond the $25,000? That sort of went up to before you came out to testify at trial, correct?

**A.** Correct. So I will have an additional bill that I'll submit.

**Q.** You've met with -- with me and FBI agents in connection with preparing your testimony?

**A.** Yes.

**Q.** Approximately how many times have you met with us?

**A.** Once in New York City; and then Saturday evening; and then Sunday; and then most of the day yesterday, when I was sitting

outside, I guess.

**Q.** Didn't have much of a chance to talk yesterday?

**A.** No.

**Q.** And then you've worked on your own reviewing documents, and helped prepare a disclosure statement to the Court in connection with your testimony; is that correct?

**A.** Correct.

**MR. HEMANN:** Your Honor, the United States would offer Mr. Gibney as an expert in the titanium dioxide business and industry.

**THE COURT:** All right. At this time, ladies and gentlemen, as I told you at the beginning when I gave you a little lesson about various legal concepts, one of them was voir dire.

Voir dire is used in part to -- as a procedure for selecting the jury, as we did with you. It's also used as an opportunity for lawyers to examine the credentials of proposed expert witnesses before the Court decides whether to allow them to proceed further with their testimony.

So with that background, I'll ask, Mr. Gasner, do you wish to voir dire the witness?

**MR. GASNER:** Yes, Your Honor.

**THE COURT:** All right. Please do so.

**MR. GASNER:** May I proceed, Your Honor?

**THE COURT:** Yes, you may.

**VOIR DIRE EXAMINATION**

**BY MR. GASNER:**

**Q.** Good morning, Mr. Gibney.

**A.** Good morning.

**Q.** My name is Stuart Gasner, and I represent Mr. Liew, sitting over there, and the company USAPTI.

You did a disclosure of your expected testimony on August 5, 2013; is that right?

**A.** Correct.

**Q.** You were hired in July of 2013?

**A.** That sounds correct, yes.

**Q.** So you had about a month to put together your opinions, true?

**A.** Roughly, yes, that's correct.

**Q.** Do you recall that you also prepared a list of the materials that you reviewed in connection with your opinions?

**A.** Yes.

**Q.** I take it that your opinions that you intend to offer today are based, in part, on the materials that you reviewed, true?

**A.** True.

**Q.** And it's true that the materials you reviewed consisted of drawings from USAPTI, right?

**A.** Correct.

**Q.** And a large number of DuPont analysis reports; is that

right?

**A.** Correct.

**Q.** Do you recall that the documents you reviewed were listed on a spreadsheet attached to your disclosure that was about 355 items? Do you recall that?

**A.** I do.

**Q.** And would it be fair to say that the items from number 190 through 353 were all DuPont analysis reports? Do you recall that?

**A.** That's probably correct. I don't recall the exact numbers.

**Q.** Would it help refresh your recollection if I gave you a copy of the attachment?

**A.** Sure.

**MR. GASNER:** May I approach, Your Honor?

**THE COURT:** Yes, you may.

**THE WITNESS:** I'm sorry, the numbers, again, beginning at one -- did you say 190?

**BY MR. GASNER:**

**Q.** I believe starting at -- first of all, is this the Exhibit A information reviewed to the disclosure of your expert opinions?

**A.** Yes.

**Q.** Okay. So if you look at -- why don't we just go through it briefly.

Number 1 on the list is a consultant's report on technology review?

**A.** Correct.

**Q.** And then numbers 2 through 19 are drawings from Mr. Liew's business, right?

**A.** Correct.

**Q.** And then 20, 21, and 22 are alleged trade secrets 3, 4, and 5 that the jury has heard a lot about. Do you see that?

**A.** Yes.

**Q.** And then 23 through 190 are emails and attachments. Do you see that?

**A.** Yes.

**Q.** And those were all emails about the USAPTI project, right?

**A.** Yes.

**Q.** Okay. So now we're up to 190. And then starting after 190, there's a thing that says "DuPont Analysis Report." Do you see that?

**A.** Yes.

**Q.** And from 190 through 353, those are all DuPont analysis reports, true?

**A.** Yes.

**Q.** And then 354 and 355 are a couple of Pangang reports, right?

**A.** That's correct.

**Q.** Okay. So there's nothing in there about due diligence on

acquisitions, true?

**A.** True.

**Q.** Nothing about confidentiality procedures at any company, right?

**A.** True.

**Q.** Nothing in there about the market for titanium dioxide, true?

**A.** True.

**Q.** Okay. So for those areas you're relying on your personal experience; would that be fair to say?

**A.** Yes.

**Q.** Okay. And in terms of the time you spent reviewing this material, the government's provided us with your invoices. And it appears that you spent about 37 hours in July, getting ready for your disclosure. Does that ring a bell?

**A.** That sounds about right.

**Q.** Okay. Would it help refresh your memory to look at your invoice?

**A.** Sure.

**MR. GASNER:** May I approach, Your Honor?

**THE COURT:** Yes, you may.

**MR. HEMANN:** Objection, Your Honor. Foundation. I don't think he expressed a lack of memory.

**THE COURT:** All right. Sustained.

**BY MR. GASNER:**

**Q.** Do you remember the days and hours that you spent in the month of July on particular tasks?

**A.** No.

**Q.** Would it help to refresh your memory to look at the actual invoice?

**A.** That's fine, yes.

**MR. GASNER:** May I approach, Your Honor?

**THE COURT:** Yes, you may.

**THE WITNESS:** Thank you.

**BY MR. GASNER:**

**Q.** So in the days leading up to your disclosure, on four days in July you reviewed documents, true?

**A.** Yes.

**Q.** And those would have been the documents that we just went through on the attachment?

**A.** Uh-huh.

**THE COURT:** You have to answer audibly.

**THE WITNESS:** I'm sorry. Yes.

**BY MR. GASNER:**

**Q.** Okay. So we're up to eight -- about 16 hours. Then on July 18 you traveled to New York to meet with Mr. Hemann, right?

**A.** Correct.

**Q.** That was eight hours. Do you see that on there?

**A.** Yes.

**Q.** And does that square with your recollection?

**A.** Well, part of that session of eight hours was also reviewing documents.

**Q.** During your travel to New York?

**A.** Correct. During -- it's travel, but it's also the meeting and it's the time at the offices.

**Q.** How long was the actual meeting with Mr. Hemann; do you recall?

**A.** Oh, probably four hours.

**Q.** Okay. And then later in July you had some other review of documents, and, I presume, reviewing the expert disclosure that was eventually given to us, to give us advance notice of your opinions, right?

**A.** Yes.

**Q.** Okay. So at the time that you approved the disclosure of your opinions, is that a fair summary in your invoice of the work that you did at that time?

**A.** Yes.

**Q.** Okay. Let's turn to the -- your experience, your long experience in the titanium dioxide industry.

Starting -- I think you said you had a bachelor's of science from the University of Arizona?

**A.** Correct.

**Q.** Is that -- was that in business administration?

**A.** Yes, correct.

**Q.** Not in a hard science like chemistry or physics or something like that?

**A.** No.

**Q.** Is that unusual, in your experience, for universities to give a bachelor's of science in business administration?

**A.** I don't know that it's unusual.

**Q.** But your major was in marketing, right?

**A.** Correct.

**Q.** And I think you mentioned, also, that you attended the Wharton School of Business for a management program of some type?

**A.** Correct.

**Q.** How long did that program last?

**A.** Approximately three weeks.

**Q.** And then I believe that you went into a variety of sales jobs after that. Is that accurate?

**A.** Beginning my career, that's correct.

**Q.** Your first job was, I think you said, starting in 1986, when you got out of college you worked for a DuPont distributor. Is that right?

**A.** That's right.

**Q.** Selling titanium dioxide?

**A.** Amongst other products, but yes.

**Q.** So what other products did you sell in addition to the

titanium dioxide?

**A.** We had a wide variety of chemicals that went into a wide variety of industries. A distributor that's essentially their -- what they do is they take, you know, certain products from certain producers and then provide a whole suite of options for a customer to buy from.

**Q.** So what percentage of your sales do you remember was titanium dioxide in particular during that time frame?

**A.** Oh, it was probably 10 to 15 percent.

**Q.** Okay. So you were a salesman for a chemical company, and part of what you did was to sell TiO2. And you sold it to, mostly, paint companies or plastic companies?

**A.** Mainly paint.

**Q.** Mostly paint. Okay.

Then in your sales career you moved to Kerr-McGee, and you were a sales representative for the western region from '91 to '95, correct?

**A.** Right.

**Q.** Then --

**MR. HEMANN:** Your Honor, I object. This is all repetitive.

**THE COURT:** Sustained.

**BY MR. GASNER:**

**Q.** Your sales career lasted until -- pure sales was until '97, right?

**A.** Correct.

**Q.** And then you did some -- you added marketing to that at Kerr-McGee, true?

**A.** True.

**Q.** And I think you mentioned that in connection with sales and marketing that you had some tours of the Kerr-McGee facilities?

**A.** Yes.

**Q.** Now, when you started at Kerr-McGee in 1991, how many plants did they have in titanium dioxide?

**A.** They had the Hamilton, Mississippi plant; they had a joint venture in Western Australia; and they had, also, a smaller joint venture, 25 percent interest in the Janbu, Saudi Arabia facility.

**Q.** Where were you located in terms of doing your sales and marketing work?

**A.** Dallas.

**Q.** And which plants, if any, did you actually visit during your time at Kerr-McGee?

**A.** Oh, Hamilton; the Kwinana, Western Australia plant; the Botlek, Netherlands plant; the Uerdingen, Germany plant.

**Q.** I'm talking about when you were a salesman in marketing. Up until 2002, did you visit any plants in that time period?

**A.** Well, up until 2002 yes, I would have visited all of those facilities.

**Q.** And that would have been in support of your sales and marketing responsibilities?

**A.** Yes.

**Q.** And then from 2002 to 2005, you were completely out of TiO2?

**A.** Correct.

**Q.** Working for a battery company?

**A.** Yes.

**Q.** Okay. Then in 2005, you went back to Kerr-McGee. And your first big job was managing their IPO, or initial public offering, and spinoff of the titanium dioxide business, right?

**A.** Well, initially, it was general manager of the paper and specialties business within Kerr-McGee, for approximately nine months; and then as we were spun off, became vice president of investor relations.

**Q.** So you spent about nine months as general manager of paper and specialties. And then your big job was the IPO to spinoff the whole business, right?

**A.** Correct, correct.

**Q.** And during that time period your functions were primarily financial within Kerr-McGee; wouldn't that be fair to say?

**A.** As investor relations, yes.

**Q.** In fact, you successfully implemented a restructuring plan which closed down two unprofitable operations in the United States, fair?

**A.** Correct.

**Q.** And you cut overhead and headquarters and staff in half during that time period; is that right?

**A.** That's correct.

**Q.** So you were focused, primarily, on cutting costs within Kerr-McGee, true?

**A.** We were trying to survive. There's no doubt about that, yes.

**Q.** And it was during that time period where the company was trying to survive that because this gentleman in the Netherlands wasn't willing to take on personal liability under European law you became the acting director for the Netherlands facility?

**A.** Correct.

**Q.** Did you ever go there?

**A.** Yes, I've been to Botlek a number of times.

**Q.** During the time when you were managing director?

**A.** During that time I think we had travel restrictions because, once again, we were trying to cut costs, so no.

**Q.** So the answer would be no?

**A.** "No."

**Q.** You were managing director, but never went to the plant?

**A.** I think I was there right before taking over responsibilities. And that's when we handed it over. But during that period of time we were doing videoconferences and

conference calls.

**Q.** Is it fair to say that on your -- have you had a chance to look at your resume lately?

**A.** It's been a while.

**Q.** Okay. Among the skills that you tout include profit and loss management; is that one?

**A.** Correct.

**Q.** Global sales and marketing, is that one?

**A.** Yes.

**Q.** Initial public offerings, is that one?

**A.** Correct.

**Q.** Team building and development?

**A.** Yes.

**Q.** Human resources?

**A.** Yes.

**Q.** Government relations?

**A.** Yes.

**Q.** Operations?

**A.** Yes.

**Q.** Corporate restructuring?

**A.** Yes.

**Q.** Investor relations?

**A.** Yes.

**Q.** Mergers and acquisitions?

**A.** Yes.

**Q.** And board experience in global procurement, true?

**A.** Yes, correct.

**Q.** So you, in your resume, when you're telling the world your skill set it has nothing to do with the technical side of TiO2, does it?

**A.** No. I don't list technical skills on my resume, no.

**Q.** Because, in fact, that has not been a focus of your 25 years in the titanium dioxide business, true?

**A.** True.

**Q.** And, in fact, you've never been involved in the building of a new plant, true?

**A.** Not in the actual building of the plant. On the ground --

**Q.** You've never designed anything for a TiO2 plant yourself, true?

**A.** No, that's correct.

**Q.** As part of your work on this case, did you ever look at patents or textbooks or publicly available sources of information to see what is -- what technical details are available through those sources?

**A.** Beyond what was provided to me in the disclosures?

**Q.** Yeah. Well, we went through everything that you reviewed?

**A.** Correct.

**Q.** And none of that contained any patents or textbooks, right?

**A.** But I have seen patents as part of the disclosures in the

case.

**Q.** Well, in your -- on your resume and in your discussion with Mr. Hemann, I didn't hear anything having to do with active responsibility for intellectual property management. Did I miss that?

**A.** No, that's correct.

**Q.** That's not been part of your career?

**A.** No.

**Q.** Do you -- have you ever drafted a process flow diagram?

**A.** No.

**Q.** Have you ever had job responsibilities that required understanding the details of a process flow diagram?

**A.** We would review, during capital expenditure requests, detailed engineering documents. But in terms of day to day and having -- having to do that as part of my job, no.

**Q.** If somebody just put a process flow diagram in front of you and asked you to explain the technical details of it, you couldn't do it, could you?

**A.** I could generally give you an impression of the flow. Within the titanium dioxide manufacturing process, I know pieces of equipment and how they all fit together in a process flow. But in terms of providing technical analysis, that's -- that would be more difficult.

**Q.** Mr. Hemann elicited that you testified as a witness for Tronox. Do you remember him asking you about that?

**A.** Yes.
**Q.** And that was a dispute because shortly after the IPO Tronox went bankrupt, right?
**A.** Yeah, within roughly three years, that's correct.
**Q.** So there were a lot of unhappy investors; would that be fair to say?
**A.** Correct.
**Q.** And you were the spokesperson on those financial issues for the company, true?
**A.** That's correct.
**Q.** Mr. Hemann asked you about your study of the history of licensing in this industry. Do you recall him asking you about those questions?
**A.** Yes.
**Q.** Have you reviewed the Sherwin-Williams contract with DuPont from 1967?
**A.** I don't recall.
**Q.** You don't recall looking at that?
**A.** No.
**Q.** Do you recall any specific agreements that you looked at in terms of the history of licensing that Mr. Hemann said that you were an expert in?
**A.** In the past I have looked at the Kerr-McGee -- at the time it was Tanz, which is now part of Cristal, the licensing agreement we had with them. But other than that, no.

**Q.** You're currently employed by IBMA; is that right?

**A.** No. I was doing -- Jim Fisher and I were collaborating, during the course of 2012, on a number of projects. But I'm not currently employed by IBMA.

**Q.** Are you still listed as a consulting expert available for hire through IBMA?

**A.** I don't know that I'm listed. I don't believe so, no.

**Q.** Have you been listed in the past?

**A.** Yes. I believe I was in 2012.

**Q.** Were you recently taken off the website?

**A.** I don't -- I don't know.

**Q.** You mentioned that you and Mr. Fisher had worked together. Was that on the due diligence issues that Mr. Hemann asked you about?

**A.** One project was, yes.

**Q.** What -- what projects did you do due diligence on that involved titanium dioxide, after you left Tronox up until your -- well, up until the present time?

**MR. HEMANN:** Objection. Relevance.

**THE COURT:** Sustained.

**BY MR. GASNER:**

**Q.** Did those due diligence projects involve titanium dioxide plants?

**A.** Yes.

**Q.** How many of those projects were there?

**A.** There was two.

**Q.** Those were both with Mr. Fisher, or just one of them?

**A.** Uhm, actually, neither of them were directly related with IBMA.

I was hired by a private equity firm to work on a due diligence project for an acquisition; hired by a mineral sands producer to do some work on potential of an acquisition.

**Q.** Was it your role in those due diligence engagements, primarily, to look at the financial aspects of the acquisition? Would that be fair to say?

**A.** Financial; market position; strengths and weaknesses of their product portfolio; their efficiencies; so on and so forth.

**Q.** When private equity firms do due diligence projects, they often hire a number of specialists to look at different aspects of the deal, true?

**A.** That's correct.

**Q.** Were there other people that looked at the technical aspects of the acquisition?

**A.** There were a number of folks on the team. And, yes, they also had some technical experts.

**Q.** Your role was primarily financial, and other people handled the technical aspects, fair?

**A.** That would be fair.

**MR. GASNER:** Nothing further on voir dire, Your Honor.

**THE COURT:** All right. Mr. Froelich, do you have anything?

**MR. FROELICH:** I just have two, to make it clear.

**THE COURT:** All right.

**VOIR DIRE EXAMINATION**

**BY MR. FROELICH:**

**Q.** You're not an engineer, correct?

**A.** That's correct.

**MR. FROELICH:** That's all I have.

**THE COURT:** All right.

So you've offered the witness?

**MR. HEMANN:** As an expert in the titanium dioxide business and industry, Your Honor.

**THE COURT:** And you object?

**MR. GASNER:** We object, Your Honor.

**THE COURT:** The objection is overruled.

Ladies and gentlemen, at the end of the case I will give you an instruction about how you are to treat testimony of people such as this witness.

Bottom line is, you treat their testimony like you would any other witness. And it's you, as the triers of fact, the judges of the facts, who make the sole determinative of the credibility of a witness. And I'll give you all the rules that you will apply.

But right now you may proceed, Mr. Hemann.

**MR. HEMANN:** Thank you very much, Your Honor.

**DIRECT EXAMINATION (resumed)**

**BY MR. HEMANN:**

**Q.** I would like to talk -- first of all, let me ask you one question. These financial jobs that Mr. Gasner asked you about, in managing a company do you have to understand what the company makes and how it is made?

**A.** Yes.

**Q.** Do you feel like you developed that knowledge over the course of your career?

**A.** Yes.

**Q.** We've heard some descriptions, as this case has gone along, about the sulfate-route and the chloride-route processes. Are you familiar with the distinction between the two of those?

**A.** Yes.

**Q.** And could you describe, just for the jury, a little bit of general information regarding the historical ways in which TiO2 has been produced during the sulfate and then as it moved into chloride?

**A.** Sulfate process has been around a long, long time. It was the first process developed to produce titanium dioxide. It's, essentially, a batch process. You utilize sulphuric acid as a way of leaching out the titanium dioxide from the titanium barium ore, then calcine is then produced the titanium dioxide.

The chloride process was developed back in the 1940s and '50s. It was determined early on to be a much more efficient process in terms of it uses chlorine as a way of reacting with the titanium barium ore.

It's a closed-loop system so that the chlorine is recycled through the process. It can create a much tighter particle size distribution. It produces a particle of TiO2 that tends to be a brighter white. And it's preferred by the -- the more stringent applications, where you're looking for a true blue white or clean white.

So your iPods, any of the applications where you're looking for something that's a brilliant white, you tend to use chloride versus sulfate.

Sulfate still is a major component of global manufacturing. But chloride, during the '70s and '80s, was probably the biggest growth in terms of production. But since 1994, when the last chloride plant was built, most of the growth has been through sulfate. And that's because it's -- it's grown tremendously in China and other parts of Asia-Pacific.

**Q.** I was going to ask you, Mr. Gibney, sort of to that last point, is there a geographical -- can you make geographical generalities regarding the prominence of chloride versus sulfate processes?

**A.** Well, the United States is a hundred percent chloride

production today. All the largest TiO2 plants in the world for chloride process are in the United States.

In terms of sulfate, Western Europe, there's a large number of sulfate production facilities. And then the biggest growth has been in China. They, roughly, produce 1.5 million metric tons a year of TiO2, spread across roughly 50 different production facilities. Many of those are very small.

There's only a small number of small chloride process facilities that are attempting to ramp up.

**Q.** Why is that? What -- why is China predominantly sulfate?

**A.** Well, it was the technology that was readily available. It's easier to run. It's a batch process. You can make adjustments along the course of producing the material.

**Q.** Can I stop you. And if you could explain batch process versus --

**A.** Continuous process is the other. So chloride is a continuous process. So you're going from chlorination through oxidation and then into finishing in one continuous production of material.

Where sulfate, they'll have, in layman's terms, bats of sulphuric acid that are reacting with the titanium barium ore to leach out the ore. So it's more labor intensive.

And you also then have to deal with all the sulphuric acid waste, which in our case at Tronox and Kerr-McGee, at our Uerdingen, Germany facility, if you were to look at the

sulfuric acid regeneration or recycling facility, that plant was as big or bigger than the titanium dioxide facility itself.

**Q.** And that's costly, presumably?

**A.** Very costly.

**Q.** Has there been an effort in China to move from sulfate to chloride?

**A.** Yes. My understanding is the Chinese government, as part of their long-term planning, wants to transition the industry from sulfate over to chloride over the next five years.

**Q.** And how successful has China been to date in moving from a sulfate process to a chloride process?

**A.** They -- my understanding is they've -- they've had one or two very small operations they've been trying to ramp up for a number of years.

And it takes a long time to bring the chloride plant online. Our known experience in Kwinana, Western Australia, it took us five to six years to get that plant up and running to where it was producing quality material.

It's a long learning curve even for people that know how to produce the material via chloride process.

**Q.** Is there information available about the productivity or the efficiency of plants in China, both the chloride and the sulfate processes?

**A.** It's -- there are various reports by consulting firms. They've done projects over the years to be on the ground and

understand better the capacities and the production rates.

But it's not published by any -- any government entities that you can get your hands on.

**Q.** But you've reviewed some of these reports?

**A.** Yes.

**Q.** And what do they say with regard to the efficiencies of the plants in China?

**A.** The latest information that came out in the last year was that the industry itself is running at roughly 50 percent of design capacity.

**Q.** And what does that mean?

**A.** Well, you know, if you look at a chloride plant or a western sulfate plant in Europe, most of these plants you want to run them as efficiently as possible and as at high a capacity utilization rate as possible. So you would like to be between 88 and 95 percent of design capacity.

You're getting more bang for your buck, so to speak, through your equipment. By running at 50 percent, you're spreading high fixed costs across a smaller number of tons. So financially speaking, it's much less efficient.

**Q.** I would like to talk a little bit about the numbers in the TiO2 market. And, first of all, talk a little bit about the breakdown between sulfate and chloride in terms of worldwide production.

**A.** Okay. Roughly 55 percent of global production -- and

we're talking about a market of 6.3 to 6.5 million metric tons, about 55 percent of that would be sulfate today, 45 percent being chloride.

**Q.** And if you can do the math, tell me, you said 6.5 million metric tons annually?

**A.** Correct.

**Q.** And what is the value of that market then, roughly?

**A.** Well, it's -- if you attach $3,000 per metric ton, it's billions of dollars.

**Q.** Whatever 3,000 times 6.5 million is?

**A.** Correct.

**Q.** The -- so you said what percentage is -- 55 is sulfate?

**A.** Correct.

**Q.** So 45 percent of the worldwide market is chloride?

**A.** Correct.

**Q.** How does that break down -- who are the major players in the manufacturing industry, the chloride, now, manufacturing industry?

**A.** Well, the largest producer in the world is DuPont. They have roughly 18 to 19 percent global market share. They produce roughly 1.2 million metric tons. I should say they have a capacity of 1.2 million metric tons.

The second largest is going to be, here at the end of the first quarter, Huntsman, because of their acquisition of the Rockwood assets. They'll be number two, at roughly 13 percent

global market share.

Number three would be Cristal, Saudi Arabian-based producer; roughly 11 percent.

And then there's another three producers -- well, actually, two, now, with Huntsman acquiring Rockwood.

Then you have Kronos and Tronox, both at around 7 to 8 percent.

**Q.** And after those five, are there any smaller manufacturer -- chloride manufacturers?

**A.** There's Ishihara. They're a Japanese-based producer. There's a producer in India by the name of KMML. And then a number of smaller producers in Eastern Europe, as well as, obviously, China.

**Q.** Now, you mentioned a moment ago, I don't know exactly what words you used, output, perhaps, annual output. Is that a concept that you're familiar with?

**A.** Yes. You're talking about capacity?

**Q.** Capacity.

**A.** Okay, yes.

**Q.** And is there also data available with regard to daily capacity, daily output?

**A.** Well, so over time if you study the financials of the companies that are publicly disclosing on a quarterly basis their financials, you get -- you get a good understanding of the size of the production facilities that they're running.

And by that you can also determine, because of their past utilization that they disclose, how they're running each one of these facilities.

**Q.** And have you engaged in those sort of studies yourself?

**A.** Yes.

**Q.** What is DuPont's -- is the -- what does the word "throughput" mean?

**A.** So it's how efficient you are with your equipment, installed equipment.

So the way we in the industry look at throughput is, basically, your line hour rate through your oxidizer is oftentimes determined -- can determine how efficient you are at producing and how -- how cost effective you are at producing titanium dioxide.

**Q.** And how does DuPont's throughput compare to other chloride route manufacturers?

**A.** Well, they're heads and tails above the rest of the industry. They have line rates close to 20 tons per line hour, 18 to 20. Where Tronox, for instance, Kerr-McGee, the technology that we had was four-and-a-half tons per line hour.

**Q.** Are you familiar with a Cristal plant called Ashtabula?

**A.** Yes.

**Q.** What's the approximate throughput of Ashtabula as compared to DuPont's?

**A.** Well, they would be in the 7 to 8 tons per line hour.

**Q.** Now, what -- you mentioned that the throughput is a result of -- maximizing throughput is a result of what? How a company does certain things internally?

**A.** Well, it's the size of your oxidizer, it's the size of your chlorinators, it's your ability to maintain high pressure oxidation, all of these variables come into play to -- in order to get your line rates up to those numbers.

**Q.** As a -- as a long-time competitor of DuPont's at Kerr-McGee, were you able to see the technology that allowed DuPont to have a large oxidation process and chlorinator process and maximize the throughput the way that you described?

**A.** To see the technology?

**Q.** Yes.

**A.** No.

**Q.** Why not?

**A.** Well, they closely guarded it, obviously. Probably the only time we actually saw a piece of their technology, an oxidizer. So an oxidizer is basically -- it's -- you could call it a jet engine. But the material is injected at a very high velocity into a chamber to produce the particle of titanium dioxide in just a fraction of a second.

Our oxidizers in the Kerr-McGee technology are rather small. The diameter is small. And the length is restricted to a certain length that doesn't give Kerr-McGee the ability to produce at high rates.

An oxidizer from DuPont, it's roughly the size of that table. I mean, it's an enormous piece of equipment. The diameters are exponentially larger than what you would find with Kerr-McGee.

One of these oxidizers actually showed up at our facility by mistake in Hamilton, Mississippi one day. We saw it, but no one ran over to take the dimensions. We sent it on its way. But that's probably the only time that we've actually seen their technology.

**Q.** And whose mistake was that?

**A.** It was the -- it was the manufacturer that was rebuilding the lining of the -- of the -- of the reactor.

**Q.** But, otherwise, other than that one erroneous occasion, did you as a competitor of DuPont have access to, Mr. Gasner mentioned, PFDs for DuPont?

**A.** No.

**Q.** Did you have access to internal research -- R&D reports prepared by DuPont?

**A.** No.

**Q.** And did you have access to design data regarding DuPont's factories?

**A.** Not -- in terms of patents, we would obviously have access to that. But in terms of their internal designs, no.

**Q.** I want to talk to you about the idea of development of new capacity. And we've discussed that a little bit already.

Do you understand, generally, what I'm talking about?

**A.** Yes.

**Q.** And I want to ask you about the distinction between a brownfield and a greenfield facility. Do you understand that distinction?

**A.** Yes.

**Q.** Could you explain to the jury a little bit what the difference between a brownfield and a greenfield is?

**A.** Well, a greenfield is, essentially, a plant from the ground up. So you're essentially going in and creating a brand-new facility from, you know, essentially a green field of grass.

And those -- those facilities, the last one to be built was 1994, in terms of a chloride plant. They've expensive to put into the ground. It's upwards of $5,000 per metric ton of capital to be able to build that plant. So at a hundred thousand tons per year of capacity you're talking about half a billion dollars to build one of these facilities.

Since 1994, the chloride producers have tended to opt to do a brownfield expansion, where you take your existing plant and you just add on an additional line to -- to increase your capacity.

**Q.** Is it easier to build a brownfield or a greenfield plant?

**A.** Well, it's less expensive in terms of -- I don't know that it's easier, but you already have a lot of the infrastructure

in place; the power, the waste treatment. A lot of the infrastructure is already in place.

So it is cheaper. Tends to be 2500 to $3,500 per metric ton to do a brownfield expansion.

**Q.** You mentioned that the last one that was built was finished in 1994. What facility was that?

**A.** That was DuPont's Kuan Yin plant.

**Q.** And is there data available publicly as to exactly how DuPont built that plant internally?

**A.** No.

**Q.** Prior to the DuPont greenfield facility in Kuan Yin, what was the -- what were the greenfield facilities prior to that?

**A.** Well, there were ten plants built between 1986 and 1994. There was a big push amongst producers to both gain market share, as well as the late '80s was probably one of the all-time peaks in the industry in terms of pricing and profitability.

Kerr-McGee built the Western Australian facility; helped Cristal build the Janbu facility. Ishihara built the plant in Singapore.

(Reporter interrupts.)

**A.** The Kwinana, K-w-i-n-a-n-a, facility in Western Australia. And Janbu is J-a-n-b-u, Saudi Arabia. Ishihara in Singapore.

And there's the Lake Charles facility, between Kronos and Huntsman, a joint venture in Louisiana. And a few other plants

I can't recall now.

**Q.** And those are '80s and -- mostly '80s, correct --

**A.** Correct.

**Q.** -- early '90s?

**A.** Correct.

**Q.** Did any of those plants use DuPont technology?

**A.** No.

**Q.** Why not?

**A.** They were not licensing at that time.

**Q.** "They" meaning DuPont?

**A.** DuPont, correct.

**Q.** The growth that you mentioned in the industry, in terms of the growth in throughput, has that primarily been achieved over the last couple of decades in -- in greenfield facilities or in add-ons or improvements?

**A.** You mean since the early '90s?

**Q.** Since the early '90s.

**A.** It's been through brownfield mainly. Although, China has grown -- in 1990 they had less than 2 percent of global capacity. Today they're around 25 percent of global capacity. So that large increase has all been via sulfate; and much of that has been greenfield production facilities.

**Q.** So I'm focused now on chloride.

**A.** Okay.

**Q.** But I'll let you know if I have a sulfate question.

**A.** Okay.

**Q.** Thanks.

We talked a few minutes ago about whether chloride route manufacturers take steps to protect their -- their proprietary know-how. Do you remember talking, generally, about that?

**A.** Yes.

**Q.** Could you -- I think we'll talk a little bit more about that in a minute.

But is chloride -- is TiO2 a commodity?

**A.** No. It's not a commodity in the true sense of the word. In terms --

**Q.** Why don't you stop and explain what a commodity -- when you say "in the true sense of the word," what do you mean?

**A.** So if you look at true commodities out in the market, chlorine is a commodity; caustic soda; ethylene; gasoline that you put in your car. There's no distinction between manufacturer of the properties of the product. Every manufacturer produces the same type of material, so you can commingle.

When you put, for instance, gas in your car, you're not worrying that, well, I filled up at a Mobil gas station last week.

So it's different. You can commingle products. Manufacturers differentiate via price or service, not through performance of the grades.

**THE COURT:** Before we go on, let's take a stretch break.

**MR. HEMANN:** Sure, Your Honor. Thank you.

(Pause)

**THE COURT:** Everybody has returned. You may continue.

**MR. HEMANN:** Thank you, Your Honor.

**BY MR. HEMANN:**

**Q.** So we were talking about TiO2 as a noncommodity. I don't know, there's probably a better word for that.

But you said that TiO2 is not a commodity like gasoline?

**A.** Yeah, or like ethylene or chlorine or a caustic soda, that's correct.

**Q.** And why isn't it?

**A.** Each producer has grades that vary in terms of their performance.

So a Kerr-McGee/Tronox, for instance, would have a grade by the name of 828CR, or chloride rutile 828. Or CR826 is their newer version of the grade. It would compete head to head with, let's say, a DuPont R706.

So these are all the brand names or the designations of the grade. But you can't commingle those two grades in the same vat to mix up paint, for instance, for a Sherwin-Williams.

Sherwin-Williams, as a customer, they'll specify a Tronox in a certain formulation. And DuPont may be in the same formulation but at a different facility because they have to

mix it with other ingredients at a different level, and put other ingredients in to maximize their performance. So each grade is tailored separately.

So in that respect, we used to call it a differentiated product rather than a commodity.

**Q.** And do TiO2 manufacturers like the fact, from a profitability standpoint, that it is a differentiated product rather than a commodity?

**A.** Yes. If it was a true commodity, then pricing would be, probably, lower in terms of where it is today. You wouldn't have technical sales and service representatives working hand in hand with customers. So there's a value associated with producing or tailoring grades for certain applications so the customers are then willing to pay for that, that added performance.

**Q.** Does -- does protection of proprietary information or know-how by each of the manufacturers help keep TiO2 from becoming a commodity?

**A.** Yes.

**Q.** How so?

**A.** Well, if we -- if we were all producing TiO2 using exactly the same equipment, the same throughputs, there would be a very little cost differential between the producers. The grades would be the same; and, therefore, no designation or distinction between the producers. And you wouldn't see large

variances in terms of profitability by producer either.

And, typically, it would then strictly be a matter of your scale rather than your performance or your ability to produce the product efficiently.

**Q.** And do you see large variances in profitability between producers?

**A.** Yes.

**Q.** Describe for the jury what those variances are.

**A.** Well, you'll have -- there's a whole parade of -- every plant around the world, if you rank it by profitability, there's -- there's wide-ranging divergences.

DuPont -- for instance, DuPont and, I believe, Sichuan Lomon, who is a sulfate manufacturer in China, have the most efficient plants. They would be considered top tier.

So the New Johnsonville facility for DuPont, DeLisle, Mississippi, their Altamira plant, the Sichuan Lomon plant, those would be, probably, the top four or five lowest-cost production facilities.

And then if you looked at the bottom end of the scale, or the top end in terms of costs per ton to produce, your smaller sulfate plants would be the more inefficient. And some of your small chloride facilities, depending on the ore feedstock that they're using, will, you know, have costs sometimes double what you would find in the most efficient plants.

**Q.** So if you were looking to build a new -- a greenfield TiO2

plant, you would look for the most efficient technology rather than the least efficient technology?

**A.** Yes.

**Q.** And, as you mentioned, part of that has to do with -- part of that explains why people try to get their secrets, correct?

**A.** Correct.

**Q.** How do chloride companies -- what sort of steps do they take to protect their trade secrets or proprietary information?

**A.** Well, each year we would have all of our employees sign a code of conduct. So when you're hired as a new employee, you have to sign a confidentiality agreement as part of the code of conduct. And then each year we require employees to sign that again, just to reiterate the fact that information that is obtained while they work at the company is to be kept confidential.

We also would stamp documents with "confidential" on the document itself. There would be internal controls, which departments had access to which information. You know, on that.

**Q.** Would there be physical security around the plants and the plant equipment?

**A.** Yes. We would not allow cell phones or cameras into the facilities. We would -- there's security at the entrance. Materials can't be taken out.

**Q.** Are certain documents within the company, within a

chloride manufacturer, held more closely than other documents?
**A.** Yes. I mean, your proprietary technology you're going to hold that in a secure facility and limit access to it, yes.
**Q.** You've looked at a number of documents that are involved in this case, and in particular PFDs, Basic Data documents, and an R&D report; correct?
**A.** Yes.
**Q.** Did Kerr-McGee Tronox have those same kinds of information?
**A.** Yes.
**Q.** And did Kerr-McGee hold those closely and --
**MR. FROELICH:** I'm going to object to what Kerr-McGee did, Your Honor.
**THE COURT:** Overruled.
**BY MR. HEMANN:**
**Q.** -- and take steps to protect that kind of information?
**A.** Yes.
**Q.** And as a competitor of DuPont's and other major manufacturers, did those manufacturers take steps to protect that kind of information?
**A.** I didn't work for, you know, a company outside of Kerr-McGee; but I would assume they did, yes.
**Q.** Well, let me ask you this: At Kerr-McGee do you recall ever getting access to one of those internal documents from another company?

**A.** No.

**Q.** Do you ever remember any R&D folks or engineers within Kerr-McGee sharing with you, or with the other executives, that they had obtained that kind of information?

**A.** No.

**Q.** In the technical reviews where you talked about Kerr-McGee's technology and other companies' technology, did you ever talk about that kind of information being available?

**A.** No.

**Q.** I want to switch gears a little bit and talk about licensing. Are you familiar with the practice of licensing technology?

**A.** Yes.

**Q.** And how did you become familiar with technology licensing?

**A.** Kerr-McGee was the largest licenser of technology in the industry. We licensed the KMML facility in India. We licensed Ishihara to build chloride facilities in our technology. We licensed Cristal to build their facility in Janbu, Saudi Arabia. So we've licensed -- we licensed Kimera to build the facility in Botlek, Netherlands, and Savannah, Georgia, that we eventually bought back. So we licensed a number of facilities in the 1980s, early '90s.

**Q.** In the 1980s and early '90s?

**A.** Correct.

**Q.** And I want to ask you about a couple other examples of

licensing. Did DuPont ever license any of its technology?
**A.** I believe they did.
**Q.** And what was that?
**A.** A chloride facility for Sherwin-Williams.
**Q.** And do you remember, roughly, when that was?
**A.** I think this was back in the '70s.
**Q.** And at that point in time Sherwin-Williams -- or at this point -- but Sherwin-Williams is a paint manufacturer?
**A.** Yes.
**Q.** And, so, why would a company license chloride technology to a paint manufacturer?
**A.** Back in the -- back in the '60s and '70s, a number of the paint companies were vertically integrated with a -- they were manufacturing their own titanium dioxide as well as paint.
**Q.** So you said "vertically integrated," which I'm not sure I completely understand. So could you explain that a little bit?
**A.** Sure. If you vertically integrate, so you obtain your raw material through your own company. So you produce your own titanium barium ore, for instance, is now a trend at Tronox. We bought the Exarro Mineral Sands operation in South Africa to actually go out and mine and beneficiate the ore that we use to make titanium dioxide.

Another option would be to then go beyond titanium dioxide and vertically integrate up the value chain and go into producing the paint and coating itself.

And, like I said, at one time Glidden and Sherwin-Williams and others, not only did they produce the paint, but they obtained their raw material titanium dioxide through their own operations.

**Q.** Sherwin-Williams was one. Was PPG one?

**A.** Yes. Yeah, they developed technology as well.

**Q.** And we'll get to this in a moment. Did PPG ever actually produce its own titanium dioxide?

**A.** I don't know that they actually were successful in building plants and operating them, but they do have chloride technology.

**Q.** So you mentioned, as part of this vertical integration effort, Sherwin-Williams acquired a DuPont plant in Ashtabula?

**A.** Uh-huh, correct.

**Q.** And that's the 7 tons per hour throughput plant that you discussed earlier?

**A.** There's two plants there. There's Ashtabula 1 and Ashtabula 2. Ashtabula 1 is the smaller of the two. It's just over a hundred thousand tons of capacity. Ashtabula 2, I believe, is around 120,000 tons. One has two lines in operation and the other one, I believe, has one line; but, roughly, 7 -- 7 tons per line item.

**Q.** Ashtabula 1 was the Sherwin-Williams plant?

**A.** I believe that's correct, yes.

**Q.** Now, there was some sales and then consolidation within

the TiO2 industry that eventually related to that plant; correct?

**A.** Yes.

**Q.** What happened in terms of the ownership of that plant from Sherwin-Williams?

**A.** Well, it went through a number of changes over the years. SCM purchased the facility at some point. It became Millennium. Later on Lyondell bought Millennium, and then Lyondell eventually sold the Millennium TiO2 business to Cristal.

**Q.** So you have SCM, Lyondell, Millennium, and then Cristal?

**A.** Yes.

**Q.** Have any of those companies been engaged in the licensing of their TiO2 technology?

**A.** Not that I'm aware of, no.

**Q.** And currently Cristal, does it license its technology?

**A.** No.

**Q.** Is, to the best of your knowledge, the design of the Ashtabula oxidation reactor -- the oxidation -- sorry, the Ashtabula process available publicly?

**A.** No.

**Q.** You mentioned that Kerr-McGee was active in licensing its technology up to the early '90s; correct?

**A.** Correct.

**Q.** And why was Kerr-McGee engaged so late in the game in

licensing its technology?

**A.** Well, Kerr-McGee being primarily an oil and gas company, when they would go out to explore for oil and gas in the Gulf of Mexico, for instance, it's common practice for oil and gas companies to spread the risk and, so, they will partner with firms in drilling for oil, for instance.

So they felt that that type of strategy would also work in the chemical business. So they partnered with Cristal in Saudi Arabia, they partnered with a company in western Australia to develop a mine, and then they helped by contributing the chloride technology to the joint venture.

So the joint ventures were part of the corporate strategy. They then entered into licensing agreements with Ishihara and KMML in India.

**Q.** So Cristal licensed technology from Kerr-McGee?

**A.** Yes.

**Q.** And when was that?

**A.** The plant was built -- I think it came online in 1991. So this was middle '80s, '86-'87.

**Q.** So in the middle '80s, was Kerr-McGee technology on par with DuPont's technology?

**A.** No.

**Q.** So why did Cristal license DuPont -- Kerr-McGee's technology rather than DuPont's technology?

**A.** I believe Kerr-McGee was really the only license --

company willing to license the technology at that time.

**Q.** Are there any chloride projects, chloride-route projects, under way in China right now?

**A.** I believe there are, yes.

**Q.** And are you familiar with a company called Henan Billions?

**A.** Yes.

**Q.** Is Henan Billions, to your knowledge, involved in a chloride-route project right now?

**A.** Yes. They are building a plant currently with the help of -- PPG is licensing their technology, and I believe a company by the name of TiCons is also assisting in the project.

**Q.** And you mentioned PPG earlier. Are you aware of any other plant in the world that is using PPG technology for chloride?

**A.** No, I'm not.

**Q.** Why is Henan Billions using PPG technology instead of Cristal technology?

**A.** Well, I think they had a relationship with PPG, and PPG was willing to try and help them. And PPG's goal is to try and create further competition in the TiO2 industry. It will help them in procuring their titanium dioxide.

**Q.** Is DuPont technology available to Henan Billions?

**A.** No.

**Q.** You reviewed some correspondence written by Walter Liew regarding his efforts to sell technology to companies in China; correct?

**A.** Yes.

**Q.** And you've reviewed some PowerPoint presentations prepared by Mr. Liew?

**A.** Yes.

**Q.** Do you recall an assertion by Mr. Liew that he had the entire DuPont chloride-route technology?

**A.** Yes.

**Q.** Do you have an opinion, as an expert in the business, Mr. Gibney, as to whether Mr. Liew could have the entire chloride-route technology?

**A.** I think it would be highly unlikely that a small firm could obtain all of that through public-available information.

**Q.** The technology that you've been describing is, relative to things like iPhones and electronic devices, old; wouldn't you say?

**A.** Sorry. Old?

**Q.** Old. I mean, the chloride-route technology is, relative to some modern conveniences, an older technology; correct?

**A.** Yes, that's correct.

**Q.** Okay. And has the technology changed much over the last sort of 20 or 25 years?

**A.** No. I mean, it's essentially -- chloride technology is still essentially what it was. You know, incremental changes have been made over the years.

Each manufacturer -- at Tronox, for instance, every year

we would try and improve our micronization, for instance. We would, perhaps, change the ceramic lining; the lining, for instance, of chlorinators. You know, every year you get more knowledge, more information about how you can extend the life of your chlorinator. Your oxidation, you try and increase your line rate per hour by making changes to it.

So over time, since early '90s, yes, we've made improvements, but they've been incremental steps. No major change to the technology has occurred.

**Q.** And, so, these incremental steps, do they fall into the category of know-how?

**A.** Yes.

**Q.** And is that know-how valuable?

**A.** Yes, tremendously.

**Q.** How so?

**A.** Well, at Tronox by having three facilities that were relatively the same in terms of construction, if one plant changed, as I said before -- let's take, for instance, the micronizer. So a micronizer is essentially a high-velocity steam -- I'm trying to put it in terms that makes it easy to understand. But the pigment is injected into a circular tube that essentially grinds -- or grinds the material back up into individual particles instead of it all being agglomerated.

So the micronizer is critical because it tends to clog. It can reduce your throughput. So the more efficient you are

at grinding the pigment and getting the pigment through the micronizer, the better your performance in terms of production.

Each plant would make improvements over the course of time to the micronizer design. We would then translate that or take that knowledge across the other plants, and they would incorporate the small incremental changes.

But, you know, you're always looking. It's not, "Can we get 10 percent more?" These are small incremental steps; but over the course of 365 days, if you can get 1 or 2 percent out of a, you know, hundred-thousand-ton-per-year plant, that's a big step change and it's a lot of money to the bottom line.

**Q.** And are things like, that sound sort of routine, like maintenance and material selection and, you know, pipe specifications important to making those incremental changes and improve efficiency?

**A.** Yes.

**Q.** How so?

**A.** Well, it's just -- like, for instance, if you take the chlorinator, now, the chlorinator you're reacting chlorine with the titanium barium ore to produce titanium tetrachloride or TiCl. The life of the chlorinator is critical because it costs you a half a million dollars to rebuild it, and there's downtime associated with that chlorinator failing.

So you try and stretch out the time between rebuilds as far as you can, and a lot of that is determined by how the

bricks are laid on the inside of the chlorinator, the type of brick that you procure, how the -- how the bricks are put in place around the exits from the chlorinator; and this type of information is tightly held within the producers.

**Q.** And just to step back on that, the chlorinator, why don't you describe, without going into any specific details, the bricks and the chlorinator and how they sort of -- where the bricks are and where the -- how the chlorinator works with the bricks?

**A.** So the chlorinator essentially is a vertical, large tank. It has a lining on the inside of, basically, firebricks. Because you're running the chlorinator at a very high temperature in order to react the chlorine with the titanium barium ore, so these bricks have to maintain their stability over a long period of time.

Titanium barium ore is essentially a sand. It's very aggressive on the inside of the chlorinator. The fluidized bed at the bottom of the chlorinator, there's a lot of turbulence created by injecting the chlorine gas up through the ore. That turbulence then causes issues against the brick.

So it's a highly corrosive environment. There's pressure. There's high heat. So your ability to have the bricks installed in a certain way, a certain type of materials that are used to adhere the brick to the inside of the lining, all of these things come into play; and they're all -- each year,

Tronox for instance, we would try out various designs at each plant. And if we found that it helped get one or two or three more months out of a chlorinator's life, we would then translate that across the other facilities. So that knowledge would be shared.

**Q.** And that falls into the category of maintenance expenditures?

**A.** Yes.

**Q.** You've looked at, as part of your job, some, pursuant to your confidentiality agreement, some DuPont internal documents; correct?

**A.** Correct.

**MR. HEMANN:** And I'm referring to the R&D report that's Exhibit 162, which I'm showing to the witness, Your Honor --

**THE COURT:** All right.

**MR. HEMANN:** -- the Basic Data Document, which is 161, which I'm showing to the witness; and a couple of process flow diagrams, which are Exhibits 1 and 7.

**Q.** Do you remember looking at these documents?

**A.** I do.

**Q.** Did you see information contained in this document that would give DuPont an advantage in terms of maintaining a low maintenance spend?

**A.** Yes. It's -- their throughput -- and if you just look at

their facilities, at DeLisle, Mississippi, they're producing over 300,000 tons per year via two production lines or oxidation lines. Tronox, with 225,000 tons a year production, I believe they have six production lines.

So you're just more efficient. You have less steel installed in the ground, less equipment to maintain. So you're just inherently more efficient, especially on maintenance costs.

**Q.** Now, do you recall seeing some unique, and I very well understand that you're not an engineer, do you remember seeing anything in here -- anything in these documents that you found to be unusual or unique?

**A.** Yeah. It was, you know, a fascinating exercise for me to be able to see how DuPont does go about producing their material.

**Q.** And had you actually, in conversations with R&D people and engineers at Tronox and Kerr-McGee, studied or attempted to study how DuPont was doing things?

**A.** Well, we -- we -- so Kerr-McGee's technology, and it's common knowledge, it's a low-pressure oxidation. So it's an ambient pressure or atmospheric pressure.

**Q.** And you're going to have to describe what "ambient" means, "ambient pressure."

**A.** It's the pressure we're all feeling right now in terms of the atmosphere at -- you know, right now. I don't know what

the -- but it's just the ambient pressure that's in the room right now.

So if you were to put pressure into a vessel, for instance when you get into an aircraft, they pressurize the cabin, it's the same type of principle. So for DuPont, as well as some other producers, they oxidize at high pressure, so it produces higher velocity and higher line rates.

At Tronox we were not able to achieve high-pressure oxidation; and we attempted for a five-year period of time, I believe it was between 2002 and 2007, to achieve high-pressure oxidation, we called it Hipol, and failed at that. And we eventually had to write down the investment, I believe, in 2007 or 2008.

**Q.** Of how much?

**A.** Roughly $25 million.

**Q.** And did you see information in these documents regarding high-pressure oxidation?

**A.** Yes. They -- yes.

**Q.** Did you also study with folks at Tronox DuPont's flue pond arrangement?

**A.** Well, we would -- we would look at it via Google Earth; and our plant manager at Hamilton showed me one day, he said, "You know, do you want to see DuPont's DeLisle flue pond?" And I said, "Sure." So he pulled up Google Earth, and we took a look at it.

Kerr-McGee didn't utilize a flue pond. We utilized a cooling tube. Essentially it would run roughly, you know, from here (indicating) to that wall, and it would be water-jacketed; and we would cool down the titanium dioxide as it went through the reactor and down the cooling tube before it went into a sand separator.

DuPont, on the other hand, they immediately go into a pond and serpentine the pipe, so to speak, and get more resonance time or time within the cooling pond. So their throughput, that's one of the ways in which they can get such high velocities and high throughput through oxidation.

**Q.** And did you see things in some of this information that wasn't ascertainable through Google Earth?

**A.** Yeah. If you've got all the dimensions, you know, the diameters, I mean, you can look at it from Google Earth and say, "Okay. It is a serpentine." And you can -- in the new Google Earth that has come out in the last year or two, you can actually, you know, draw the line and get the length of each tube; but you don't know the diameter, you don't know the pressure, all the variables that would go into that line.

**Q.** Now, beyond specifics with regard to these documents, do they have value as conglomerations or compilations?

**A.** Yes.

**Q.** And what is the value as a compilation of information?

**A.** Well, I mean, you can go out and get certain pieces of

technology via patents, for instance, but that's just one piece of the puzzle. It's essentially, you know, the world's largest jigsaw puzzle you're trying to put together, and that's all in one place and one compilation of all their -- of all their equipment and all their data.

**Q.** As a businessperson managing a group of employees to build or design either a line or a new product or a new project, would it be helpful to give them something like this rather than asking them to go out and figure out each component part?

**A.** Yes.

**Q.** Why so?

**A.** Obviously it saves time and provides one document to go to to make sure everyone's on the, quote/unquote, the same page when going out to construct a facility.

**Q.** And would it take some level of expertise to create these kind of compilations?

**A.** Yes.

**Q.** And is that -- could you describe for the jury how readily available that kind of expertise, particular to the DuPont project, is available in the market?

**A.** I think it's very -- it would be very difficult to pull that type of data from the public market.

**Q.** And why is that?

**A.** DuPont, as well as Tronox and the other producers, we try and control access to our technology and not divulge it.

**Q.** What about people capable of putting together information like this, is it -- are those people readily available in the market?

**A.** No. I would believe no. The answer would be no.

**Q.** Why not?

**A.** Well, to have that type of knowledge in one person would be incredibly difficult to find. I mean, typically a document like that would be compiled by a large team of process engineers and people with extensive experience in the process.

**Q.** And sort of to that point -- do you need some water, Mr. Gibney? I don't know if there's....

**THE CLERK:** There is.

**MR. HEMANN:** Okay. Thank you.

**Q.** To that point, when a chloride manufacturer goes about putting together either a new line or a new product, can you describe a little bit about how that would be done?

**A.** I'm sorry. Can you repeat the question?

**Q.** When a chloride manufacturer decides to add a new line or to build a greenfield project, how would that process be done?

**A.** Well, you'd start with your initial feasibility study. You would, you know, look at the potential cost, the equipment necessary to build that plant. You'd have to submit a detailed study, get capital expenditure approval.

Once that's approved, then you would go into the engineering procurement and construction and predesign phases

where you would provide -- or go out and put a bid out for an engineering firm to help you with pre-engineering design, EPC or engineering procurement construction, and then you would go into the construction phase.

**Q.** In terms of numbers of people that would need to be involved, can you generally describe that?

**A.** In the past we would put together a team of engineers. Typically, you know, at Hamilton, Mississippi, for instance, we'd have a team of eight to ten plant engineers that we would basically secund or pull away from their day-to-day jobs, and they would have the responsibility for putting all of that information together.

**Q.** And what sort of people by profession would be on this team?

**A.** These would be your, you know, your most well-respected plant engineers. You'd have someone representing from the technology group, at least one or two people from the research and development. You'd have someone from your business development or your finance group to run all the numbers in terms of getting the capital expenditures approved. Someone from the sales and marketing in terms of looking out at how you're going to place those additional tons into the market. So it's a combination of a lot of different skill sets.

**Q.** Within the engineering group, what sort of disciplines would be required?

**A.** Well, you'd need a wide variety. You'd need electrical engineers, chemical engineers. If you're going to be doing some -- some vertical integration like we did, you need someone with some experience on the metallurgical side also. So there's a whole host of different disciplines you would need.

**MR. HEMANN:** Your Honor, I'm about to go into a different area. I wonder if the Court wants to use this opportunity.

**THE COURT:** Yes, we'll use this opportunity to take a break.

We're going to take our first 15-minute break. Remember the Court's usual admonitions to keep an open mind and don't discuss the case and don't obtain outside information. Fifteen-minute break.

(Proceedings were heard out of the presence of the jury:)

**THE COURT:** All right. 15 minutes.

**MR. HEMANN:** Thank you, Your Honor.

(Recess taken at 9:41 a.m.)

(Proceedings resumed at 9:59 a.m.)

(Proceedings were heard out of the presence of the jury:)

**THE COURT:** Please bring in the jury.

(Proceedings were heard in the presence of the jury:)

**THE COURT:** Please be seated.

You may continue.

**MR. HEMANN:** Thank you, Your Honor. I just have a

little bit left to go.

**Q.** You mentioned about the early stages of a design process as we were breaking off. Do you remember that?

**A.** Yes.

**Q.** And approximately, you said, about eight to ten people would be involved in that design process?

**A.** It depends on the size of the project but typically, yes, we would pull together a small team like that.

**Q.** And would the people on the team be people who had TiO2 experience?

**A.** Yes.

**Q.** Why is that?

**A.** For a greenfield, if you're going to spend a half a billion dollars, you're going to want to have your best people secunded to the team in order to get the most knowledge and the best chance of success in terms of the design.

**Q.** And could you give the jury some idea of the relative complexity of a TiO2 design?

**A.** Producing TiO2 is regarded as one of the more difficult processes to maintain, especially the chloride process. You have, you know, high-pressure chlorine gas in your process. It's lethal. You know, the chances of serious injury or death at these facilities is quite high, so you have to maintain a high level of safety and safety practices within the facility.

On a scale of 1 to 10, 10 being the most difficult,

cyanide is regarded as being probably the most difficult to maintain. TiO2 is probably a 9 right below it.

**Q.** And are these, these complexity factors and safety factors, things that need to be taken into account in the design phase?

**A.** Yes.

**Q.** Would you need -- and, by the way, how long a process, a turnaround process, are we talking about in terms of from the beginning of a design to the actual operation of the facility with this group of experienced people?

**A.** Well, for a greenfield, you're talking about five to six years. For a brownfield, it's about three.

**Q.** Would you need chemical engineers involved in that process?

**A.** Yes.

**Q.** Why is that?

**A.** Well, it's a highly complex chemical reaction throughout the process. At Tronox all of our plant management -- highest level engineers in the plant were all chemis.

**Q.** The documents that we talked about earlier -- just for the record Exhibits 1, 7, 161, 162 -- do these contain documents that relate to the expertise of -- or do these contain information that relate to the expertise of a chemical engineer?

**A.** Yes.

**Q.** And how so?

**A.** Well, there's, you know, flow and -- there's flow dynamics. There's pressure. There's temperature. There were, you know, reaction time, resonance time in the reaction zone. All of those issues would be related to chemical engineering.

**Q.** We talked a little while ago at the beginning of today about your human resources and operations management experience at Tronox. Do you recall that?

**A.** Yes.

**Q.** And were there occasions during the times you had those responsibilities, and at other times at Tronox, that the company hired employees from other chloride manufacturers, including DuPont?

**A.** Yes.

**Q.** And were there times that your employees would go leave and work for other chloride manufacturers?

**A.** Yes.

**Q.** Did you become familiar with the restrictions on that sort of movement?

**A.** In terms of restrictions, you're talking about like a confidentiality restriction or a --

**Q.** Both confidentiality, and are you familiar with the term "noncompete clauses"?

**A.** Yes.

**Q.** So restrictions on the ability of somebody to actually

make that move and, in addition, restrictions on their ability to use information gleaned from one place and another.

**A.** Correct.

**Q.** And did you become familiar with those practices while you were at Kerr-McGee?

**A.** Yes. Well, and at Tronox, especially in the human resources side, I was responsible for executing and reviewing employment agreements and contracts with key employees.

**Q.** And were there sort of, in terms of the noncompete aspect of it, the ability to go work for another employer, were there differences between groups of employees at the company as to their ability to go work for somebody else, a competitor?

**A.** Yes. And oftentimes a noncompete has, you know, a definite period of time. I -- for instance, when I left Tronox, I had a one-year noncompete agreement.

**Q.** And was that as a result of a contract that you had with Tronox?

**A.** Yes.

**Q.** For employees who are not under contract, did they have the same sort of noncompete restrictions?

**A.** No.

**Q.** Would employees be able to freely leave a DuPont and go work for a Tronox in terms of getting a paycheck?

**A.** Yes.

**Q.** Did you ever recall hearing about any sort of five-year or

definitive time restrictions on such employees before they could go work for a potential competitor or a competitor?

**A.** Five-year, no.

**Q.** Any time frames for noncontract employees?

**A.** No.

**Q.** Now, is the idea of a noncompete different than the idea of restrictions on the kinds of information that you're able to use when you leave one employer and go to another?

**A.** Yes. I mean, confidentiality agreement, you're bound to not divulge confidential information for the remainder of your career no matter where you go.

**Q.** And does that include information that's in a physical form, information actually obtained, paperwork, reports, blueprints, things like that?

**A.** Yes.

**Q.** Does it also include things that you have in your head?

**A.** Yes.

**Q.** How so?

**A.** Well, you know, if you, over the course of your work at a company, have developed knowledge of confidential information, whether or not it's on paper or not, you can't divulge that.

**Q.** And without going into the specifics of it, did you have direct experience with that as an executive at Tronox?

**A.** Yes.

**MR. HEMANN:** Can I have one moment, Your Honor?

**THE COURT:** Sure.

(Pause in proceedings.)

**MR. HEMANN:** Your Honor, we have no further questions for Mr. Gibney at this time.

**THE COURT:** All right. Very well.

Mr. Gasner.

**MR. GASNER:** Thank you, Your Honor.

(Pause in proceedings.)

**CROSS-EXAMINATION**

**BY MR. GASNER:**

**Q.** Good morning again, Mr. Gibney.

**A.** Good morning.

**Q.** The chloride-route technology has been around for sometime; true?

**A.** True.

**Q.** DuPont pioneered it in the 1940s and 1950s; is that right?

**A.** That's correct.

**Q.** There are many aspects of that technology that are common among all chloride-route manufacturers; true?

**A.** Yeah. I mean, there's chlorination, oxidation, finishing, yes.

**Q.** Everybody's got to have a way of moving the ore into the facility; right?

**A.** Correct.

**Q.** Everybody's got to have a chlorinator?

**A.** Correct.

**Q.** The chlorinator often has bricks on the inside; true?

**A.** Yes. True.

**Q.** Exclusively?

**A.** Exclusively, I believe that's true. I'm not aware of any other way to insulate the inside of a chlorinator.

**Q.** Those bricks are often made out of ceramic materials that withstand corrosion?

**A.** Yes.

**Q.** There are companies, like Thermal Ceramics is a consulting company that gives advice on exactly how to line a chlorinator; true?

**A.** I believe that's correct.

**Q.** DuPont uses them?

**A.** That, I don't know.

**Q.** They are open, though, to Tronox and others to use as well; right?

**A.** True.

**Q.** So in this enormous jigsaw puzzle, as you described it, of a titanium dioxide facility, there are many, many highly specialized areas of expertise in which outside consultants and vendors are often used; right?

**A.** True.

**Q.** You mentioned micronizers as being important. Sturtevant is a company that makes great micronizers; true?

**A.** True.

**Q.** And there's no point in Tronox or Kronos, or any of these companies, in reinventing the wheel by designing their own micronizer when they can just get the state of the art from Sturtevant; true?

**A.** Well, when you say "state of the art," we would buy our micronizers from the same company; however, we would have certain specifications even by plant, as I said earlier. For instance, Kwinana developed a better ceramic lining that they then contracted to have installed in that micronizer. So there are variations to it.

**Q.** Fair enough. There are commonalities and there are variations; right?

**A.** Correct.

**Q.** And everybody in the industry can go to a company like Sturtevant and give them their specifications and get slightly different micronizers; true?

**A.** True.

**Q.** So the devil's in the details as to what's common and what is unique?

**A.** True.

**Q.** Oxidizers, for example, everybody -- you have to have an oxidizer to have titanium dioxide; right?

**A.** Chloride titanium dioxide.

**Q.** Chloride route.

**A.** Yes.

**Q.** Okay. And you mentioned that Tronox uses a low-pressure oxidizer; right?

**A.** Correct.

**Q.** There are a number of manufacturers that use high-pressure oxidizers; true?

**A.** That's true.

**Q.** In fact, in addition to DuPont, Kronos uses high pressure; right?

**A.** They do.

**Q.** What other companies use the high-pressure oxidizer?

**A.** I believe that -- well, Kronos -- so there's a joint venture between Kronos and Huntsman, but it's essentially the Kronos technology. Cristal uses high-pressure oxidation at their facilities, other than Janbu, which is the current new technology.

**Q.** So even within oxidizers, you've got to get increasingly specific to identify unique qualities between the manufacturers; right?

**A.** Correct.

**Q.** Do you know of a manufacturer in China called Jinzhou?

**A.** Yes.

**Q.** Do you know that they have a high-pressure oxidizer?

**A.** I didn't know it was high pressure.

**Q.** And in terms of other aspects of the chloride-route

technology, there are certain things that everybody knows about DuPont; right?

**A.** I'm sorry. Repeat the question.

**Q.** Well, let me give you an example. You mentioned that you and a colleague looked at Google Earth and saw that there was a flue pond at one of the DuPont plants; right?

**A.** Right.

**Q.** So the concept of having a flue pond with a serpentine structure in it is readily knowable by anybody with access to Google Earth; true?

**A.** True.

**Q.** The devil's in the details exactly how to do the bends and all of that; right?

**A.** That's exactly right. Because just to have a bend, in Tronox technology you couldn't have a bend in your flue pipe because they didn't know how to keep the scouring in that pipe, otherwise they would have done the same thing and done some serpentines to increase the cooling length of the tube.

**Q.** Okay. So there's a particular aspect of a flue pond with a serpentine bend that Tronox had trouble executing --

**A.** Correct.

**Q.** -- fair?

**A.** Fair.

**Q.** But the idea of having a flue pond with a serpentine thing in it for the hot particles to go through, nothing secret about

that; right?

**A.** Well, in terms of knowing that it's serpentine, that's not a secret. You can see that, that's true.

**Q.** Okay. Now, you mentioned several times during your testimony what you called "DuPont technology." Do you remember using that phrase with Mr. Hemann?

**A.** I don't recall using that exact phrase, but I'm sure I probably used it.

**Q.** And before you undertook this engagement for the Government as an expert, you had some sense, in the course of your career, of what DuPont did in titanium dioxide in terms of its technology; right?

**A.** Yeah. We knew generally they were able to use low-grade ores where we couldn't. We knew that they were using high-pressure oxidation. We tried and failed to do it.

So there were aspects that, you know, we knew they were more efficient in how they produced titanium dioxide, and we would have loved to have figured out exactly how they did it.

**Q.** Okay. But at Tronox, while you were there, you had a pretty good idea of how DuPont generally went about doing things. It was the details you didn't know; right?

**A.** Correct.

**Q.** And there would be nothing wrong with trying to replicate what you knew was DuPont's way of doing things if you could do it yourself?

**A.** Nothing wrong? Well, if it was publicly available through means, then, yes. I mean, our -- that's what you expect your research and development group to do, is come up with new and more efficient ways to do it.

**Q.** Before you undertook this engagement and you had some sense, Mr. Gibney, of what the DuPont technology was from your study of the industry, what, in addition to high-pressure oxidation, low-grade ore, use of a flue pond, what were the other general things that you knew that you would put under the umbrella of the DuPont way of doing things?

**A.** Well, we knew that their ability to finish the TiO2 was better than ours. The quality of DuPont's pigment -- if you go to a paint company and you watch Tronox's titanium dioxide being dispersed in a resin base versus a DuPont, it takes longer for the Tronox material to wet-in than DuPont's. So DuPont's material disperses better. It's more efficient. It tends to have better ten strength, better gloss. So we were always trying to make up that difference, but we didn't know exactly how they were able to do that.

**Q.** So it sounds like, as a salesman, you lost some deals to DuPont?

**A.** Yes.

**Q.** Okay. But exactly the relationship between dispersion in the resin and what they did in the plant, there's a big gap between those two; fair to say?

**A.** A big gap? Actually they're related to each other.

**Q.** Okay. And did you ever figure out what the relationship was, why their paint -- their TiO2 dispersed better than yours?

**A.** We have theories but we didn't know exactly, no.

**Q.** Now, you talked about differentiated -- before I get to that, let me ask you another thing.

In the materials you looked at, you saw some emails between Mr. Liew and Mr. Maegerle and others as part of your preparation; true?

**A.** Yes.

**Q.** You never, though, studied the final plans that USAPTI delivered to the Jinzhou project, though; did you?

**A.** I don't believe I did.

**Q.** And you never studied the actual plans that were finally done for the 100K project for Pangang; did you?

**A.** No.

**Q.** So in terms of this devil-in-the-details point, you can't say whether the USAPTI designs, either the 100K or the 30K, are different than what DuPont does; true?

**A.** True.

**Q.** In fact, you don't even know sitting here today what DuPont does today; right?

**A.** Not specifically, no.

**Q.** You looked at these -- the same poster the Government has shown a lot, which is from 1993; right?

**A.** Correct.

**Q.** And you never even compared this to what USAPTI finally did for its Chinese customers; true?

**A.** True.

**Q.** Okay. You also talked a lot with Mr. Hemann about the differentiated product that the titanium dioxide manufacturers come up with. Do you recall that?

**A.** Yes.

**Q.** And if I understood you correctly, and I'm not sure I got this entirely, there's something about price efficiency that you thought gave them a technology advantage? Can you explain that again?

**A.** In terms of giving who a technology advantage?

**Q.** DuPont.

**A.** DuPont? DuPont typically, if -- on the sales side of the business over time, we've noticed they typically are able to get a higher price for their material than the competition because of the performance of their products.

**Q.** That was your experience?

**A.** Yes.

**Q.** And you attributed that to a technology advantage?

**A.** Well, it's the performance of their product and, hence, it's their technology or their know-how about how to produce titanium dioxide that provides that performance differential versus the competition.

**Q.** But your analysis assumes that there's an efficient market for titanium dioxide, doesn't it, that it's -- there's no undue influence over the system?

**A.** I don't understand.

**Q.** Well, you're assuming a market in which all of the competitors compete head to head on things like quality of their product; true?

**A.** True.

**MR. GASNER:** Your Honor, may I approach? I don't want to get into my next question without consulting with the Court.

**THE COURT:** All right. You may stand, ladies and gentlemen, if you wish.

(The following proceedings were heard at the sidebar:)

**THE COURT:** All right, Mr. Gasner?

**MR. GASNER:** Thank you, Your Honor.

We heard on direct examination about five or ten minutes of economic theory about this not being a commodity, and that basically DuPont does better in the market because of the quality of their manufacturing and their product.

And, as the Court knows from the motion in limine ruling, there is an antitrust case that both Tronox and DuPont settled; and all I want to ask him is: You know, isn't it true that there has been a settlement of a price fixing case that would undercut your theory?

**MR. HEMANN:** Absolutely we object, Your Honor. The

settlement, as the Court knows probably better than all of us put together, the settlement of an antitrust case is so complicated and is driven by so many factors, including what the settlement amount is. I don't know whether it was a high-value settlement or a low-value settlement.

It doesn't have anything to do with the merits of -- it doesn't necessarily have anything to do with the merits of the claims, the monopolization claims.

We also have in evidence, from Mr. -- an email from Mr. Maegerle to Mr. Liew in 2011, you know, saying DuPont is not a monopoly. And, so, you know, asking this witness to opine on the validity of a plaintiff's lawyer's claims of monopoly --

**THE COURT:** You don't have to go on. I'm not allowing this in because it's going to require -- if I allow you to do that, I would have to allow the Government to put in the settlement. We would be litigating what the settlement meant; and I think, generally speaking, there's an extrinsic policy against admitting settlements.

And, of course, that's only to prove liability, but I think the policy is there; and I think it opens up too much of a complexity that even if it had some probative value to undercut this witness' credibility, it's far outweighed by the prejudicial effect. It's confusing and it injects an issue that may require a minitrial.

So I appreciate your approaching the bench, but I won't allow any evidence with respect to any settlements.

**MR. GASNER:** My proffer, for the record, would be I would ask the witness about his knowledge of the litigation, the fact that summary judgment was denied because the Court found that there was sufficient evidence of a price fixing conspiracy, that the case settled thereafter.

And he's here as an all-purpose industry expert. He's injected economics in. And I understand the Court's ruling, but that would be my proffer.

**THE COURT:** All right. And the objection -- the ruling remains. In fact, by interlineating another level of complexity as a summary judgment motion, what are the grounds, it's just overly complex, and I'm just not going to allow it.

**MR. GASNER:** Thank you, Your Honor.

**MR. HEMANN:** Your Honor, for the record, I'd like to thank Mr. Gasner for approaching as well. I appreciate it.

**THE COURT:** Thank you.

(The following proceedings were heard in open court:)

**MR. GASNER:** May I proceed, Your Honor?

**THE COURT:** Yes, you may proceed.

**BY MR. GASNER:**

**Q.** Mr. Gibney, you talked a bit on direct about throughput. Do you remember talking to Mr. Hemann about that?

**A.** Yes, sir.

**Q.** And that's basically the amount of titanium dioxide that the plant is able to crank out; true?

**A.** True.

**Q.** Isn't it true that one of the big problems with titanium dioxide plants is having good personnel to actually run the plant?

**A.** Well, yeah. You absolutely have to have technical know-how on the ground to be able to efficiently run these plants on a continuous basis.

**Q.** So you could have all of the same parts and pipe sizes and all of that, and the plant could achieve terrible throughput if you didn't have good people on the ground; true?

**A.** True.

**Q.** You talked about the ways the different companies protect their trade secrets, and I want to ask you a few questions about that.

I take it that during your time after the IPO when the company -- the new Tronox spinoff was downsizing, that you had to lay off a lot of engineers?

**A.** Yes.

**Q.** And part of that was an assessment by you, from a business perspective, that the company had too many engineers doing jobs that fewer people could do; fair?

**A.** Well, I mean, during that downsizing, and if you looked at -- we pretty much left the operations alone. Because when

you develop good engineering talent internally, you want to protect that and hold onto those people. So if you look at the reductions in staff, they were primarily at the headquarters facility.

**Q.** But I take it that some engineers were let go as part of the restructuring?

**A.** Yes.

**Q.** And one of the things in your résumé that you touted was that you were able to reduce head count and refocus employees on doing more with fewer resources; true?

**A.** True.

**Q.** So it's a judgment call about what you keep in the company and what you outsource to consulting firms and the like; right?

**A.** Yes.

**Q.** And in terms of the engineers that Tronox had to let go as part of these restructurings, many of them go on to consulting jobs; true?

**A.** True.

**Q.** And then they have to use judgment about what they're allowed to remember and use from their prior employment; true?

**A.** Judgment, essentially true. I mean, you're bound by a confidentiality agreement and, yes, you pretty much know what's confidential and what's not.

**Q.** You know it when you see it?

**A.** Yeah.

**Q.** And people that have more experience are better, typically, at knowing what's truly confidential and what isn't; right?

**A.** Well, if it's stamped "Confidential," you pretty much know it's confidential; but I would assume that's correct, more experience would help.

**Q.** Let's pause on that if it's stamped "Confidential," you pretty much know it's confidential comment.

In fact, there's a lot of overstamping of things as confidential in companies in your experience; true?

**A.** I would not agree, no. What do you mean "overstamping"?

**Q.** Well, not everything that gets stamped as confidential has been thoroughly vetted in terms of it's unique to that company and hasn't been publicly disclosed elsewhere; right?

**A.** I don't know that I'd go along with that.

**Q.** People use judgment, though, on what they stamp confidential; true?

**A.** True.

**Q.** And sometimes things get stamped confidential that were in a patent issued the week before; right?

**A.** Perhaps.

**Q.** That happens?

**A.** It could happen.

**Q.** And in terms of engineers that leave companies to go consult, what are they supposed to do if they remember

something from their prior employment, but believe that it's been publicly disclosed? In your view, are they okay to use that information?

**MR. HEMANN:** Objection.

**THE COURT:** Sustained.

**BY MR. GASNER:**

**Q.** Well, you testified, for example, to your practices when an engineer comes over to Kerr-McGee or Tronox from DuPont. Do you remember talking about that?

**A.** Yes.

**Q.** And you testified that there you expect those incoming employees not to divulge DuPont confidential information; right?

**A.** Right.

**Q.** So let me ask you a little bit about that.

What if at DuPont that engineer worked on a project, then realized that a certain technique didn't work. Okay? Are you with me so far?

**A.** Yes.

**Q.** And then at Tronox they're going to -- other engineers are saying, "Hey, let's do it that same way." Is the engineer allowed to say, "I don't think that's a good idea"?

**A.** He's allowed to say, "I don't think it's a good idea." For instance, Marty Rowland, who came over from DuPont, I was in meetings with him over and over, and he would be asked,

"Well, you know, how does DuPont do it?" Or -- and he would say, "Listen, I can't tell you, but I can encourage you to continue working on this route or this path."

**Q.** Okay.

**A.** And continue to ask questions to try and get them to think in the right direction, but he couldn't come right out and tell them, "This is how we do it."

**Q.** So he had to use judgment about how to respond to those situations?

**A.** True.

**Q.** If he knew, based on his experience, that a certain route of technology was going to be a dead-end and was going to cost Tronox shareholders money, he could say, "Hey, let's not do that"; right?

**A.** I don't know. That's -- I don't know -- I don't know how to answer that. As long as he doesn't come out and say why it would be a bad idea.

**Q.** If he doesn't utter the words, "At DuPont we used to do it X way," that in your view is the wrong way to handle it?

**A.** He wouldn't even have to use "DuPont." He can just say, "This is just the wrong way to do it because others" -- he's divulging a confidential information.

**Q.** But he could say, "Stay on this track" --

**A.** Sure.

**Q.** -- right? Kind of like, "You're getting warmer or

colder." He could kind of nudge people in one way or another based on his judgment and experience?

**A.** That's my understanding.

**Q.** He just couldn't say, "At DuPont we used to do it this way," or, "The DuPont oxidizer does this, that, and the other thing." He couldn't put it expressly; right?

**A.** Yeah, otherwise we would have achieved high-pressure oxidation when we tried.

**Q.** Well, this was a pretty -- I mean, the COO of Tronox is a pretty high-level person; right?

**A.** Yes.

**Q.** And he had spent many years at DuPont; right?

**A.** Correct.

**Q.** So there's nothing wrong with hiring people that know a lot about DuPont; true?

**A.** No, there's nothing wrong.

**Q.** And you have to count on their judgment and discretion to, you know, not use things improperly?

**A.** That's correct.

**Q.** Now, you said a lot about, you know, that DuPont was so great, but Tronox claims that it's pretty good at making chloride-route technology; isn't it?

**A.** Yes.

**Q.** And did you guys develop slide shows over time bragging about Tronox?

**A.** You know, well, we were proud about our technology; but if you compare it to others in the industry, it's not as efficient. But, yeah, part of -- part of a company's marketing itself to investors or to customers is you're trying to differentiate yourself from competitors.

**MR. GASNER:** Your Honor, may I approach with Exhibit 2631?

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MR. GASNER:**

**Q.** Mr. Gibney, do you recognize Exhibit 2631?

**A.** I was shown this on Sunday, and I have not seen this exact presentation. I'm not sure when it was put together. I assume it may have been after I left the company.

**Q.** Do you know Robin de Bondt?

**A.** No, I do not.

**Q.** Did you, while you were in your various jobs at Tronox, see presentations like this?

**A.** Like this, yes.

**Q.** Were these presentations prepared in the regular course of Tronox business?

**A.** I don't know I would call it regular course; and I don't know the audience, quite frankly, for this presentation.

**Q.** Were there -- do you recognize certain slides in here as ones that you've used before?

**A.** Yes.

**Q.** Which ones do you recognize?

**A.** Towards the back, for instance, the comparison of Tronox -- are these numbered?

**Q.** To other industry members; is that it?

**A.** It's the third page, I think, the third page from the end.

**Q.** Third page from the end?

**A.** Yeah.

And then the following page is a chart we put together a number of times. The second-to-the-last page. Yeah, there are a number of these pages were common in presentations we had given internally, as well as externally.

**Q.** How about the page that says, "Highly Concentrated Industry," and it has a pie chart? This is about five pages from the back.

**A.** (Witness examines document.) Okay.

**Q.** Have you used that slide before?

**A.** Not this exact slide, but we used some of the same terminology and some of that information in other presentations, yes.

**Q.** How about the next slide that has "Tronox" and "Cristal" and "Huntsman" and others in a chart?

**A.** Yeah. This was actually -- this slide was put together by, I think, Goldman Sachs during our emergence from bankruptcy and when we were going out for additional funding or loans.

So, yes.

**Q.** Did you have a chance to review this slide at the time?

**A.** Yes.

**Q.** Do you think it's accurate?

**A.** Yes.

**Q.** Prepared in the ordinary course of Tronox business?

**A.** Correct.

**MR. GASNER:** Your Honor, I'd move the admission of 2631.

**MR. HEMANN:** Your Honor, we object on hearsay grounds.

**THE COURT:** May I see it? Are you offering the whole exhibit or just the slide you were showing him?

**MR. GASNER:** I'd prefer to introduce the whole exhibit, but I'm happy to just introduce that one page if it meets the Government's objection.

**THE COURT:** Well, I will sustain the objection except with respect to the particular page or pages that the witness identified that he's familiar with and he's used it before.

**MR. GASNER:** Okay.

**THE COURT:** So the objection to that extent is overruled.

(Trial Exhibit 2631, page 31, received in evidence)

**MR. GASNER:** So let's go to the page, Mr. Guevara, if you might -- I believe it's on the screen now.

**THE CLERK:** Counsel, can you tell me which page is

going to actually be admitted?

**MR. GASNER:** I will mark it, and we'll have to number the page.

**MR. GUEVARA:** The 31st page.

**MR. GASNER:** The 31st page, Ms. Ottolini. Thank you.

**MR. HEMANN:** Your Honor, if I might make a suggestion, perhaps before we publish this to the jury, Mr. Gibney can go through the slides on the screen in front of him and identify those that he -- it might take a while. I'm just trying to come up with an efficient way to do it.

**THE COURT:** Well, I'll leave it up to Mr. Gasner, but I'll admit the pages that he's already alluded to; but we're going to need either a Bates stamp number or some other way of identifying those exhibits which the Court is allowing to be admitted.

**BY MR. GASNER:**

**Q.** So let's take a look at the 31st page that's on the screen right now, which I believe has been admitted.

**THE CLERK:** For the jury? You're talking for the jury?

**MR. GASNER:** And I'd like to publish it to the jury, if I might.

**THE COURT:** All right. It's admitted and you may publish it to the jury. And if you could give it a little bit more description so the record is clear what we're talking

about here.

**MR. GASNER:** Very well, Your Honor.

This is a page that shows a chart of different competitors in the titanium dioxide area, and it has "Tronox" on the left and "DuPont" on the right, and "Cristal," "Huntsman," and then there's a middle column.

**Q.** Perhaps you can identify, Mr. Gibney, what company is that.

**A.** The middle column, you're talking about Cristal?

**Q.** Yes. Is that all Cristal?

**A.** Yes.

**Q.** And does this accurately depict the location of different facilities that are owned by these different competitors in the market?

**A.** (Witness examines document.) I believe it does.

**Q.** And on the preceding page, which I believe you also identified -- let's go to that one if we could, Mr. Guevara.

**MR. GASNER:** And, Your Honor, I'd request permission to publish this to the jury as well.

**THE COURT:** Yes.

**BY MR. GASNER:**

**Q.** Could you tell the members of the jury what this --

**THE COURT:** So this is numerically listed as 2631-30, correct? That's according to what's on the screen now, and Mr. Guevara is affirming that.

**MR. GASNER:** Very well. I think I ended up with a copy that doesn't have the Bates numbers on it somehow, so I'm floundering.

**THE COURT:** All right.

**THE WITNESS:** Mine don't as well, but I see it on the screen.

**BY MR. GASNER:**

**Q.** Okay. Do you see it on the screen?

**A.** Yeah.

**Q.** And can you tell the members of the jury, what is this slide intended to depict?

**A.** This is essentially the market shares on the right on the pie chart. DuPont, as I said earlier in the day, roughly 19 percent market share in terms of capacity.

Huntsman -- Huntsman's actually in the midst of acquiring the Rockwood assets. That would be over in the other category. So they'll eventually become roughly 13 percent of market share, slightly larger than Cristal at 12 percent.

**Q.** And when you refer to efficiency among the different competitors, what are you referring to?

**A.** I'm sorry?

**Q.** When you were referring to efficiency when you were talking to Mr. Hemann about different competitors, what exactly do you mean by that?

**A.** Well, efficiency typically is how much throughput are they

getting through their lines, production lines.

**Q.** That has to do with the quantity of the output?

**A.** Correct, and their cost efficiency. So it can be pretty broad; but typically we're looking at production efficiency, that then translates into financial performance.

**Q.** Is there a metric that you typically follow to compare? Is it cost per thousand tons or something along those lines?

**A.** Yes.

**THE COURT:** Mr. Gasner, the record should also reflect that exhibit -- page 30 is also admitted --

**MR. GASNER:** Thank you, Your Honor.

**THE COURT:** -- since I allowed you to show that to the jury.

**MR. GASNER:** Thank you very much.

**THE COURT:** All right.

(Trial Exhibit 2631, page 30, received in evidence)

**BY MR. GASNER:**

**Q.** It's true, though, Mr. Gibney, is it not, that there are a variety of factors that contribute to this kind of cost efficiency; right?

**A.** Correct.

**Q.** And, in fact, you mentioned that Huntsman recently acquired a company that has led it to become a much larger company?

**A.** Yes.

**Q.** Did they acquire a mine of some type or a mining company?
**A.** Huntsman?
**Q.** Yes.
**A.** No.
**Q.** Has that been a trend in the industry of kind of vertical integration, having access to titanium ore by the manufacturer acquiring mining operations?
**A.** Yes.
**Q.** That's a way of increasing cost per output; true?
**A.** Increasing or decreasing?
**Q.** I'm sorry. Decreasing.
**A.** Decreasing.
**Q.** Getting better at that; right?
**A.** Correct.
**Q.** Is it fair to say that there are many factors that contribute to the cost of manufacturing in addition to the precise mechanics of the chloride process used?
**A.** Yeah. It's a highly complex process, so there are a wide variety of inputs, and there's, you know, the maintenance spend. Everything that goes into running the plant efficiently is going to translate into your cost on a per ton basis. So, yes, there's definitely correlations.
**Q.** Do you know if the Pangang plant is operational right now?
**A.** I'm sorry?
**Q.** The Pangang 100K plant that is one of the topics of this

case, do you know if that's operational?

**A.** No, I don't believe it is.

**Q.** So until it's operational, you couldn't tell how efficient it is; right?

**A.** That's true.

**MR. GASNER:** Nothing further, Your Honor.

**THE COURT:** All right. Mr. Froelich, you may cross-examine.

**MR. FROELICH:** Thank you, Your Honor.

(Pause in proceedings.)

**CROSS-EXAMINATION**

**BY MR. FROELICH:**

**Q.** Mr. Gibney, I'm Jerry Froelich. I represent Mr. Maegerle. You don't know Mr. Maegerle; is that correct?

**A.** That's correct.

**Q.** And we've never met; is that correct?

**A.** That's correct.

**Q.** Now, you talked about an individual that you hired from DuPont. What was his name?

**A.** Marty Rowland.

**Q.** And what job were you hiring him to be?

**A.** As our plant manager of Hamilton, Mississippi, our largest facility.

**Q.** And what had he done for DuPont?

**A.** I believe he was the head of maintenance for a number of

their facilities. He had worked at virtually every one of their plants at one point in his career.

**Q.** And how soon had he been out of DuPont when you hired him, or did you hire him from DuPont?

**A.** I believe we hired him from DuPont.

**Q.** So you were -- the purpose of hiring him was his experience at DuPont; isn't that correct?

**A.** Correct.

**Q.** You've talked about a couple different things that I'd also like to talk about.

You talked about tons per hour; is that correct?

**A.** Yes.

**Q.** How do you know what the tons per hour is on each DuPont plant?

**A.** Well, you don't know specifically, but you make assumptions. You know that they have a certain capacity across their facilities. You get information from consulting firms. There's published data that says that, you know, DeLisle, for instance, is around 225 -- or, sorry, 320,000 tons per year capacity.

You can look on Google Earth and see that they have two oxidizer production lines, and you can run the math and see what their line rates on an hourly -- per hour basis are.

**Q.** What kind of information do you get from consulting firms?

**A.** Well, there's a number of firms out there that will

publish on a regular basis detailed analysis reports on the industry: TZMI, IBMA, Artical (phonetic), and others.

**Q.** Well, what kind of information, I mean, do they have?

**A.** Well, they'll provide -- it depends on what you want, but you can get a detailed study on their -- their analysis of, you know, plant economics per ton cost -- per ton basis by plant capacity, utilization by plant. I mean, the whole gamut of supply and demand, pricing.

**Q.** How would they get the information? Does DuPont publish, for example, how much they're selling to each client?

**A.** No.

**Q.** Okay. But you get that information. How about, do they publish what their -- how much each plant is producing?

**A.** I don't believe DuPont gives a capacity utilization figure. A number of the other competitors do.

**Q.** But you get consultants that get that for you?

**A.** They write reports and provide that information, yes, that's correct.

**Q.** Do you know -- and they provide ton per hour. You have to know -- one of the things you were saying was DuPont's own -- DuPont's oxidizers are only down, I thought you said, for a certain amount of time; is that correct?

**A.** What do you mean "down for a certain amount of time"?

**Q.** Didn't you say that parts of your plants needed more maintenance than DuPont's did?

**A.** Well, in terms of having more installed equipment. I think my reference was to Tronox, for instance, at Hamilton has six lines where at DeLisle has two. So that translates, then, into higher maintenance costs.

**Q.** Okay. Do you know what the -- do you get from your people who provide you information, do you get the maintenance cost that DuPont has for each plant?

**A.** They will provide their estimates of what they think it is, yes.

**Q.** And will they provide to you also information about the amount of time that they're down, that a plant is down for maintenance?

**A.** I'm not -- I'm not sure I've seen a report with that type of data.

**Q.** How about do they tell you -- I thought you talked about something about the pressure, there's difference -- that your plants have different type of pressure --

**A.** Right.

**Q.** -- than DuPont; is that correct?

**A.** Correct.

**Q.** Where do you learn the pressure that DuPont uses?

**A.** That I don't know. I don't know.

**Q.** But you get that information?

**A.** No. We don't know -- we don't know the pressure within the oxidation phase. But you -- but we know it's high

pressure. But I, quite frankly, don't know if that's published. I don't know.

**Q.** You know that they have serpentine flue ponds?

**A.** You can see that, yes.

**Q.** You can see it. But that's also common knowledge, isn't it?

**A.** I believe so.

**Q.** And square elbows is common knowledge; isn't that correct?

**A.** That I don't know.

**Q.** How about do you know that -- you talked about one time your plant manager called you -- first of all, let me go back one question.

Kerr-McGee, I think you said, doesn't use flue ponds; is that correct?

**A.** That's correct.

**Q.** And, yet, your manager called you over one time and showed you the flue pond of DuPont; isn't that correct?

**A.** Correct.

**Q.** And he was just showing you what it was?

**A.** Correct.

**Q.** And you didn't take any measurements or anything, did you?

**A.** No.

**Q.** You don't know whether you could take measurements. You haven't tried to do that, have you?

**A.** Actually, I have. Part of the consulting work I did last

year, we were looking at different flue ponds. And the new Google Earth that's out you can actually measure the length of lines.

**Q.** Right. So now, as I said, you -- you actually can measure the length of all those lines, isn't that correct, through --

**A.** You can get an approximate. You can't get the exact length, but yes.

**Q.** And you actually did that, you said?

**A.** Yes.

**Q.** Now, we talked about -- one of the things you've said is that DuPont one is bigger; isn't that correct?

**A.** One?

**Q.** It produces more titanium dioxide through chloride method than anyone else in the world; is that correct?

**A.** That's correct.

**Q.** And do you know the profitability of each plant?

**A.** We -- we have assumptions. And, like I said earlier, consulting companies will provide their estimates.

**Q.** And do you know what they base their estimates on?

**A.** Well, it's a wide variety of inputs. There's stoichiometric chemistry models that help determine the cost on a per-ton basis, depending on the type of ore that's being consumed, how much chlorine, how much caustic soda, all the various components. And then it spits out, through a model, your cost on a per-ton basis.

**Q.** So it knows what is being -- amount of ore that's going into the plant, the amount of chlorine that's going into the plant, those type of things your -- excuse me, your consultants know?

**A.** Correct.

**Q.** Now, after -- and they then estimate what each plant produces; is that correct?

**A.** Correct.

**Q.** Now, do you know that the Kuan Yin plant is not profitable?

**A.** Is not profitable?

**Q.** Yes.

**A.** Well, it is their highest-cost plant. Whether or not it's profitable, I think it probably is profitable.

**Q.** What do you base that on, if you don't know?

**A.** Well, on a per-ton basis compared to other plants, at least the studies that I've seen would say that it's -- today's pricing would be profitable.

**Q.** Okay. But that depends, also, there's a lot of -- do you know what they -- for example, what kind of ore they're using?

**A.** Yes.

**Q.** Okay.

**A.** You can track that.

**Q.** They use what?

**A.** You can track the ore coming into a country.

**Q.** Okay. And you know what the price of the ore is?

**A.** Yes.

**Q.** And --

**A.** Well, not the exact price that they've negotiated, but you have assumptions.

**Q.** Okay. And do you know what it costs them to run a plant?

**A.** You make assumptions around that.

**Q.** And what do you make those assumptions based on?

**A.** Well, like I said earlier, it's -- you can model out the inputs to a production facility. It's not easy, but you can.

And there are various consulting companies out there that have the stoichiometric models that are integrated with the other information that they have that can spit that out.

**Q.** And you should be able to size out the plant, too, based on production; isn't that correct?

**A.** Size it out in terms of?

**Q.** How big the -- the chlorinator is, and the oxidator [sic], you know --

**A.** Yeah.

**Q.** Correct?

**A.** That's correct.

**Q.** Fine. Now, DuPont has some advantages, and has had advantages for a long time, isn't that correct --

**A.** Yes.

**Q.** -- in that -- pardon?

**A.** Yes.

**Q.** And one of them is that their main advantage that they've always told everybody, at least it was at one time, was their ability to use low-grade ore; isn't that correct?

**A.** That's correct.

**Q.** And that was one -- that's the primary advantage because that's the most expensive thing that goes into the plant. Besides building the plant, that's the most expensive thing that goes into figuring out what you're going to charge for the product; isn't that correct?

**A.** That's correct.

**Q.** And the other thing that they've always triumphed or raved about is they have experienced personnel that run the plant; isn't that correct?

**A.** Correct.

**Q.** And they have experienced personnel that maintain the plant, right?

**A.** Correct.

**Q.** And that's one of the things we talked about, was performance. You've mentioned that four or five times; isn't that right?

**A.** Uh-huh, correct.

**Q.** And it's performance -- you can have identical plants. It's the people who are running the plant, performance; isn't that correct?

**A.** That's correct.

**Q.** Now, let's talk about a few other things. First of all, about Kerr-McGee.

Did there come a time -- Kerr-McGee was trying to sell some of its facilities; isn't that right?

**A.** Uhm --

**Q.** Some of its plants, its TiO2 plants?

**A.** When would this have been?

**Q.** Well, was there a time while you were there that they were trying to sell a plant?

**A.** Well, we were -- during the bankruptcy we were in a 363 asset sale process. So we were certainly trying to sell all of our assets at that point. But I don't recall us trying to sell, outside of that period of time, our facilities.

**Q.** Did there come a time when someone who had looked at the plant, potentially to buy it, disclosed in public documents how the plant worked, its oxidation and chlorination system and everything? Do you remember that?

**A.** No.

**Q.** You don't remember that?

**A.** No. Disclosed in public documents?

**Q.** Yes.

**A.** No.

**Q.** How about were you aware that -- how about NL Industries, were you aware that -- does NL Industries have the TiO2

chloride-route process?

**A.** Yes. NL is a separate entity, but Kronos is the name of the company that controls those assets.

**Q.** Were you aware that they disclosed their processes in Canada, in the Canadian newspapers?

**A.** No.

**Q.** Okay. You talked about Ashtabula. One of the things you were talking about, you talked about, you said you were aware of Ashtabula was originally built by DuPont; is that correct?

**A.** One of the facilities, I believe that's true, yes.

**Q.** Now, when did you really get -- when were you actively in the TiO2 business as far as learning how it operated and things? Would that be in the 2000s?

**A.** Well, I think I said earlier, or maybe it was yesterday, in 1991, when I started, I spent quite a bit of time at our Hamilton facility. So I learned about the process back in the early '90s.

**Q.** But you were a salesperson then. You were just trying to get a general overview. You didn't really -- your customers didn't care how it was produced. They wanted to know what the product was and how much it was going to cost; isn't that right?

**A.** Well, they wanted to know about the performance and how it would perform in their formulations.

**Q.** Did they want to know how big the oxidizer was, or the

chlorinator?

**A.** Well, we wouldn't let them see that.

**Q.** Pardon me?

**A.** We wouldn't let them see that.

**Q.** Okay. But you didn't -- that wasn't of any necessity to you; you weren't interested in those type of things, were you?

**A.** Well, customers, quite frankly, are very concerned about the viability of their major suppliers; the efficiencies; the financial performance. So we would give customer tours on a regular basis, of our facilities. But we wouldn't show them specific equipment.

**Q.** But my question to you was: You weren't interested in knowing, you didn't have to know or you weren't interested in knowing the size of the chlorinator and the size of the oxidator [sic]; is that right? Oxidation unit.

**A.** It wasn't necessary at that point.

**Q.** Now, as to Ashtabula, is it your understanding that DuPont built the whole plant?

**A.** That I don't know.

**Q.** Didn't you -- do you remember what you told the government in your report?

**A.** You'd have to refresh --

**MR. HEMANN:** Objection.

**THE COURT:** Sustained. On what issue? I'm sorry.

**MR. FROELICH:** Excuse me.

**BY MR. FROELICH:**

**Q.** Do you remember that you told the government that Sherwin-Williams built the oxidation portion of the plant?

**A.** I believe that's correct.

**Q.** And so how did you -- how did you come to that belief?

**A.** How did I come to that belief?

**Q.** Yes.

**A.** That's the information that I've been aware of for a long time.

**Q.** And where did you get that information?

**A.** I don't recall. That would have been over the course of my career.

**Q.** Okay. And so you understood that Sherwin -- the oxidation, you indicate, is that very important part of the plant, right?

**A.** That's the heart of the technology.

**Q.** It's the heart of the technology.

And Sherwin-Williams is buying a -- it was a paint company; is that correct?

**A.** Yes, a vertically-integrated paint company.

**Q.** Right. It didn't have a TiO2 plant?

**A.** I'm sorry?

**Q.** It didn't have a TiO2 plant before Ashtabula?

**A.** I don't believe they did.

**Q.** All right. And then it's your understanding that it -- it

gets together with DuPont to build a plant, and it -- and Sherwin-Williams builds the most important part of the plant?

**A.** I guess that's true, yes.

**Q.** Okay. Then you know that eventually that plant is sold; is that correct?

**A.** Yes.

**Q.** And who's it sold to?

**A.** I believe SCM.

**Q.** And then -- SCM?

**A.** Right.

**Q.** And SCM, do you know, it takes that technology, it keeps running that plant, but then it takes the technology and builds a plant in Baltimore? Did you know that?

**A.** Yes.

**Q.** Right. And then it takes that technology and it builds other plants, doesn't it?

**A.** Yes.

**Q.** And then SCM is either taken over, or is it bought?

**A.** I can't remember the exact transaction, but taken over probably would be the correct --

**Q.** And who takes it over?

**A.** I believe it was Millennium.

**Q.** Well, was there a step before Millennium? Was there a company in there that also bought it and built a plant?

**A.** I can't recall.

**Q.** But then Millennium takes it over; is that correct?

**A.** Uh-huh.

**Q.** It gets that technology. It's gone. It's gone DuPont, Sherwin-Williams. It's gone to SCM and then Millennium. And Millennium builds plants, doesn't it?

**A.** Yes.

**Q.** How many plants does millennium build with it?

**A.** I -- I don't recall.

**Q.** How about -- and then Cristal takes it over; isn't that correct?

**A.** Correct.

**Q.** And then Cristal builds plants with it?

**A.** No, they haven't built a plant with it.

**Q.** Aren't they bidding a huge plant in Saudi Arabia, with that?

**A.** No.

**Q.** Were they adding lines to plants?

**A.** They actually added a line at Janbu, using Tronox's technology.

**Q.** When was that?

**A.** I believe they added a line back in 2007 or '8. Or maybe it was '6.

**THE COURT:** Mr. Froelich, we're going to take a stretch break.

**MR. FROELICH:** Sure.

**THE COURT:** Let's stand up, ladies and gentlemen. You may stand.

(Pause)

**THE COURT:** All right. You may be seated whenever you are ready, ladies and gentlemen.

And you may continue, Mr. Froelich.

**MR. FROELICH:** Thank you, Your Honor. I don't have much.

**BY MR. FROELICH:**

**Q.** Have you heard of a company called Condux?

**A.** Condux?

**Q.** Yes.

**A.** I believe I have, yes.

**Q.** Can you tell me what that company is?

**A.** I believe it's a consulting firm.

**Q.** All right. And do you know that it's made up of DuPont employees?

**A.** I think they have other employees, as well, but they have a number of DuPont employees.

**Q.** And do they advertise that they have expertise in the TiO2 business and that they have ex-DuPont employees?

**A.** I believe that's -- yeah, it's listed amongst the other products that they'll consult on.

**Q.** Have you gone to Condux to hire employees?

**A.** I don't -- I don't recall.

**Q.** Where did you get the employee that came to you to be the manager of a plant?

**A.** I don't recall how we recruited him.

**Q.** By the way, how did the government find you?

**A.** I, quite frankly, don't know.

**Q.** The -- there's a difference between confidential information and proprietary information, isn't there?

**A.** I'm sorry?

**Q.** Is there a difference between confidential information and proprietary information? Isn't that correct?

**A.** I'm not an expert on legal definitions.

**Q.** Well, you looked at the -- the Basic Data Document, didn't you?

**A.** Yes.

**Q.** All right. And would you -- for example, did you see things in there like it referred to the Chloride Institute pamphlets?

**A.** I don't recall seeing that described.

**Q.** Okay. But if that's in there, that's not confidential, is it?

**A.** If it's publicly -- if it's public information, that wouldn't be confidential.

**Q.** No matter what you stamp it, if it's public information or known, it's not confidential; isn't that right?

**A.** I don't know. I'm not an expert in law so I don't know

how to answer that.

**MR. FROELICH:** Your Honor, if I may have just one second.

**THE COURT:** Sure.

**MR. FROELICH:** I do have one other area.

**BY MR. FROELICH:**

**Q.** You were talking about the difference between the chloride and sulfate routes.

Isn't the back end in both the chloride and the -- chlorine -- I'm sorry, chloride route and the sulfate route aren't they both -- the back end both the same; aren't they both batches, the finishing part?

**A.** Finishing part?

**Q.** Yeah.

**A.** Yes, that's correct.

**Q.** So they're the same?

**A.** Essentially, yes, that's correct.

**MR. FROELICH:** That's all I have. Thank you.

**THE COURT:** Thank you.

**MR. HEMANN:** Very shortly, Your Honor.

**THE COURT:** All right.

**REDIRECT EXAMINATION**

**BY MR. HEMANN:**

**Q.** Mr. Gibney, Mr. Froelich asked you a few questions about some -- a couple of consulting firms and consulting information

available in the industry. Do you remember those?

**A.** Yes.

**Q.** And he referred to TZMI and IBMA. Do you recall them?

**A.** Yes.

**Q.** Can you, just generally, describe for the jury what they are?

**A.** So these are consulting firms that provide data to industry producers. Customers will contract to get information; investors, analysts. And they will provide a whole host of information.

As I said, I think earlier in the day, the titanium dioxide industry is rather opaque. It doesn't provide a lot of detailed information through their public disclosures.

So the industry investors have to rely, then, upon experts similar to a TZMI or an IBMA, or other firms to provide their -- their look at supply/demand, financial performance by plant, all the metrics that are of interest by investors and producers and customers.

**Q.** Would you describe those two firms as well-respected?

**A.** Yes.

**Q.** And what's the basis of that?

**A.** Over time, they've built up a reputation of providing good insight, reputable data and information in a -- in a large suite of -- of knowledge on the industry.

**Q.** In your experience in reviewing data in reports by those

two firms, do they provide confidential proprietary information from TiO2 producers?

**A.** No.

**Q.** Why do you say that? How do you know that?

**A.** Well, A, the -- the people that would contract to buy the information are also expecting that they -- they're not going to buy confidential information because if you have TZMI come into your facility to do a project or help you do an acquisition, they have to sign a confidentiality agreement not to divulge that information through their reports.

So if you saw them providing confidential information, there would be a red flag that you can't trust them with your own information then.

**Q.** And you said that they provide estimates with regard to the performance of certain -- of TiO2 facilities; is that correct?

**A.** That's correct.

**Q.** And you mentioned that that's based on complex set of publicly available variables and some mathematical modeling?

**A.** Yes.

**Q.** Is there a difference between those kind of estimates and validated -- actual validated data from a company?

**A.** Yes.

**Q.** And how would you describe those differences?

**A.** Well, a TZMI or -- I mean, each -- each producer of ore,

for instance, they'll have the same type of models internally. And they'll look at a TZMI's model to verify whether or not they're correct. But both companies will go about the same analysis.

There's publicly available trade data that's published on a monthly basis, that shows imports and exports of ore, for instance. So you can track -- you know the ore that's going into Kuan Yin, for instance, because it's the only producer of titanium dioxide in the country. So you can track what type of ore is showing up at the port. It also shows a value of that shipment.

So you then use that as the basis of your input because that's 35 to 40 percent of the cost input for that plant. You then calculate out how much ore is being used. Then that would translate into how much chlorine, how much caustic soda, with the other inputs.

You would then run that through your stoichiometric model. It would spit out a value. And then you make other assumptions based off of maintenance, employee spend, headcount, all of those things. And it comes up with a cost per ton.

**Q.** And if you're a business attempting to build a DuPont factory, a factory modeled after DuPont, would you prefer to have that kind of databased on this mathematical modeling that IBMA and TZMI might do, or would you prefer to have actual data from DuPont?

**A.** The actual data would be more accurate, that's certain.

**Q.** And you -- when you reviewed some of this information -- I'm referring now to Exhibit 162 -- did some of the information that you saw in this document (indicating) was it different than the industry estimates that you had assumed previously were correct?

**A.** Yeah, because it's specific to that facility. And the assumptions that TZMI and others are making, that's what they are, they're assumptions. It's not the real data.

**Q.** You talked with Mr. Froelich about personnel making a difference in running a plant. Do you remember that?

**A.** Yes.

**Q.** In addition to the personnel and cost of the raw materials, does the know-how make a difference as well?

**A.** Yes.

**Q.** Why's that?

**A.** Well, the high complexity level of running the TiO2 plant, you're going to have seasoned individuals that understand what to do during maintenance shutdowns, to quickly turn a plant back around and get it back up and running; or if an emergency occurs, certainly, to keep people safe within the plant.

We had to fire one of our plant engineers at Hamilton, Mississippi because they had a chlorine release at the facility and almost killed an employee. And you just can't tolerate people that aren't performing well.

So to find someone that has the background around not only running a plant but running it safely is -- it's not easy to come by. And when you find those individuals, you hold on to them.

**Q.** You mentioned -- Mr. Froelich asked you some questions about the Sherwin-Williams chlorination section and oxidation section, who designed them. Do you remember that?

**A.** Yes.

**Q.** And do you have a specific memory, as you sit here today, whether it was Sherwin-Williams who designed the oxidation part or the chlorination part of Ashtabula?

**A.** I don't remember specifically.

**Q.** Would it refresh your recollection to take a look at the disclosure statement that you assisted in writing?

**A.** Sure.

**MR. HEMANN:** Your Honor, may I approach?

**THE COURT:** Yes, you may.

**BY MR. HEMANN:**

**Q.** If you would look at paragraph 7A, please. Just read it to yourself.

**A.** They designed the chlorination section.

**Q.** Let me just ask you a question, though. Let me take it back.

Does that refresh your recollection, Mr. Gibney, as to which part of Ashtabula Sherwin-Williams designed and which

part DuPont designed?

**A.** Yes.

**Q.** And what's your recollection?

**A.** Chlorination.

**Q.** Sherwin-Williams designed which part?

**A.** Chlorination.

**Q.** Thank you.

When you were talking with Mr. Froelich about some of the information from consultants, he asked you whether that -- the information from consultants would help you size out parts of the plant. Do you remember that?

**A.** Yes.

**Q.** What do you understand the term "size out" to mean?

**A.** Well, you're trying to estimate the throughput and how big the chlorination and oxidation sections would be.

**Q.** How big in terms of what?

**A.** Probably it would be your diameters, the volume of material that would have to be going through those vessels.

**Q.** Now, are you able, based on the publicly available information from these consultants, able to determine the interior diameter of the DuPont chlorinators?

**A.** I don't believe you can, no.

**Q.** What about the surface area of the pipes in the flue pond?

**A.** I don't believe so, no.

**Q.** When you looked at the flue pond last year on Google

Earth, were you able to determine the surface area of the pipes in the flue pond?

**A.** Surface area --

**Q.** Yeah.

**A.** -- no.

**Q.** And, finally, you talked about the series of management changes or ownership changes on Ashtabula, going back from the time that Sherwin-Williams was involved in the '70s. Do you remember that?

**A.** Yes.

**Q.** And Cristal now owns Ashtabula, correct?

**A.** Correct.

**Q.** How much would it cost to license the Ashtabula technology from Cristal right now?

**A.** I have no idea what they would -- what they would value that at. I, quite frankly, don't know.

**Q.** And does Cristal -- like if I had $500 million, would I be able to license it from Cristal?

**MR. FROELICH:** I'm going to object, Your Honor.

**THE COURT:** Sustained.

**MR. GASNER:** Objection, Your Honor.

**THE COURT:** Sustained.

**BY MR. HEMANN:**

**Q.** Does Cristal currently license that technology?

**A.** I don't believe they do.

**Q.** And you mentioned that Cristal is involved in a project in Saudi Arabia, building out one of its plants right now?

**A.** They're building a slag plant. So, to get titanium barium ore ilmenite upgraded or beneficiated up to 85 or 86 percent TiO2 content, one of the ways to do that is to put it into a slag furnace.

And they're building that exact plant south of Janbu, in Jazan Economic City, a new city in Saudi Arabia, with a design capacity of a half million metric tons of slag. And that will feed their TiO2 plants around the world with slag.

**THE COURT:** I think we need to wrap it up now.

**MR. HEMANN:** We're done, Your Honor. I'm done, Your Honor.

**THE COURT:** Thank you.

**MR. HEMANN:** Thank you very much.

**THE COURT:** You don't have anything further, do you?

**MR. FROELICH:** A couple of quick ones, Your Honor.

**THE COURT:** All right.

**RECROSS-EXAMINATION**

**BY MR. FROELICH:**

**Q.** The -- did you know -- you said that the only -- I thought you said the only plant -- how many plants did you say were in China?

**A.** Approximately 50, is the estimate.

**Q.** TiO --

**A.** TiO2 plants.

**Q.** And the consulting firms that you talked about, did they have ex-DuPont employees in them; do you know?

**A.** Uhm, I don't know if TZMI does or not. They probably do. They have 40 people on staff, so they may.

**Q.** Okay. And one of the two -- we talked about you said that you now believe it's the chlorinator that Sherwin-Williams built; is that correct?

**A.** Correct.

**Q.** The two main -- the two main parts of a TiO2 process, we're talking about the chloride route, are the chlorinator and the oxidation part, right?

**A.** Yeah, chlorination and oxidation are the two most important.

**Q.** And it's your information and belief that Sherwin-Williams built the chlorinator?

**A.** Yes.

**MR. FROELICH:** Thank you.

**THE COURT:** You're excused. Thank you very much. You can leave the exhibits there. We'll take care of it.

(Witness excused.)

**THE COURT:** Next witness, please.

**THE CLERK:** Mr. Gasner, do you want to get your exhibits?

**THE COURT:** Thank you.

**MR. HEMANN:** Your Honor, the United States calls Brijesh Bhatnagar.

**THE COURT:** All right. Please step forward, sir.

**THE CLERK:** Raise your right hand, please.

**BRIJESH BHATNAGAR,**

called as a witness for the Government, having been duly sworn, testified as follows:

**THE WITNESS:** I do.

**THE CLERK:** Thank you. Please be seated, and state and spell your full name for the record.

**THE WITNESS:** Brijesh Bhatnagar.

**THE CLERK:** Spell it, please.

**THE WITNESS:** B-r-i-j-e-s-h B-h-a-t-n-a-g-a-r.

**THE CLERK:** Thank you.

**DIRECT EXAMINATION**

**BY MR. HEMANN:**

**Q.** Could you -- maybe a couple of hints here. It would be easiest if you pull the microphone pretty close to your mouth there, and speak as loudly -- loudly so that the court reporter can hear you, okay?

**A.** Okay.

**Q.** Mr. Bhatnagar, did you work for a period of time at a company called Performance Group?

**A.** Yes.

**Q.** When did you first start working at Performance Group?

**A.** In May of 2007.

**Q.** How did you come to start working at Performance Group?

**A.** Through an agency, employment agency.

**Q.** What was the name of that agency?

**A.** I don't remember.

**Q.** What did you do before you worked at Performance Group?

**A.** I was working at Chevron for a while. And then before that I was working Stanford Linear Accelerator Center.

**Q.** What's your educational background?

**A.** I have a diploma in mechanical engineering.

**Q.** In what year?

**A.** In 1965.

**Q.** How long did you work for Performance Group?

**A.** Until December of 2008.

**Q.** Were you paid during that period of time?

**A.** Not the last paycheck.

**Q.** So leading up to prior to the last paycheck, did you receive a wage for working at Performance Group?

**A.** Yes.

**Q.** And how were you paid?

**A.** By check.

**Q.** And was it an hourly or a yearly sum?

**A.** Hourly.

**Q.** How much were you paid by the hour?

**A.** Seventy-five dollars.

**Q.** And what was -- did you work a typical 40-hour workweek, or more or less?

**A.** Uhm, as required.

**Q.** And how would you -- how would you characterize that? Was it pretty steady, at a certain amount over the two years you were there, or would it go up and down, fluctuate?

**A.** Fluctuate up and down. Initially, it was fluctuating, but afterwards it was 40 hours, more than 40 hours sometimes.

**Q.** When you say more than 40 hours, would it be a lot more than 40 hours or --

**A.** Not -- not too much, but more than 40 hours.

**Q.** You worked until -- when did you leave the company?

**A.** Uhm, in December of 2008, for the last --

**Q.** 2000 what year?

**A.** 2008.

**Q.** 2008?

**A.** Yes.

**Q.** How long were you there?

**A.** From -- from May 2007 to, I think, July 2007. And then afterwards, after one month, again then started working directly with him.

**Q.** Until December 2008?

**A.** Yes.

**Q.** We'll talk about that in a bit.

When you started at Performance Group in 2007, what was

your job?

**A.** Designing the equipment, what was required in the process of manufacturing.

**Q.** What sort of equipment?

**A.** Pressure vessels, mostly.

**Q.** Pressure vessels?

**A.** Yes.

**Q.** Anything else?

**A.** Most of them are pressure vessels, and some other parts, other containers and all that.

**Q.** Say again.

**A.** Containers, pressure vessels, storage tanks.

**Q.** What is a pressure vessel?

**A.** It's a -- it's a processor with a -- which -- where you can process under certain conditions.

**Q.** Process what?

**A.** Any -- anything. You know, it can be any chemical or any food processing --

(Reporter interrupts.)

**Q.** You said chemical or food processing?

**A.** Any processing can be done under conditions.

**Q.** And what experience had you had in designing pressure vessels?

**A.** I worked for a long time at another company making pressure vessels and heat exchangers.

**Q.** Could you describe for the jury a little bit about how at Performance Group you would go about designing a pressure vessel.

**A.** Uhm, I would be given a criteria.

**Q.** Criteria?

**A.** Yes. And size, outside dimensions and everything, all the dimensions and temperature and pressure, and the material of construction. Then I would design it.

**Q.** So you would be given criteria that included temperature and pressure and dimensions?

**A.** Dimensions and the material of construction.

**Q.** And where did you get that criteria?

**A.** Either from -- most of the time from Walter.

**Q.** And also from --

**A.** And also from Bob.

**Q.** And how would it be communicated to you?

**A.** They will give me a -- a sketch with those -- those criteria written on it.

**Q.** And how would you get the sketch?

**A.** Uhm, either through email or through Walter.

**Q.** Who was drawing the sketches?

**A.** Mostly Bob.

**Q.** And the sketches contained these various criteria, correct?

**A.** Yes.

**Q.** Do you know where Mr. -- and when you say "Bob," you mean Bob Maegerle?

**A.** Bob Maegerle.

**Q.** Yes?

**A.** Yes.

**Q.** Do you know where Mr. Maegerle got the criteria that was included in the sketches?

**A.** Uhm, he must have been knowing it. I don't know.

**Q.** Did you ever ask him where he got the criteria that were included in the sketches?

**A.** No.

**Q.** Did you ever ask Mr. Liew where the criteria came from?

**A.** No.

**Q.** Prior to coming to work at Performance Group, did you have any experience with titanium dioxide?

**A.** No.

**Q.** And the -- the criteria, did you have any way of knowing that information yourself?

**A.** Uhm, no.

**Q.** Was that information available, as far as you know, the criteria that you were using in publicly available information?

**A.** For certain, like oxygen or chlorine or those kind of things you can get on the Internet, but not -- not titanium tetrachloride or titanium dioxide.

**Q.** Not for titanium chloride or titanium dioxide?

**A.** No.

**Q.** What was Mr. Liew's position at Performance Group?

**A.** He was the president of the company.

**Q.** And did you report directly to him?

**A.** Yes.

**Q.** Did anybody else participate in the management of the company?

**A.** Not to my knowledge.

**Q.** What was Mr. Maegerle's position at the company?

**A.** He was consultant.

**Q.** And explain how he acted in his role as consultant?

**A.** Whatever we have questions, he will answer those questions.

**Q.** Did you get -- you mentioned earlier you -- you received information from Mr. Maegerle through Mr. Liew. Is that correct?

**A.** Yes.

**Q.** And in addition to the information that you listed earlier, would you obtain pressure readings from Mr. Maegerle and Mr. Liew?

**A.** Yes.

**Q.** And would you obtain information about nozzles and the location of nozzles?

**A.** Yes.

**Q.** Did you have any sources of information that you used at

Performance Group, other than Mr. Maegerle through Mr. Liew?

**A.** Uhm, sometime, yes, I used Internet.

**Q.** And what would you use the Internet for?

**A.** To look some of the -- some of the things, you know, which are general.

**Q.** Which are general?

**A.** Yes.

**Q.** And by "general" what do you mean?

**A.** Like when we are writing the specifications, so we'll look for the specifications and use that format as a template, putting the -- all the criteria into that.

**Q.** And what are some examples of things that are not general, that are more specific?

**A.** Not -- specific is not available on the Internet, specific.

**Q.** I'm sorry?

**A.** Specifics are not available on the Internet, not to my knowledge.

**Q.** And would that include materials of construction?

**A.** Yes.

**Q.** And would that include pressure?

**A.** Yes.

**Q.** Would that include temperature?

**MS. LOVETT:** Objection, Your Honor. Foundation.

**THE COURT:** Overruled.

**BY MR. HEMANN:**

**Q.** Would that include temperature?

**A.** Yes.

**Q.** And would that include size?

**A.** Yes.

**Q.** While you were working at Performance Group, did you ever hear the name DuPont used by either Mr. Liew or Mr. Maegerle?

**A.** Uhm, sometime.

**Q.** And would Mr. Liew or Mr. Maegerle ever refer to any other TiO2 manufacturer?

**A.** Not to my knowledge, no.

**Q.** Did you ever hear Mr. Liew make a statement that his company has completely mastered the know-how of DuPont?

**A.** Yes.

**Q.** And tell the jury the context in which you heard him make this statement.

**A.** When meeting some vendors or, you know, then -- then he will mention sometime.

**Q.** Do you know how Mr. -- Mr. Liew's company mastered the know-how of DuPont?

**A.** I don't know.

**Q.** Have you ever been in a titanium dioxide plant?

**A.** Yes.

**Q.** What titanium dioxide plant have you been in?

**A.** In China.

**Q.** What plant was that?

**A.** Jinzhou.

**Q.** And when was that?

**A.** That was in, I believe, in August 2007.

**Q.** Did you go there with Mr. Liew?

**A.** Yes.

**Q.** Was there -- at the time you went, was there a chloride route line that was running?

**A.** No.

**Q.** Compared to other engineering endeavors in which you've been engaged at your prior employers, how complicated was the TiO2 process?

**A.** I never work in any chemical company for a long time. I work just for Chevron, so I don't have any -- any idea about it.

**Q.** You said that Mr. -- Mr. Liew referred to DuPont know-how. Did you ever hear Mr. Maegerle refer to DuPont?

**A.** Sometime.

**Q.** And how would Mr. Maegerle refer to DuPont? In what context?

**A.** Like this 100,000-ton is like this. And so 30,000-ton -- I worked on 30,000-ton project. So it will be like that, you know.

**Q.** You mentioned that over time at -- well, you were there for about a year and a half total; is that correct?

**A.** Yes.

**Q.** Do you feel like you worked -- did a lot of work during that period of time?

**A.** Yes.

**Q.** Did you produce lots of -- of drawings based on the criteria that was supplied by Mr. Maegerle?

**A.** Yes.

**Q.** Did you ever design, on your own, the criteria for a particular piece of equipment?

**A.** Uhm, no.

**Q.** What led to your leaving the company?

**A.** He -- he went to China for the final submission. And after that he was supposed to call me. He didn't call me.

**Q.** And when you say "he" do you mean Mr. Liew?

**A.** Mr. Liew.

**Q.** When did he go to China?

**A.** In -- in late December or first week of January of 2009.

**Q.** So late December 2008 or first week of January 2009?

**A.** Yes.

**Q.** And when he left, what did he tell you about his return?

**A.** Uhm, when we went there to the office, the office was empty.

**Q.** Well, before he left to go to China what did he tell you?

**A.** That when he will come back he will give us a call.

**Q.** And did he tell you what he was going to China to do?

**A.** It was a final submission of 30-ton (sic) project.
**Q.** To Jinzhou?
**A.** To Jinzhou.
**Q.** When January came, did you go back to work?
**A.** Yes, we went to work there. And there was a -- there was a note in the office that you -- that we will be moving from here and we will give you a call, and return the key at the front desk.
**Q.** At that time, at that point in time, had you been fully paid by Performance Group?
**A.** No, not the last check. Last check he didn't pay us.
**Q.** And how much was that for?
**A.** It was about $7,500.
**Q.** Did you have any warning before -- before you went to the office that day and found it empty, that the -- the -- that you were not going to be working for the company anymore?
**A.** No.
**Q.** Did you attempt to obtain the $7,500 payment from Mr. Liew?
**A.** Yes.
**Q.** How did you do that?
**A.** I went to see him. And he was in the same office. And he didn't say that he will not pay me, but he didn't pay me either.
**Q.** You said he's not in the same office. I thought you said

you went to the office and it was empty?

**A.** At that time it was empty, but then he then stayed in the same building, same floor.

**Q.** Different office in the same building?

**A.** Same building, same floor.

**Q.** At some point in time -- so Mr. Liew said he would pay you. Did he pay you?

**A.** No.

**Q.** At some point in time did you learn that Performance Group had been placed into bankruptcy?

**A.** Yes. I went to Labor court, and when I file it I got a letter.

**THE COURT:** You went to Labor Board and what, sir?

**THE WITNESS:** I went to Labor court for the wages. And I came to know, when I got a letter from Labor court, that they had filed bankruptcy.

**BY MR. HEMANN:**

**Q.** You got a letter from the Labor court saying that USA -- Performance Group --

**A.** (Inaudible response.)

(Reporter interrupts.)

**THE COURT:** You have to wait until he finishes the question before you answer.

Ask it again.

**BY MR. HEMANN:**

**Q.** You got a letter from the Labor court saying that Performance Group had been placed in bankruptcy?

**A.** Yes.

**Q.** And did you ever get your $7,500 payment?

**A.** No.

**MR. HEMANN:** Thank you, Your Honor. No further questions.

**THE COURT:** Ms. Lovett, you may cross-examine.

**MS. LOVETT:** Thank you, Your Honor.

**THE COURT:** It's a mighty big box.

**MS. LOVETT:** I'm not going to use all of it.

**MR. HEMANN:** Let me just --

**THE COURT:** All right. You may if you wish.

(Laughter)

**THE COURT:** I was just noting. It's the battle of the boxes.

**MR. HEMANN:** Yes.

**THE COURT:** Okay. All right. You may proceed, Counsel.

**MS. LOVETT:** Thank you, Your Honor.

**CROSS-EXAMINATION**

**BY MS. LOVETT:**

**Q.** Good morning, Mr. Bhatnagar. You testified just a moment ago that you were originally hired to work for Mr. Liew through

a consulting agency, correct?

**A.** Yes.

**Q.** Was that agency called Adecco?

**A.** Yes.

**Q.** And they're a general staffing agency for engineers, correct?

**A.** Yes.

**Q.** You mentioned that you have a degree in mechanical engineering, right?

**A.** Yes.

**Q.** And you also mentioned that you began work for Performance Group in the summer of 2007; is that right?

**A.** Yes.

**Q.** And, eventually, you became a full-time employee, not just a contractor for the company; is that right?

**A.** Yes.

**Q.** And you worked for them until December 2008, correct?

**A.** Yes.

**Q.** One of your main job responsibilities was making computer models of different pressure vessels, as you mentioned, right?

**A.** Yes.

**Q.** And you used a computer program called COMPRESS to do that; is that right?

**A.** COMPRESS is to do the stress analysis of that. Otherwise, for the models I used Pro E.

**Q.** So you used two computer programs, Pro E and COMPRESS?

**A.** Yes, ma'am.

**Q.** Can you please explain for the jury what Pro E does?

**A.** Pro E is a program to make the models.

**Q.** How does it make the models?

**A.** It's a design program, and you can make models on it.

**Q.** And how does COMPRESS work?

**A.** COMPRESS, it's a -- you have to -- there's a -- it has all the fields there. You have to fill out all the fields. And then it starts -- it gives you -- it does the stress analysis. If some of the things are failing, then they let you know that these things are failing. Then you have to change the thicknesses, or whatever. Like thickness, you have to change.

**Q.** It helps you figure out the stress analysis of the pressure vessel?

**A.** Yes.

**Q.** And you were also involved in getting quotes from vendors for different pieces of equipment; is that right?

**A.** Yes.

**Q.** And sometimes in your work you would reference machine design books that you owned from your previous work; is that right?

**A.** Yes.

**Q.** You -- one reference material you used was the ASME Code; is that right?

**A.** Yes.

**Q.** What is the ASME Code?

**A.** The American Society of Mechanical Engineers.

**Q.** And how would you use that code?

**A.** It gives all the -- all the tensile strength of different materials.

**Q.** So you could learn more about the different materials?

**A.** Materials. It gives all the formulas, if you want to use it manually. But with COMPRESS we don't need to do that. It does everything for you.

**MS. LOVETT:** Your Honor, may I approach the witness with Exhibit 3065?

**THE COURT:** Yes. Is that already in evidence, Counsel?

**MS. LOVETT:** No, it is not.

**THE COURT:** All right. You may.

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document in front of you there?

**A.** Yes.

**Q.** What is it?

**A.** It says B -- this is a ASME code.

**Q.** So this is part of the ASME book that you referenced?

**A.** This is one, yes.

**Q.** And can you describe the first page, just right there, for

the jury please. What is that?

**A.** I'm attaching ASME 3013 process piping specifications.

**Q.** So is that an email from you?

**A.** Yes.

**Q.** And who did you address this email to?

**A.** To Bob Maegerle, and copy to Walter Liew.

**Q.** And did you write this email in the normal course of your business as part of Performance Group?

**A.** Yes.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 3065 into evidence.

**THE COURT:** Any objection?

**MR. HEMANN:** No, Your Honor.

**THE COURT:** Admitted.

(Trial Exhibit 3065 received in evidence.)

**MS. LOVETT:** Mr. Guevara, can you please display it to the jury. The second page, please.

(Document displayed.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, you mentioned that this is part of the ASME materials that you referenced, correct?

**A.** Yeah, this is for the pressure piping.

**Q.** Do you recall why you sent this to Mr. Maegerle and Mr. Liew?

**A.** It's for the piping specifications I had with me.

**Q.** So this is information you wanted to share with them about the piping specifications?

**A.** Yes.

**Q.** Thank you.

You spoke with Mr. Hemann about your use of the Internet to look up general information on this project, right?

**A.** Yes.

**Q.** And you mentioned that, to your knowledge, you can't find specifics like temperature and pressure for the TiO2 system on the Internet, right?

**A.** Yes.

**Q.** Did you ever go look for those things on the Internet?

**A.** I didn't have to.

**Q.** So you just never looked for those on the Internet?

**A.** I never looked for it because it was available for me.

**THE COURT:** Because what?

**THE WITNESS:** It was available for me.

**THE COURT:** Okay. Thank you.

**THE WITNESS:** So I didn't have to look for it.

**BY MS. LOVETT:**

**Q.** And you also mentioned that one time you traveled with Mr. Liew to China, correct?

**A.** Yes.

**Q.** And at that time you went to the Jinzhou plant?

**A.** Yes.

**Q.** And there you met with engineers from Jinzhou, correct?

**A.** Yes.

**Q.** You also mentioned that you got a lot of the information you used in your models from Mr. Liew, right?

**A.** Yes.

**Q.** And some of the information from Mr. Maegerle, correct?

**A.** Yes.

**Q.** You thought that Mr. Liew knew a lot about the titanium dioxide process, right?

**A.** Yes. When I met him, he knew a lot -- a lot of information.

**Q.** And you felt like he knew what he was doing, correct?

**A.** Yes.

**Q.** You also thought that Mr. Maegerle was a smart person, right?

**A.** Yes.

**Q.** And there were also old patents that were kept in the Performance Group office; isn't that correct?

**A.** Yes.

**MS. LOVETT:** Your Honor, may I approach with Exhibit 1297?

**THE COURT:** Yes, you may.

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** Yes.

**Q.** What is it?

**A.** This is pressure vessel design calculations for oxidation reactor.

**Q.** You drafted this document, correct?

**A.** Uhm, yes.

**Q.** You drafted it in the course of your job responsibilities at Performance Group, correct?

**A.** Yes.

**Q.** Where -- where did you send this document once it was complete?

**A.** Uhm, gave it to Walter for submission.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 1297 into evidence.

**THE COURT:** Any objection?

**MR. HEMANN:** None, Your Honor.

**THE COURT:** It's admitted.

(Trial Exhibit 1297 received in evidence.)

(Document displayed.)

**BY MS. LOVETT:**

**Q.** You mentioned that this is the pressure vessel design for the oxidation reactor, correct?

**THE COURT:** Counsel, can you say for the record exactly what's on the screen now. There's something on the screen.

**MS. LOVETT:** The first page.

**THE COURT:** The first page. Thank you. Okay.

**BY MS. LOVETT:**

**Q.** So, yes, you mentioned this is a pressure vessel design for the oxidation reactor, right?

**A.** Uh-huh.

**Q.** And this is for the 30K Jinzhou project?

**A.** Yes.

**Q.** And this document is quite lengthy, correct?

**A.** Yes.

**Q.** And it includes a lot of detailed information and calculations related to the oxidation reactor --

**A.** Yes.

**Q.** -- right?

**MS. LOVETT:** Mr. Guevara, can you turn to the second page of this document, please.

(Document displayed.)

**BY MS. LOVETT:**

**Q.** Is this an example of the type of drawings and calculations that you created as part of this oxidation reactor design?

**A.** This one is created by -- by the COMPRESS program.

**Q.** So this is the output of the COMPRESS software?

**A.** Yes.

**Q.** Thank you.

**MS. LOVETT:** Your Honor, may I approach with Exhibit

1683?

**THE COURT:** Yes, you, you may. And after you're done with this we're going to take our break.

**MS. LOVETT:** Thank you, Your Honor.

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** Yes, ma'am.

**Q.** What is it?

**A.** This is a condenser tank.

**Q.** Is this another pressure vessel design calculation?

**A.** Yes, ma'am.

**Q.** You drafted this document, correct?

**A.** Yes.

**Q.** And you drafted it in the course of your job responsibilities at Performance Group?

**A.** Yes.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 1683 into evidence.

**MR. HEMANN:** No objection, Your Honor.

**THE COURT:** It's admitted.

(Trial Exhibit 1683 received in evidence.)

**BY MS. LOVETT:**

**Q.** What is this pressure vessel design calculation for, what vessel?

**A.** This is SR condenser tank.

**Q.** And it was your understanding that this was another one of the vessels to be used in the 30K Jinzhou plant, correct?

**A.** Yes.

**MS. LOVETT:** Your Honor, this would be a good time for a break.

**THE COURT:** Okay. Thank you.

Ladies and gentlemen, we are going to take our usual break. We may go a couple of more minutes, I have something to take up with counsel.

Remember the Court's usual admonitions: keep an open mind; don't discuss the case; don't get any outside information.

We'll see you in 15 minutes, perhaps a few minutes more.

And you can step down, sir, for the moment.

(Jury out at 11:44 a.m.)

**THE COURT:** You can step outside, if you like, sir.

All right. The jury has retired. I wanted to raise with counsel the question of the most recent note that we received from Juror Number 7, Mr. Xavier. It was received today, at 8:00 a.m., and distributed to both sides. And it says the following:

"Your Honor, my wife sister-in-law's chemo schedule has been tentatively set on Mondays, except holidays, late in the morning till end of February unless something comes up," exclamation point, I think that is, but maybe not. "Think my jury duty will be back to normal. Sincerely,

Antonio Xavier."

Now, this now is the second note we received from this juror indicating his personal situation. And as counsel will recall, the last time this came up it necessitated, with counsel's input, my inquiring, bringing Mr. Xavier, Juror Number 7, out, asking him about the circumstances surrounding his -- this medical situation and his family, how he was feeling, et cetera, and then giving us the schedule at least for this past Monday; followed by inquiring of the jury about their ability to come in at different hours; resulting in notes from the jury with respect to their likes, their wants and, shall we say, aversions to certain schedules being imposed that were different than what the Court had established originally.

This note would necessitate my bringing Mr. Xavier out and asking him about what he means by the word "tentatively," what he means by the word "later in the morning," what he means by "unless something comes up," and that -- and what he means by "think my jury duty will be back to normal."

There are too many uncertainties in this, and I think that this continuous questioning of Mr. Xavier and -- Juror Number 7, and the concomitant questioning of the jury panel about scheduling, and then the Court having to impose additional scheduling on the jury that was different than what I told them at the beginning, coupled with counsel's concern about how long this case may run vis-a-vis the original schedule that we set

forth, so I'm proposing and I'll ask counsel's input and then I'll tell you what I'm going to do after I do that, to excuse this juror because I think it's getting too complicated.

I have noticed, I have been watching him very carefully. He seems to be staring out into space. For the last witness's testimony he was reading from his jury instructions and not looking at the witness.

And I want to know what counsel's position is. I would propose to excuse him.

What's the government's position?

**MR. AXELROD:** The government would concur, Your Honor. I think that, you know, what this note reflects is that there's going to be, at a minimum, a Monday scheduling issue. And given Mr. Gasner's concerns about the trial and the timing and moving this thing along, I think it would be prudent.

We'll still have three alternates. And we move forward. Otherwise, we're going to be revisiting an issue and having scheduling concerns on top of whatever scheduling issues may otherwise arise.

So we would concur.

**THE COURT:** Ms. Agnolucci.

**MS. AGNOLUCCI:** I read the note otherwise. I see that it says here that the chemo would be later in the morning, which I understand to mean later than it was before; i.e., the wife will be able to take care of the day-care responsibilities

that otherwise were preventing this juror from being here.

If this is going to cause any scheduling changes we certainly defer to Your Honor's decision not to involve the entire jury. But we read this note as a statement by Mr. Xavier that the chemo schedule has been changed to later, so that there will be no problems with him adhering to the current schedule.

**THE COURT:** All right. Mr. Froelich, what's your --

**MR. FROELICH:** I read it the same way, Your Honor.

**THE COURT:** As which, as whom?

(Laughter)

**MR. FROELICH:** I read it as I thought I remembered him saying that his wife didn't get home in time.

**MS. AGNOLUCCI:** Correct.

**MR. FROELICH:** And that because it was in the morning he had to take -- his wife's sister, I believe, who was having a problem. So that's the way I interpreted it.

**THE COURT:** Well, I think there are too many variables here because in order to confirm what Ms. Agnolucci just hypothesized we would need to bring him out again, separately, question him again, and depending on his answer determine whether we need to speak to the rest of the jury.

So I am -- pursuant to Rule 24(c) of the Federal Rules of Criminal Procedure, I have the discretion to deal with this issue. And, more particularly, the Ninth Circuit has taught in

*United States vs. Alexander*, 48 F.3d 1477, that whether a juror's absence is sufficiently disruptive to warrant removal is a function of the managerial complexity of the case, the flexibility of the Court's and the parties' schedules, and the availability of witnesses and other evidence.

The Court goes on to discuss the factors that the District Court should consider when exercising its discretion. And the Court refers to a previous decision, *United States vs. Gay*, a Ninth Circuit decision, in which the Ninth Circuit says that it held that the complexity of the case, which involved numerous parties, voluminous evidence, and lengthy trial proceedings, as well as various rescheduling conflicts justified the Court's decision to replace the juror.

So for that reason, at the end of today I intend to excuse this juror from this case. We have three alternates available. I think that the pendency of this is too uncertain. Given the number of moving parts in this case with respect to exhibits, complexities, scheduling, and that we're on a pretty tight schedule, although I said I would not compress anybody's ability to present their case or defense, it's just something that we need not deal with.

And I worry about, in light of having to solicit those notes from the juror before, alienating the rest of the jury.

I understand Mr. Gasner's, I think, position, or Ms. Agnolucci, well, that the word might get out and everybody

else would want out. I have the ability to control that as well.

So my proposal would be -- not my proposal, my ruling is and I have ruled and I will excuse this juror at the end of the day. I will ask him to remain, and then I will instruct him not to discuss the matter with any other juror, and just to leave with the Court's thanks.

So that's on this Court. And if I'm wrong, the Ninth Circuit can make new law. They are known to do that. But that's going to be the ruling of the Court.

And I find further support in Rule 24(c) of the Federal Rules of Criminal Procedure.

Yes, Mr. --

**MR. FROELICH:** Your Honor, I agree with the procedure. I would just like to make sure we hold him a little bit afterwards, so the jury clears the buildings, so that they don't run into him.

**THE COURT:** Well, I'll leave him for a few minutes. We'll make sure the jury has left.

I have another matter right after, but I will hold him, not for too long, but I will -- I think that's a good point.

All right. Let's take our 15-minute break.

**MR. AXELROD:** Thank you, Your Honor.

**MS. AGNOLUCCI:** Thank you, Your Honor.

(Recess taken at 11:53 a.m.)

(Proceedings resumed at 12:09 p.m.)

(Proceedings were heard out of the presence of the jury:)

**THE COURT:** Everybody is here. Okay.

I wanted to -- what I've decided to do is, I think that what Defense counsel said has merit with respect to this juror. So I'm going to bring him out at the very end today, and I'm going to ask Juror Number 7 what he meant by this note. If he meant what Ms. Agnolucci and Mr. Froelich believe, i.e., that as a result of the change in the schedule for the chemotherapy that he can now sit on a normal schedule, then we'll just keep him unless and until something happens and we have to revisit that.

If it's the way I read it, and I guess maybe I'm in the minority here, but that he needs some sort of accommodation, further accommodation, to his schedule on Mondays, then I'm going to go ahead -- and I want to ask the Defense position on that.

Let's assume he says, "I need an accommodation every Monday except holidays for the rest of February," what would be your position?

**MS. AGNOLUCCI:** Our position would be that it would be fine to excuse him in the interest of not creating a disruption for the rest of the jury; but only if he said, "You know, I'm certain that I would need it."

**THE COURT:** Right. And he may need it later on; but

if he, for the foreseeable future, can be on our schedule, then the other issues that I have observed, I think, don't -- that is to say, he seemed a little distant, that was just my observation, and I don't think that -- and I've disclosed it to the parties and the parties have the same position.

So let's see what he says at the end of the day, and we'll be guided accordingly.

**MR. GASNER:** Your Honor, I had one brief matter before the jury comes back.

**THE COURT:** Yes.

**MR. GASNER:** I read the Government's brief on Mr. Duong's testimony.

**THE COURT:** Which I haven't, by the way. So you're ahead of me.

**MR. GASNER:** It basically says they want to treat him as a hostile witness. The thing that caught my eye is an assertion that he's going to assert his Fifth Amendment privilege. But what I confirmed with Mr. Axelrod is, number one, he's not going to do that in front of the jury; number two, he does have an immunity order.

But, number three, Mr. Axelrod was planning to elicit the fact of the immunity order in front of the jury, and I would not cross-examine him on that basis. He's got a very good lawyer who got him the immunity, insisted upon that; but I think it creates an atmosphere of wrongdoing that I would

object to.

**THE COURT:** All right. Well, I need to think about it further, and I don't want to keep the jury waiting; but I say off the top of my head, I would think that what Mr. Gasner says has some traction with the Court. It's a different issue about whether or not the Court allows the Government to examine him as a hostile witness.

But I think to the extent that the witness -- his Fifth Amendment right is no longer at issue because he's been given immunity, I agree -- and he's not a cooperator or someone who's pled guilty wherein the Government would have a right to go into a plea agreement, et cetera, even if that meant the defendant [sic] saying, "Oh, and I pled guilty to the same crime that these defendants are charged with."

So I'll hear more from the Government on this, but my initial reaction is I don't know that that would be relevant.

**MR. AXELROD:** Well, I'm happy to think some more about it, Your Honor; but I think that whether it's through my eliciting it or the Court's instructing it, it does seem that the fact of his testimony pursuant to a court order is relevant to evaluating --

**THE COURT:** That's a different issue, though. We can certainly bring out that he's here pursuant to a court order and testifying pursuant, but not that he asserted his Fifth Amendment and the Court --

**MR. AXELROD:** I agree.

**THE COURT:** All right. So, I mean, I assume you don't have any objection. Because witnesses are subpoenaed all the time and, you know, and it's implicit. Some of them are subpoenaed, some come voluntarily.

**MR. GASNER:** If the word "immunity" is taken out and it's just "court order," I'm fine with it.

**THE COURT:** All right. Well, let's get the jury, and we can worry about -- we have plenty to worry about now. We'll worry about more later.

(Proceedings were heard in the presence of the jury:)

**THE COURT:** Please be seated.

You may come forward, sir, and resume the witness stand.

And you may continue your cross-examination, Ms. Lovett.

**MS. LOVETT:** Thank you, Your Honor.

**Q.** Good afternoon, Mr. Bhatnagar.

**A.** Good afternoon.

**MS. LOVETT:** Your Honor, may I approach with Exhibit 1690?

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** Yes.

**Q.** What is it?

**A.** This is another pressure vessel calculations for aluminum chloride generator.

**Q.** This is for the aluminum chloride generator; correct?

**A.** Yes, ma'am.

**Q.** And you drafted this document; right?

**A.** Yes.

**Q.** You drafted it in the course of your job responsibilities at Performance Group; right?

**A.** Yes, ma'am.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 1690 into evidence.

**THE COURT:** Any objection?

**MR. HEMANN:** No, Your Honor.

**THE COURT:** Admitted.

(Trial Exhibit 1690 received in evidence)

**MS. LOVETT:** Mr. Guevara, please display it for the jury.

**Q.** You mentioned that this is a design for the aluminum chloride generator; right?

**A.** Yes, ma'am.

**Q.** And it was your understanding that this was a design for the 30K Jinzhou aluminum chloride generator; right?

**A.** Yes, ma'am.

**Q.** Thank you.

**MS. LOVETT:** Your Honor, may I approach with

Exhibit 2959?

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** Yes, ma'am.

**Q.** Is this another pressure vessel design calculation?

**A.** Yes, ma'am.

**Q.** Which vessel is this for?

**A.** This is a cyclone.

**Q.** The NR cyclone?

**A.** NR cyclone.

**Q.** And you drafted this document; correct?

**A.** Yes, ma'am.

**Q.** You drafted it in the course of your job responsibilities at Performance Group like the others; correct?

**A.** Yes, ma'am.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 2959 into evidence.

**THE COURT:** Any objection?

**MR. HEMANN:** No, Your Honor.

**THE COURT:** It's admitted.

(Trial Exhibit 2959 received in evidence)

**BY MS. LOVETT:**

**Q.** You mentioned that this is the design for the NR cyclone;

right?

**A.** Yes, ma'am.

**Q.** And was it your understanding that this was the NR cyclone designed to be used in the 30K Jinzhou plant?

**A.** Yes, ma'am.

**MS. LOVETT:** Your Honor, may I approach with one more, Exhibit 2960?

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** Yes, ma'am.

**Q.** What is this?

**A.** This is a quench tank.

**Q.** Is this another pressure vessel design calculation?

**A.** Yes.

**Q.** And you drafted this; right?

**A.** Yes, ma'am.

**Q.** And you drafted it in the course of your job responsibilities at Performance Group; correct?

**A.** Yes, ma'am.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 2960 into evidence.

**MR. HEMANN:** No objection.

**THE COURT:** It's admitted.

(Trial Exhibit 2960 received in evidence)

**BY MS. LOVETT:**

**Q.** You testified just a moment ago that this is for the quench tank; correct?

**A.** Yes, ma'am.

**Q.** And, again, this was for the 30K Jinzhou project; correct?

**A.** Yes, ma'am.

**MS. LOVETT:** Apologies, Your Honor. There's one last one.

**THE COURT:** All right.

**MS. LOVETT:** May I approach with Exhibit 2975?

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** Yes, ma'am.

**Q.** What is this?

**A.** This is a head tank.

**Q.** This is the head tank you said?

**A.** Yes, ma'am.

**Q.** And is this another pressure vessel design calculation that you drafted?

**A.** Yes, ma'am.

**Q.** And you drafted this in the course of your responsibilities at Performance Group; correct?

**A.** Yes, ma'am.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 2975 into evidence.

**MR. HEMANN:** No objection.

**THE COURT:** It's admitted.

(Trial Exhibit 2975 received in evidence)

**BY MS. LOVETT:**

**Q.** So this image at the top is of the head tank design; is that correct?

**A.** Yes, ma'am.

**Q.** And this, again, was designed for the 30K Jinzhou project; right?

**A.** Yes, ma'am.

**Q.** So, Mr. Bhatnagar, we've gone through a number of different designs that you did for the 30K Jinzhou plant; correct?

**A.** Yes, ma'am.

**Q.** And Mr. Hemann asked you during direct whether you had any titanium dioxide experience; right?

**A.** Yes.

**Q.** You answered that you didn't; correct?

**A.** Yes.

**Q.** And now that we've looked at this work product, there was much more work product that you created at Performance Group than what we've seen today here; right?

**A.** Yes.

**Q.** And you didn't feel that you needed titanium dioxide experience to do this mechanical design work; did you?

**A.** No.

**MS. LOVETT:** Your Honor, may I approach the witness with Exhibit 3010?

**THE COURT:** Yes.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** Yes, ma'am.

**Q.** What is it?

**A.** This is a microgrinder assembly.

**Q.** A microgrinder assembly?

**A.** Yes, ma'am.

**Q.** And did you draft this document?

**A.** Yes.

**Q.** You drafted it in the course of your job responsibilities at Performance Group; correct?

**A.** Yes, ma'am.

**Q.** And do you know what project this drawing was done for?

**A.** This for Jinzhou 30K.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 3010 into evidence.

**MR. HEMANN:** No objection.

**THE COURT:** Admitted.

(Trial Exhibit 3010 received in evidence)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, you mentioned that this is the microgrinder assembly. Is that part of a micronizer?

**A.** Micronizer.

**Q.** And Mr. Liew provided you with patents and public information related to micronizers; correct?

**A.** Yes.

**Q.** And he also provided you with a Sturtevant drawing of a micronizer; right?

**A.** Yes.

**Q.** And you worked from that information to create this package of drawings; right?

**A.** Yes.

**Q.** And it's many pages long with different parts of the micronizer; correct?

**A.** Yes.

**Q.** You learned that the micronizer design here was successfully built at Zhenjiang; correct?

**A.** I don't know about that.

**Q.** Moving to a different topic, Performance Group used a company called Stantec for work on piping; correct?

**A.** Yes.

**Q.** You also worked with a man named Wendell Baker; right?

**A.** I don't work for him, but he worked for Performance Group.

**Q.** You did work with him as part of your responsibilities at Performance Group?

**A.** Yes.

**Q.** What was Mr. Baker's role at the company?

**A.** He was doing controls and instrumentation.

**Q.** Controls and instrumentation?

**A.** Yes.

**MS. LOVETT:** Your Honor, may I approach with Exhibit 3075.

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** (Witness examines document.) Yes, ma'am.

**Q.** What is it?

**A.** This is a P&ID diagram.

**Q.** A P&ID diagram?

**A.** Yes, piping and instrumentation diagram.

**Q.** And the first page, is that an email?

**A.** Yes, ma'am.

**Q.** And who is that email from?

**A.** From me.

**Q.** Who is it addressed to?

**A.** Wendell.

**Q.** And anyone else?

**A.** Copy to Walter Liew and Bob Maegerle.

**Q.** So it's addressed to Wendell Baker, Walter Liew, and Bob Maegerle; correct?

**A.** Yes, ma'am.

**Q.** And did you draft this email in the course of your job responsibilities at Performance Group?

**A.** Yes.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 3075 into evidence.

**MR. HEMANN:** No objection, Your Honor.

**THE COURT:** It's admitted.

(Trial Exhibit 3075 received in evidence)

**BY MS. LOVETT:**

**Q.** Looking at the first page, the email --

**A.** Yes, ma'am.

**Q.** -- you were sending Mr. Baker, Mr. Liew, and Mr. Maegerle a revised chlorination P&ID; correct?

**A.** Yes.

**Q.** Mr. Guevara, could you turn to page 2, please?

This is an example of a chlorination P&ID; correct?

**A.** Yes.

**Q.** Thank you.

**MS. LOVETT:** Your Honor, may I approach with Exhibit 1090?

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** (Witness examines document.) Yes.

**Q.** What is it?

**A.** (Witness examines document.) These are some equipment we bought, some instrumentation we bought.

**Q.** I'm sorry. Can you say that again?

**A.** This is some instrumentation we bought and sent the brochure to Wendell.

**Q.** It's a vendor brochure?

**A.** Yes.

**Q.** And the first page, is that an email?

**A.** Uh-huh.

**THE COURT:** Is that a "yes," sir?

**THE WITNESS:** Yes.

**BY MS. LOVETT:**

**Q.** Who is that email from?

**A.** From me.

**Q.** And who is it addressed to?

**A.** To Wendell.

**Q.** Is there anyone else addressed on this email?

**A.** Copy to Walter and Bob Maegerle.

**Q.** And what's the date on this email?

**A.** July 14th, 2008.

**Q.** You drafted this email in the course of your job responsibilities at Performance Group; correct?

**A.** Yes.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 1090 into evidence.

**THE COURT:** Any objection?

**MR. HEMANN:** No objection.

**THE COURT:** It's admitted.

(Trial Exhibit 1090 received in evidence)

**BY MS. LOVETT:**

**Q.** So, Mr. Bhatnagar, looking at that first page, the email, you mentioned that you were sending this to Wendell Baker; correct?

**A.** Yes.

**Q.** And the brochure that you mentioned that's attached, and feel free to look at the other pages if you need to, was related to the Vanadium Analyzer; is that right?

**A.** Yes.

**Q.** Mr. Guevara, can you turn to the second page, please?

This page here is an example of a quote that you received from a vendor; is that correct?

**A.** Yes.

**Q.** Thank you.

**MS. LOVETT:** Your Honor, may I approach with

Exhibit 1093?

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** (Witness examines document.) Yes.

**Q.** What is it?

**A.** This is an email from me to Wendell Baker, Walter, and Bob Maegerle.

**Q.** Wendell Baker, Walter Liew, and Bob Maegerle?

**A.** Yes, ma'am.

**Q.** And what's the date on this email?

**A.** July 18th, 2008.

**Q.** And did you draft this email in the course of your job responsibilities at Performance Group?

**A.** Yes.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 1093 into evidence.

**THE COURT:** Objection?

**MR. HEMANN:** No objection.

**THE COURT:** It's admitted.

(Trial Exhibit 1093 received in evidence)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, you mentioned that in this email -- you addressed this email to Wendell Baker, Walter Liew, and Bob

Maegerle; correct?

**A.** Yes, ma'am.

**Q.** And you were sending along a revised oxidation P&ID in this email; correct?

**A.** Yes.

**Q.** Mr. Guevara, can you turn to page 2, please?

This is an example of an oxidation P&ID created by Performance Group; correct?

**A.** Yes.

**Q.** Thank you.

**MS. LOVETT:** Your Honor, may I approach with Exhibit 3080?

**THE COURT:** All right.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** (Witness examines document.) Yes.

**Q.** What is it?

**A.** This is an email which I sent to Wendell Baker and Bill Hensiek.

**Q.** Who was Bill Hensiek?

**A.** He was working for Wendell Baker.

**Q.** He worked for Wendell Baker?

**A.** Yes, ma'am.

**Q.** And who is copied on this email?

**A.** To Walter Liew and Bob Maegerle and Steve Amerine.

**Q.** And Steve Amerine worked with you; is that correct?

**A.** Yes.

**Q.** And what's the date on this email?

**A.** September 17th, 2008.

**Q.** And was this email sent in the normal course of your job responsibilities at Performance Group?

**A.** Yes, ma'am.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 3080 into evidence.

**THE COURT:** Any objection?

**MR. HEMANN:** No objection, Your Honor.

**THE COURT:** It's admitted.

(Trial Exhibit 3080 received in evidence)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, looking at this first page here, this email, you were sending Mr. Baker and a number of other people updated drawings of the oxidation area equipment; is that right?

**A.** Yes, ma'am.

**Q.** Mr. Guevara, can you turn to the second page, please?

This page is an example of an equipment specification; is that correct?

**A.** (Witness examines document.) It's equipment drawing.

**Q.** An equipment drawing?

**A.** Yes, ma'am.

**Q.** And do you see in the lower right-hand corner it mentions that it's an equipment specification?

**A.** (Witness examines document.) Yes.

**Q.** And this was one of the equipment specifications for the oxidation step; correct?

**A.** Yes.

**Q.** Thank you.

**MS. LOVETT:** Your Honor, may I approach the witness with Exhibit 3100? And this is my last one.

**THE COURT:** Yes, you may.

(Pause in proceedings.)

**BY MS. LOVETT:**

**Q.** Mr. Bhatnagar, do you recognize this document?

**A.** (Witness examines document.) Yes, ma'am.

**Q.** What is it?

**A.** This is an email from Steve.

**Q.** From Steve Amerine?

**A.** From Steve Amerine.

**Q.** And who is it addressed to?

**A.** To Walter Liew, me, and Bob Maegerle.

**Q.** And what is the date on this email?

**A.** September 17th, 2008.

**Q.** And did you receive this email from Steve Amerine as part of the ordinary course of your responsibilities at Performance

Group?

**A.** Yes, ma'am.

**MS. LOVETT:** Your Honor, I move to admit Exhibit 3100 into evidence.

**MR. HEMANN:** No objection.

**THE COURT:** Admitted.

(Trial Exhibit 3100 received in evidence)

**BY MS. LOVETT:**

**Q.** Looking at this first email, Mr. Bhatnagar, Mr. Amerine is forwarding you an email from a vendor; correct?

**A.** Yes, ma'am.

**Q.** And this email involved technical information about the rotary drum vacuum filter; is that right?

**A.** Yes.

**Q.** Thank you.

When Mr. Hemann was questioning you, you mentioned that many of the numbers you worked with came from Mr. Maegerle; correct?

**A.** Yes.

**Q.** But you weren't sure where Mr. Maegerle got those emails -- those numbers; correct?

**A.** No.

**Q.** You don't know where he learned those numbers; right?

**A.** No.

**Q.** You don't know what sources he was relying on; do you?

**A.** No.

**Q.** You also mentioned that sometimes Mr. Maegerle made reference to his employment -- his former employment at DuPont; correct?

**A.** Sometimes, yes.

**Q.** And he would sometimes mention a plant in Korea; isn't that right?

**A.** Yes.

**Q.** But he didn't mention a plant in Taiwan; did he?

**A.** No, not to the best of my knowledge.

**Q.** You also mentioned that sometimes with vendors you heard Mr. Liew mention that he had a mastery of DuPont know-how; correct?

**A.** Yes.

**Q.** But you understood him to be making a sales pitch when he said that; right?

**A.** Yes.

**Q.** You finally mentioned that after you stopped working for Mr. Liew, you came and found that his office was empty; right?

**A.** Yes.

**Q.** And later on you found that he was again working in the same building; correct?

**A.** Yes.

**Q.** He was in a smaller office than before, though; right?

**A.** Yes.

**MS. LOVETT:** Thank you. No further questions, Your Honor.

**THE COURT:** Mr. Froelich, do you have any questions?

**MR. FROELICH:** No, Your Honor.

**THE COURT:** Anything further?

**MR. HEMANN:** I do, Your Honor. It's going to take me a moment here.

**MS. LOVETT:** It will take me a moment, too.

**MR. HEMANN:** Okay. Go slow.

And I won't be asking about all of them, Your Honor, so don't fear.

(Pause in proceedings.)

**THE COURT:** I don't think I've ever seen four binders stacked up like that.

**MR. HEMANN:** It seems very precarious, Your Honor.

**MS. LOVETT:** Do you want him to hold on to the exhibits?

**MR. HEMANN:** Sure.

**MS. LOVETT:** All right.

**REDIRECT EXAMINATION**

**BY MR. HEMANN:**

**Q.** Ms. Lovett just asked you a question about statements Mr. Liew made to vendors about possessing DuPont know-how. Do you remember that?

**A.** Yes.

**Q.** And she described it as a sales pitch. Do you remember that?

**A.** Yes.

**Q.** Did you feel when you heard Mr. Liew say what he said to the vendors, that there was anything dishonest about it?

**A.** No.

**Q.** Ms. Lovett showed you a series of equipment specifications. I'm just going to use one.

**THE COURT:** Is this a photocopy or a copy of an exhibit?

**MR. HEMANN:** This is an exhibit that's in evidence, Your Honor.

**THE COURT:** Is this one of the ones that Ms. Lovett --

**MR. HEMANN:** Yes.

**THE COURT:** Because I prefer using the actual exhibit. Take it from the witness and use the actual one rather than a copy.

**MR. HEMANN:** I think he has it in front of him, Your Honor.

**THE COURT:** But I meant to show to the jury.

**MR. HEMANN:** Oh. Certainly, Your Honor. I can take that from him.

**THE COURT:** All right.

**MR. HEMANN:** It might be a little bit easier.

May I approach?

**THE COURT:** Yes. Sure.

**MR. HEMANN:** I can start with -- I think it's the -- the same one.

**Q.** This document, do you remember this, Mr. Bhatnagar?

**A.** Yes, sir.

**Q.** What is it?

**A.** This is an SR condenser tank.

**Q.** What does an SR condenser tank do?

**A.** I don't remember right now.

**Q.** In the TiO2 process, what function does it perform?

**A.** It's the condenser -- it's a -- it condenses the fumes which is coming out.

**Q.** From?

**A.** From the -- I don't remember actually. Exactly I can't tell you.

**Q.** Well, then how did you design it?

**A.** At that time -- see, it's almost five years now, so I don't remember; but at that time all the information was given to me, and I designed it.

**Q.** Given to you by whom?

**A.** Not -- I can't tell you exactly, but must be either from Mr. Liew or Mr. Maegerle.

**Q.** Ms. Lovett showed you an ASME booklet. Do you remember that?

**A.** Yes.

**Q.** I think we may have had that returned.

**THE CLERK:** If it's the one that had the clip, they have it.

(Pause in proceedings.)

**THE COURT:** In the future, if that's an admitted exhibit, it should always be up here, not in counsel's possession, please. Thank you.

**BY MR. HEMANN:**

**Q.** Do you remember that Ms. Lovett showed you the ASME process piping document?

**A.** Yes.

**Q.** Now, there are many ASME publications regarding different aspects of mechanical engineering; correct?

**A.** Yes, sir.

**Q.** And this is just one of them?

**A.** Yes, sir.

**Q.** But as an employee of Performance Group, you had access either in hard copy or electronically to all of them; correct?

**A.** He had Section 8, which is required for the pressure vessels.

**Q.** Okay. So he had the portions of it that were pertinent to the job you were doing?

**A.** Yes.

**Q.** And is this one of those portions?

**A.** This is different from the pressure vessel. This is for

the process piping.

**Q.** Did you have a pressure vessel ASME publication at the Performance Group office?

**A.** Yes, part of it was there.

**Q.** And that's public information just like this is; right?

**A.** Yes.

**Q.** Okay. Based on the pressure vessel document, that's the information that you would use to design something like the document in Exhibit 1683; correct?

**A.** Yes.

**Q.** You wouldn't use the piping. You would use the pressure vessel; correct?

**A.** Yes.

**Q.** Okay. Would you have been able or were you able to design this item only using the ASME publication, or did you require information from Mr. Maegerle and Mr. Liew?

**A.** All the criterias I need from them.

**Q.** So you need both criterias and specifications?

**A.** Specifications.

**Q.** Correct. And the criteria, are they TiO2 specific?

**A.** Yes.

**Q.** And the specifications are general knowledge?

**A.** Yes.

**MR. HEMANN:** I'm looking for Exhibit 3075, please. It will take me a moment.

(Pause in proceedings.)

**BY MR. HEMANN:**

**Q.** Okay. Do you remember, Mr. Bhatnagar, Ms. Lovett showing you this document?

**A.** Yes, sir.

**THE COURT:** Does it have an exhibit number, Counsel?

**MR. HEMANN:** Thank you, Your Honor. 3075.

**THE COURT:** Thank you.

**BY MR. HEMANN:**

**Q.** And this has to do with a P&ID; correct?

**A.** Yes, sir.

**Q.** And also this document, which is 3093 [sic], and that has to do with a P&ID; correct?

**A.** Yes, sir.

**THE CLERK:** 30?

**MR. HEMANN:** 1093. I apologize.

**Q.** You were making changes to a P&ID that were directed by somebody else; correct?

**A.** Yes, sir.

**Q.** Did you draft the original P&ID for the oxidation phase or for any other part of this?

**A.** I didn't draft it.

(Pause in proceedings.)

**MR. HEMANN:** No further questions, Your Honor. Thank you.

**THE COURT:** Ms. Lovett, anything further?

**MS. LOVETT:** Nothing further.

**THE COURT:** All right. You're excused, sir. Thank you very much.

**THE WITNESS:** Thank you.

(Witness excused.)

**THE COURT:** Next witness, please.

**MR. AXELROD:** Thank you, Your Honor. The United States calls Bert Diemer.

**THE COURT:** All right. Ladies and gentlemen, if you want to stand while we're waiting for the witness, now would be a good time to stretch.

**MR. AXELROD:** And I have one housekeeping matter, Your Honor. Last week during the testimony of Mr. Dayton, he created that image on the board. We took a picture of it. I've provided it to counsel. I wanted to offer that as Exhibit 4005.

**THE COURT:** All right. Any objection, Mr. -- I think it was -- I don't know if you were defending that one, Mr. Gasner. Counsel has offered a picture of what's on the board that says, "Do Not Erase Board," as an exhibit.

**MR. GASNER:** That's fine.

**THE COURT:** All right. It's admitted.

(Trial Exhibit 4005 received in evidence)

**MR. AXELROD:** All right. And I may then erase and use

this board again?

**THE COURT:** Yes, you may.

**MR. AXELROD:** All right. Thank you, Your Honor. And I'll put this in.

**THE CLERK:** Raise your right hand, please.

**RUSSELL BERTRUM DIEMER, JUNIOR**,

called as a witness for the Government, having been duly sworn, testified as follows:

**THE WITNESS:** I do.

**THE CLERK:** Thank you. Please be seated.

And state and spell your full name for the record.

**THE WITNESS:** Russell Bertrum Diemer, Junior.

**THE CLERK:** Please spell it.

**THE WITNESS:** R-U-S-S-E-L-L, B-E-R-T-R-U-M, D-I-E-M-E-R, Junior.

**THE CLERK:** Thank you.

**MR. AXELROD:** May I proceed, Your Honor?

**THE COURT:** Yes, please.

**MR. AXELROD:** Thank you.

**DIRECT EXAMINATION**

**BY MR. AXELROD:**

**Q.** Good afternoon, Dr. Diemer.

**A.** Good afternoon.

**Q.** Where do you work?

**A.** I work in Wilmington, Delaware, for the DuPont Company.

**Q.** For the DuPont Company. What is your current position at DuPont?

**A.** My title is engineering fellow in our Corporate Engineering Department.

**Q.** When you say "engineering fellow," could you describe for the jury what that position is?

**A.** It's a professional position, not a management position, and it is the second-highest level a professional can achieve in a career at DuPont.

**Q.** Okay. And when you say "the second-highest level," can you give us some context for kind of relative to the number of engineers in the Engineering Department, how many are fellows?

**A.** So I'm estimating there might be a thousand engineers in the Engineering Department, and there's somewhere 10 -- between 10 and 20 fellows.

**Q.** Okay. And can you briefly describe your educational background?

**A.** I received a Bachelor of Science in chemical engineering from Lehigh University 1973. I did a Master's in chemical engineering finishing in 1980 from the University of Delaware, and a Ph.D. in chemical engineering finishing in 1999 from the University of Delaware.

**Q.** When did you join DuPont?

**A.** I joined DuPont in 1973 just after graduating from Lehigh.

**Q.** So you've been there for a considerable period of time

now?

**A.** I celebrated 40 years.

**Q.** Okay. Could you describe for the jury the work you've done at DuPont relating to the titanium dioxide business?

**A.** In my first assignment, I worked on the design of several of our lines, Edgemoor Line II and DeLisle Line I from the point of view of the fume disposal areas.

And then I didn't touch the process for quite a while; but after the Master's degree, I entered into my current position and began working on titanium dioxide projects in the middle '80s. I worked on oxidation and modeling the oxidation reactor starting at that time, and I've also worked on other projects in oxidation and projects primarily directed toward treatment of ores prior to feeding them to the process.

**Q.** And could you describe -- you said you started working on the oxidation in the mid-'80s; right?

**A.** Yes.

**Q.** What kind of work -- and you were in your current position at that time?

**A.** Not current title, but current functional role, yes.

**Q.** Right. So could you describe what that function is and what kind of work you would be doing in general terms in that position?

**A.** Our Engineering Department has two different divisions. I'm in the Technology Division and, so, I act as an internal

specialist or consultant to all of our businesses, one of which was the titanium dioxide business.

My area is reaction engineering, and I would then work on projects for all of our businesses related to chemical reactions and chemical reactors.

**Q.** And when you say "reaction engineering," could you kind of explain what that means in general terms?

**A.** So to engineer a reaction means to be able to conduct that reaction in a way that is practical at a full scale compared to what you might do in a laboratory. So it means being able to not just have the chemistry occur but to be able to supply the reactants, mix them, remove or supply heat, all the other pieces that have to go into conducting a reaction in large-scale equipment.

**MR. AXELROD:** Your Honor, may I approach with Exhibit 162?

**THE COURT:** Yes.

**MR. AXELROD:** And this is an admitted exhibit.

**Q.** Dr. Diemer, I'm handing you what's been marked as Exhibit 162 and ask, do you recognize that document?

**A.** I do.

**Q.** And what is it?

And, Ms. Mahoney, if you could just bring up the first page of that document. Great. Thank you.

**THE COURT:** Let's wait until it comes up on the big

monitor.

There we go.

**BY MR. AXELROD:**

**Q.** So, Dr. Diemer, what is this that we're looking at? What is Exhibit 162?

**A.** This is a report, a formal Accession Report, written in the Engineering Department on the topic of mixing in the titanium tetrachloride oxidation reactor and embedding that into a computer model.

**Q.** Okay. And what type of report is an Accession Report?

**A.** It's a formal report like an R&D Technical Report, as opposed to a memorandum or some less formal means of communication. So this goes in a library that then people in the company can search and....

**Q.** And is this a confidential document?

**A.** It is.

**Q.** Okay. And is that indicated on the cover of the document?

**A.** It is. At the bottom it says, "This report contains confidential information, and each holder is responsible for its safekeeping," and so on.

**Q.** Okay. What was your role in this particular report?

**A.** I was supervising the author of this report in doing the work, and I reviewed the report prior to its issue and approved it.

**Q.** And the report itself, could you -- what does it relate to

exactly in the oxidation -- in the process?

**A.** It relates to mixing oxygen and titanium tetrachloride together in the reactor, in the oxidation reactor, and in particular how long it takes -- over what distance the mixing occurs.

**Q.** Okay. And does -- can you kind of -- can you describe in general terms the contents of this document, this report?

**A.** Contained in the report are an equation that describes the mixing length and how it depends upon process conditions and equipment dimensions.

There are tables of data that give design and operating conditions for, I think, five of our commercial lines. There are -- there's some routines, some code that we change to put this equation for mixing into a preexisting computer model so that we could better describe the mixing and explore how -- how mixing impacted the performance of the reactor.

And there's at least another table that's even more detailed on the design and conditions for one of our lines.

**Q.** So does the report contain historical information about DuPont's efforts to model the reaction in oxidation?

**A.** Yes.

**Q.** And it contains DuPont know-how in that regard?

**A.** Yes.

**Q.** And you mentioned that there's a mathematical equation that relates to this process.

**A.** Yes.

**Q.** Is that an equation that, in fact, you created?

**A.** Yes.

**Q.** Okay. And for shorthand, what's that called?

**A.** It has come to be called the Diemer Mixing Correlation.

**Q.** Okay. So when we talk about it, I may refer to it as the Diemer Correlation.

**A.** Yes.

**Q.** Could you describe in general terms what that is?

**A.** So it's an equation that takes information on how much material the material flows into the reactor and its dimensions and says over what distance from the point that the reactants are contacted with each other do they mix -- till they're fully mixed.

**Q.** And would it assist in explaining this to the jury to actually diagram out a little bit of this oxidation process?

**A.** I think it would.

**MR. AXELROD:** Okay. Your Honor, with the Court's permission, may I ask Dr. Diemer to step down and do that?

**THE COURT:** Sure.

**MR. AXELROD:** Thank you.

(Pause in proceedings.)

**THE COURT:** Could you use a black or dark pen? Because the red, I couldn't see it.

**MR. AXELROD:** Very well, Your Honor.

**THE COURT:** Thank you.

**THE WITNESS:** Use black?

**MR. AXELROD:** Yes, use black, please.

**THE COURT:** And if counsel wants to reposition themselves, you may do so, of course, to be able to see because there's no perfect space in this courtroom for that kind of a demonstration.

**BY MR. AXELROD:**

**Q.** So, Dr. Diemer, if you could begin by sort of orienting us, we're talking about -- what part of the process we're talking about, and then perhaps you could sketch that out.

**A.** So we're talking about the part of the process where we take the purified titanium tetrachloride that has been produced in the front part of the process and mix it with oxygen and react it to make the titanium dioxide product that we intend to sell.

And --

**Q.** Where does that occur? Does that occur in a particular vessel?

**A.** It occurs in the reactor.

**Q.** Okay. Is that called an oxidation reactor?

**A.** Yes, it is.

**Q.** Okay.

**A.** So the oxygen is first preheated. And this is -- this is part of the vessel (indicating). So the oxygen is coming here

(indicating). I don't know if you can see that.

And the titanium tetrachloride is vaporized and comes into what is called the slot. So there's a little gap here (indicating). And picture a slot going all the way around a round pipe, and the titanium tetrachloride comes in all around the circumference of the pipe.

So this is the titanium tetrachloride. And, so, the reactor really begins here (indicating). Now we've got the two reactants in contact.

**Q.** The two reactants being the oxygen and the --

**A.** The oxygen and the titanium tetrachloride.

**Q.** And that's often referred to as TiCl?

**A.** It is.

**Q.** Okay.

**A.** So two of the things you need for the correlation are the mass flow of oxygen and the mass flow of TiCl.

Then you need this dimension (indicating), which is a diameter we call the run diameter. It's running up to the slot. We need this width (indicating), the slot width; and you need this diameter (indicating), which we call the diameter after the slot or D slot. And these inputs plus some physical properties allow you to calculate how far down this pipe it takes to mix the reactants.

So what happens here is that the titanium tetrachloride comes in, but it is pushed to the wall by this flow

(indicating). Okay? And, so, you've got titanium tetrachloride that tends to be pushed to the wall, and it has to mix from there into the oxygen, and the oxygen has to mix from the center out to the wall.

As long as they're in distinct zones in the center and on the wall, they can't react with each other. They've got to mix together to react.

And, so, at some point what we calculate as correlation is this length (indicating), the mixing length; and that's what this correlation is about.

**Q.** And when you say you calculate the mixing length, what does that mean? What happens at the end, whatever you calculate to be the end of that length, what has occurred?

**A.** So the mixing process has to occur before the chemical process can occur. So mixing is a physical process, and then what follows is a chemical process.

So in this case the chemical process is considerably faster than the mixing process; and, so, as soon as these things mix, the mixed part reacts. And by the time you finish mixing, you essentially have complete or near complete reaction.

So when you get to here (indicating), you have made most of the titanium dioxide particles or converted the titanium tetrachloride into titanium dioxide particles.

The particles are changed by things that happen after

that, but there is not much chemistry happening after this. This is where the chemistry's happening, and it's controlled by how fast they mix.

**Q.** Now, in your correlation you identified some specific diameters, the diameter of the run, the pipe before the slot; right?

**A.** Right.

**Q.** Then the width of the slot?

**A.** Right.

**Q.** And then the diameter of the pipe afterwards, the slot diameter?

**A.** Yes.

**Q.** Where this mixing occurs; right?

**A.** That is correct.

**Q.** Are all of those variables factored into the correlation?

**A.** Yes, they are.

**Q.** And from sort of a practical standpoint, a manufacturing standpoint, what's the significance in the process of when this mixing occurs?

**A.** I should add one other thing that I left out, if I may.

**Q.** Please.

**A.** We also -- so you're making particles in here, solvents. They want to end up on these walls and plug things up; and, so, to keep that from happening, we also add chlorine here (indicating), which we call the purge flow, and all around the

pipe. And, so, that sort of provides a curtain at the wall to keep plugging from happening.

And that, too, is in the correlation, the amount of purge relative to the amount of these flows. So that's another piece that goes into the correlation. And, so, the concern is that you would plug this up as you make the particles, and we prevent that with the purge.

But what happens here, then, when we can be pretty sure that we have complete reaction, is then we add much coarser solids, salt particles or other kinds of particles, that sort of act like sandblasting as they go down the rest of this. There's a considerable amount of pipe after this where we take all the heat out. And, so, we effectively sandblast the walls of that with what we add here.

But you can't add that until you finish the reaction. So you want to know when that's finished so you can add those. They're solids, which are a much more effective way of keeping this clean than to try to put chlorine in all along the wall of this for a considerable distance.

In some of our plants we also add at this point a large quantity of chlorine, not along the wall like this but through a nozzle; and the idea there is to cool the reaction mass, now that the reaction is complete, to help control particle size. So we add some things here (indicating), and that's why we want to know when we're finished.

**Q.** And, so, you mentioned adding the solids; right?

**A.** Yes.

**Q.** So is knowing where the reaction -- the mixing is complete important for knowing where to start to add the solids?

**A.** Yes, it is.

**Q.** And then also for this additional chlorine that you mentioned?

**A.** Yes.

**Q.** Okay.

**A.** Which is called quench flow.

**Q.** It's called a quench flow?

**A.** Yes.

**Q.** This pipe that you've diagrammed, where does it go from the oxidation reactor? Does it go --

**A.** It goes into something called the flue --

**Q.** Okay.

**A.** -- which is a long section that's in a water bath to take heat out through the walls.

**Q.** And I think that that's a helpful diagram. We may come back and refer to it; but if you want to come back up to the stand, I can continue to ask you some questions about this. Thank you.

**A.** (Witness returns to the witness stand.)

**Q.** To your knowledge has the correlation that you developed been used to size equipment?

**A.** Not to my knowledge. I'm not aware of such a case.

**Q.** And that wasn't, perhaps, the right question. Has it been used to determine where to place the various quenches?

**A.** It has been used to take an existing process where we're having issues related to the mismatch between mixing length and the position of those quenches and alter the slot dimensions in order to bring the mixing length back in front of the addition of scrubs and quench --

**Q.** Now --

**A.** -- which is an equivalent kind of application to a design application, but this is troubleshooting an existing operation.

**Q.** I want to ask you about the process by which you actually developed this particular correlation.

**A.** Yes.

**Q.** And my question is: In developing the correlation, did you use actual operating data from existing DuPont plants?

**A.** Yes.

**Q.** How did you use that information?

**A.** I took information or the DuPont Company took information, I was not personally involved in the simulations I'm about to describe, but the DuPont Company took this information and used it to perform computational fluid dynamic simulations of this reactor, which are much higher level of computer computation than what we do in this model that's in the report.

And with those calculations, you could actually see the

interaction between mixing and reaction, and understand what the mixing lengths were in each of five different commercial reactors.

So the information we took, the DuPont information, were dimensions and operating conditions, put them into a simulation, obtained mixing lengths from the simulation.

**Q.** Why did you use actual operating data?

**A.** Because we were interested in simulating and learning about the plants we were running.

**Q.** And what I'd -- does the report, the exhibit that you have in front of you, Exhibit 162, does it contain actual plant operating data?

**A.** Yes.

**Q.** Okay. And what I'd like to do is, Ms. Mahoney, if you could pull up page 162-36, 0036. And if you could highlight that. Great.

And, Dr. Diemer, can you explain to the jury what it is that we're looking at? This is a table in the report?

**A.** It is.

**Q.** And what's this data?

**A.** So this is data for five of our plants, which gives the dimensions required to use this correlation the run diameter, the slot diameter, the slot width. Those are the top three lines below the heading line.

Then there's the operating condition data in terms of the

rate of titanium production, the excess oxygen, the other feeds that come in with these two streams, the amount of purge that I described in drawing the diagram, and temperatures and pressures. So there are operating conditions and there are dimensions.

**Q.** And let me make sure that I understand this. On the top row there it says "Plant"; right?

**A.** Yes.

**Q.** And then it identifies five different plants, right --

**A.** Yes.

**Q.** -- by initials?

Could you identify what those initials refer to?

**A.** DL-I is DeLisle Line I in Mississippi; JV-II is New Johnsonville Line II in Tennessee; Edgemoor-II is -- EM-II is Edgemoor Line II in Wilmington, Delaware; JV-I is New Johnsonville Line I, also in Tennessee; and Antioch is the plant we had in Antioch, California.

**Q.** Okay. So if you look at -- then if you go down each column underneath each one of those plants, there's a series of pieces of information that you just identified?

**A.** Yes.

**Q.** And the first three where it's got the diameter of the run, the diameter of the slot, the width of the slot, that's the geometry that you just drew up on the board; right?

**A.** That is correct.

**Q.** Okay. And that is actual specific geometry from the oxidation reactors at each of those identified DuPont plants?
**A.** Yes, it is.
**Q.** Is that information publicly available?
**A.** No.
**Q.** Why not?
**A.** Because if we made this information available, people could duplicate it.
**Q.** Then beneath it it says -- there's a line "Rate," and it says T -- it's got T TiO2 per hour. Do you see that?
**A.** Yes, I do.
**Q.** What is that?
**A.** Tons of titanium dioxide per hour.
**Q.** Okay. And I'm not going to ask you to identify the specific numbers in there, but is then what's identified there, basically, the line rate per hour of TiO2 manufactured at the various plants?
**A.** Yes, it is.
**Q.** And those are actual operating data?
**A.** Yes.
**Q.** And then underneath it there is some other information, and could you just generally describe what we see underneath that rate?
**A.** Well, the other information that, for example, the lines "Excess Oxygen," "Other Feeds," and "Purge," describe all the

streams that are coming into this reactor.

If you know the rate of TiO2 you're producing, you know how much -- you can turn that into how much titanium tetrachloride you're feeding, and you always feed a little more oxygen than you need to convert that to titanium dioxide. So by knowing how much titanium tetrachloride and this excess, you can work out how much oxygen you're using.

So those two lines give you enough to know what these mass flows are that are required to use the correlation. And the purge flow tells you how -- that's the actual quantity that's used in the correlation of this ratio on a molar basis of a purge through all the other feeds.

With the titanium tetrachloride, there are some other chemical species that come with it, and that's what this "Other Feeds" represents.

**Q.** From the perspective of somebody designing a TiO2 plant with limited experience, would the information contained in this chart be helpful to designing an effective oxidation reactor?

**MR. GASNER:** Objection. Lack of foundation.

**THE COURT:** Overruled.

**THE WITNESS:** I believe it would.

**BY MR. AXELROD:**

**Q.** It would. Why?

**A.** Because this is actual operating data; and if you know

that this represents something that is in existence and operating and functioning, you would be well on your way to be able to duplicate that particular aspect of a plant and have some confidence that it would run as you hope.

**Q.** And how would you use this information?

**A.** Well, there's a line here that says what the rates are associated with each of these plants. And, so, if you had a target rate in mind, you could look at this table and say, "Oh, let's take the first column. I'd like to run at that rate, or something close to that. Here's a reactor geometry that works for that. So why don't I specify that for my reactor."

**Q.** And I gather from looking at that rate, you could multiply out and figure out, well, this would be, you know, X number of tons per year?

**A.** Indeed.

**Q.** Okay. Does the report contain additional operating data from DuPont facilities?

**A.** It does.

**Q.** And if we could go to page 38.

Thank you, Ms. Mahoney. And if you could blow that up.

And the top part got cut off there, but what's the title?

**A.** It says "Mixing Lengths and Other Calculated Results." So this is a table of calculated results and physical properties. The top two lines are the mixing length in feet that you would calculate from the information in the previous table. And then

there is a line that translates for the top set for those mixing lengths and the conditions of Table RBD-1 what the residence time in this mixing length or mixing zone would be.

**Q.** Okay. So that first line, that first row that's got the Z, right, that's the length -- the actual physical distance for the mixing length?

**A.** Yes.

**Q.** And that relates -- it's the same five plants; right?

**A.** It is.

**Q.** Okay. So that tells you, you know, to pick the first one for that particular DeLisle oxidation reactor, that tells you that it's going to go this distance to complete mixing?

**A.** Yes.

**Q.** And then underneath it there is the letter T, and then it says "ms"?

**A.** Milliseconds.

**Q.** Milliseconds, okay. And that's the residence time?

**A.** Yes.

**Q.** So is that the time it takes for that mixing to occur?

**A.** Yeah. It's the time that it takes for the material flowing through this zone of length Z, as it says in the table, to transit that zone.

**Q.** Okay. Is the information in this particular table publicly available?

**A.** No.

**Q.** Why not?

**A.** Again, if you couple the mixing length with the dimensions on the previous table, that then completes the picture of what this mixing correlation provides for design or adjusting existing operations.

**Q.** Okay. So would this information also be useful to someone who's designing an oxidation reactor?

**A.** Yes.

**Q.** For the same reasons?

**A.** Yes.

**Q.** Does the report contain other additional -- additional specific pieces of operating data?

**A.** It does.

**Q.** And if we could go to page 9, and if you could blow up, Ms. Mahoney, that table.

Okay. Dr. Diemer, can you explain for the jury what we're looking at in this table on page 9?

**A.** So what's in this table is a complete description other than the slot run -- slot and run diameters and slot widths, but it does give the slot diameter. It doesn't give the run diameter and the slot width because they were varied in a study. Actually we used this as a base case for a computer study. But it gives a configuration for what happens after this reactor, the flue. It tells how many feet of pipe that has an outside diameter of about .9 feet --

**Q.** Let's not mention the specific --

**A.** Okay.

**Q.** -- figures --

**A.** Sure.

**Q.** -- but just sort of describe in general terms.

**A.** Right. It gives a diameter and a distance, and then it shows a change in diameter over a given transition zone; and then, you know, another section that completes the -- the flue and, you know, what the dimensions of that are.

It gives an expanded view of what this titanium tetrachloride input stream is in terms of actual compositions. These are some of the other things that got lumped together in that line in Table 1 that we looked at, and it gives the oxygen flows.

It gives then some specifics on how the purge is introduced and at what position, several different places.

It gives a quench flow, and it gives a flow of the scrub solids I talked about, and so on.

So this is a more in-depth description of Edgemoor Line II.

**Q.** Okay. So this is based on the actual operations of Edgemoor Line II?

**A.** Yes.

**Q.** And the information that you started out talking about, about how it identifies lengths of pipe and a transition point

where there's changes in some of that, of the diameters of the pipe, that's all indicated in this document?

**A.** It is.

**Q.** Is that information publicly available?

**A.** For this exact configuration, I don't believe so.

**Q.** Okay. And why not?

**A.** Again, for the reasons that this is an existing plant. If you want to design and build something that you have confidence will work, you can copy this.

**Q.** So this information would also be useful to someone who is designing the oxidation process for a TiO2 plant?

**A.** Yes.

**Q.** And we looked -- I want to show you --

**THE COURT:** Well, before we do that, I think this is a good time to break.

**MR. AXELROD:** Absolutely, Your Honor.

**THE COURT:** All right. Dr. Diemer, you may step down. We're going to adjourn for today.

So, ladies and gentlemen -- you may step down. You're excused for the day -- I'm going to give you your usual final instruction, which I'm required by law to give, and then I'll remind you about schedule and the like.

So I will now remind you of your conduct -- lock the door.

**MR. HEMANN:** I'll take care of it, Your Honor.

**THE COURT:** All right. The instruction is so

important that it's rude and disrespectful for people to be entering and leaving the courtroom when the Court is speaking such important words to you.

So I'm now going to remind you about your conduct as jurors. First, keep an open mind throughout the trial, and do not decide what the verdict should be until you and your fellow jurors have completed your deliberations at the end of the case.

Second, because you must decide this case solely based on the evidence received in the case and on my instructions as to the law that applies, you must not be exposed to any other information about the case or to the issues it involves during the course of your jury duty.

Thus, until the end of the case, or unless I tell you otherwise, do not communicate with anyone in any way and do not let anyone else communicate with you in any way about the merits of the case or anything to do with it. This includes discussing the case in person, in writing, by phone, Smartphone, or electronic means, by email, text messaging, or in or on any Internet chat room, blog, website, including such social networking media like Facebook, MySpace, LinkedIn, YouTube, and Twitter, or other feature.

This applies to communicating with your fellow jurors until I give you the case for deliberation; and it applies to communicating with everyone else, including your family

members, your employer, the media or press, and the people involved in the trial, although you may notify your family and your employer that you have been seated as a juror in this case.

But if you are asked or approached in any way about your jury service or anything about this case, you must respond that you've been ordered not to discuss the matter and to report the contact to the Court.

Because you will receive all the evidence and legal instruction you properly may consider to return a verdict, do not read, watch, or listen to any news or media accounts or commentary about the case or anything to do with it.

Do not do any research, such as consulting dictionaries, searching the Internet, or using other reference materials; and do not make any investigation or in any other way try to learn about this case on your own.

The law requires these restrictions to ensure the parties have a fair trial based on the same evidence that each party has had an opportunity to address. A juror who violates these restrictions jeopardizes the fairness of these proceedings, and a mistrial could result that would require the entire trial process to start over.

If any juror is exposed to any outside information, please notify the Court immediately.

So tomorrow we are sitting from 8:00 to 2:00. We'll have

our properly-spaced breaks and stretch breaks. Remember, we are not sitting Thursday and Friday. We will resume next Monday on what is anticipated to be our regular schedule; and we'll just keep going, and we're moving along at the appropriate pace. So have a good evening, and I will see you tomorrow.

Juror Number 7, would you mind remaining for a moment, please?

(Proceedings were heard out of the presence of the jury:)

**THE COURT:** You can be seated.

Good afternoon.

**JUROR NO. 7:** Yes, Your Honor.

**THE COURT:** So we received your note, and we wanted to check in with you and see kind of what's going on with you and how that might impact your service.

So you mentioned in your note that -- you say: (reading)

"My wife's sister-in-law's chemo schedule has been tentatively set on Mondays, except holidays, later in the morning, till end of February."

So could you explain a little bit more what you mean by that?

**JUROR NO. 7:** So I talked to my wife last night, and her schedule is receiving the chemotherapy like 9:00 o'clock, 10:00 o'clock so she can be in the hospital with her later of the morning so she can bring the baby to the daycare, and I

could be here on time.

**THE COURT:** Okay. So, I'm sorry to interrupt, but are you saying essentially that you could be here to start at 8:00 o'clock every morning?

**JUROR NO. 7:** Yes, Your Honor.

**THE COURT:** And your letter said that's from -- your memo -- sorry, your note said is that: (reading)

"Unless something else comes up, I think my jury duty will be back to normal."

So are you saying that it's back to normal now, and that for the foreseeable future, you'll be able to be here starting at 8:00 o'clock every morning Monday through Thursday except the days that we take off?

**JUROR NO. 7:** Yes, or maybe something really comes up we don't -- that we don't know.

**THE COURT:** Of course. That's true of anybody. But, so, for the foreseeable future, we can go back to our regular schedule of essentially 8:00 to 1:30, and you'll be able to be here starting at 8:00 o'clock?

**JUROR NO. 7:** Yes, Your Honor.

**THE COURT:** Okay. And if something changes, of course, as you've very properly done, you just let us know with a note, and we'll see what we need to do.

But everybody appreciates your candor and keeping us up-to-date; and as things change, if they do, just let us know

and we'll certainly act accordingly, you know, and make sure, you know, that you're okay with whatever you do.

So bottom line is, you're okay to continue with this case as a juror on our agreed-upon schedule; correct?

**JUROR NO. 7:** Yes, Your Honor.

**THE COURT:** Great. Well, you're excused and, by the way, very importantly, do not discuss, I would say now, as before, do not discuss anything we discussed or anything else about this case with the jury per my instruction that I give you, you know, every night; and you should probably refrain -- not probably, you should refrain and you will refrain from discussing this matter at all with your family or anybody else just like I said, unless it relates to your ability to be here on time. Do you understand that?

**JUROR NO. 7:** Yes, Your Honor.

**THE COURT:** And that's doable for you?

**JUROR NO. 7:** Yes.

**THE COURT:** Great. Thank you so much and have a wonderful evening.

**JUROR NO. 7:** Thank you.

(Juror Number 7 exiting courtroom.)

**THE COURT:** The juror has left.

So I don't hate to say that Ms. Agnolucci was right and Mr. Froelich was right, but I appreciate that; and it kind of prevented the Court from, perhaps, making a rash judgment based

upon not having accurate facts.

So we'll just go along with this juror, and we'll keep him on; and if things change, we'll react as appropriately. And I appreciate counsel's giving me their interpretation of the note.

Let me just ask to get a sense of where we're going vis-a-vis, well, a couple things.

Number one, I can't keep this very long because I've got a bunch of patent lawyers waiting and we can't keep them waiting, is, number one, what do you anticipate happening, from the Government's perspective, tomorrow, because it's our last day of the week, in terms of witnesses?

**MR. HEMANN:** We have a full day of witnesses. One of the witnesses that we'll hear from is the Rule 15 deposition, which is about an hour and 51 minutes.

**THE COURT:** Okay.

**MR. HEMANN:** The parties have stipulated to or agreed to the transcript and the video, and I think we're just ready to go ahead and play it with Your Honor's permission. I think we'll probably do that immediately upon the conclusion of Mr. Diemer's testimony. Then we will have Mr. Duong.

**THE COURT:** Will Mr. Duong be after the video?

**MR. HEMANN:** Correct, Your Honor.

**THE COURT:** Okay. So I'm guessing that as between Dr. Diemer and Duong, we're going to be taking up substantial

part of the day.

**MR. HEMANN:** I believe so. It is -- and then we've got a DuPont security officer, Mr. Jubb, to follow --

**THE COURT:** All right. So it --

**MR. HEMANN:** -- if necessary.

**THE COURT:** I'm sorry. So it sounds like Mr. Liu, L-I-U, will not be called tomorrow; correct?

**MR. HEMANN:** Correct.

**THE COURT:** All right. So what I would urge, in light of what Ms. Agnolucci said earlier about that, is perhaps the Defense team can talk to Ms. McNamara and the other lawyer involved, Mr. Bernstein, to maybe work out some kind of an arrangement.

Because the way I see it, the Government doesn't have a dog in this race as far as privilege. It's Mr. Liu's privilege. So it may well be that you can fashion some sort of an operating protocol that would at least take us to the point where the Court has to decide whether you can actually use the documents when you get to that point.

But I'm hoping that -- certainly we know the direct will not be an issue. Presumably some of the cross-examination will not be an issue implicating these allegedly privileged documents. So I'm hoping that you all -- you should file your brief, Ms. Agnolucci, or whoever is filing it for your side; but I would think you should -- Ms. McNamara, as we all know,

is eminently reasonable, and I'm sure we can find -- we might be able to find some sort of ground that accommodates everybody's interests. And if not, you know, then I'll rule and we'll go forward with the record that we have. Okay?

**MS. AGNOLUCCI:** Yes, Your Honor.

And may we address a couple of logistical issues about filing the brief?

**THE COURT:** Yes. Quickly.

**MS. AGNOLUCCI:** The first thing I wanted to do was lodge these exhibits as we discussed earlier.

**THE COURT:** Please do.

**MS. AGNOLUCCI:** So would you like me to hand them to Ms. Ottolini?

**THE COURT:** Yes. Why don't you identify the numbers that you're giving her, the premarked numbers.

**MS. AGNOLUCCI:** I will.

And there's one exhibit that we did not produce to the Government because we've since learned that they believe that the production to us of that exhibit was inadvertent, so the Government has not seen it.

**THE COURT:** Okay.

**MS. AGNOLUCCI:** How does Your Honor want us to proceed with respect to that one?

**THE COURT:** Why don't you lodge that as well and tell the Government what the number is of it so they can retrieve

it; and when we discuss them all, we'll discuss that one as well.

**MR. HEMANN:** I'm sorry. There's one more that's not been provided?

**MS. AGNOLUCCI:** One more email that we didn't provide after we learned that the production to us was inadvertent. We, in an abundance of caution, didn't provide it. We have it here. We're happy to do as the Court --

**THE COURT:** You'll preserve whatever objections you have to it, but I just want to look at it.

**MR. HEMANN:** Certainly, Your Honor. Oh, yeah. We don't need to see it.

**THE COURT:** All right.

**MS. AGNOLUCCI:** So the exhibits that I'm now lodging with Ms. Ottolini are Exhibit 3397, Exhibit 3404, Exhibit 3493, Exhibit 3494, Exhibit 3495, Exhibit 3496.

There's one more. If I may have just one moment, Your Honor. I don't know where it went.

(Pause in proceedings.)

**MS. AGNOLUCCI:** And Exhibit 3498.

**THE COURT:** Okay.

**MS. AGNOLUCCI:** So that's a total of seven documents.

**THE COURT:** All right. I will order that, subject to further Order of the Court, those documents are to be filed under seal until we resolve the issue of any potential

privilege.

**MS. AGNOLUCCI:** And one other issue, Your Honor. In our brief, we at a very high level of generality describe these documents. I don't believe that's a problem because Ms. McNamara has represented in her brief that Mr. Liu's testimony will be entirely consistent with what's in these documents. We don't quote from the emails, but there are some general characterizations.

**THE COURT:** That's fine. That's fine.

**MS. AGNOLUCCI:** And then one last point, which I just raised with Mr. Axelrod. We would like to attach two 302s of Mr. Liu, one from June of 2011 and one from August of 2011, and would like permission to publicly file those.

**MR. HEMANN:** Our preference would be, Your Honor, to lodge them with the remaining -- with the emails. I don't know what information they contain because part of what Mr. Liu will testify about is that he was given the Accession memorandum that Mr. Diemer -- Dr. Diemer just testified about and wrote down information from that. So --

**THE COURT:** All right. Why don't you simply lodge those. I'll seal those as well. And, so, you should file sealed copies of those. And, again, that's without -- I haven't seen them, so I'm kind of shooting blind here; but I will promptly rule on their -- and I'll ask the Government to give me further input after they've considered the matter,

because I'd rather not keep anything sealed that's not permitted to be under seal because of the public's right to know.

**MS. AGNOLUCCI:** Understood, Your Honor.

**THE CLERK:** How many 302s are there?

**MS. AGNOLUCCI:** I'm, therefore, now submitting the first document is an August 15th, 2011, 302 of Mr. Jian Liu marked C2-000502 through 506.

**THE COURT:** All right. And the Government's not contending that these were inadvertently produced?

**MR. HEMANN:** Oh, no, Your Honor.

**MR. AXELROD:** No.

**THE COURT:** All right. Okay. Anything else, Ms. Agnolucci?

**MS. AGNOLUCCI:** Yes. One more, which is -- if I may just have one moment, Your Honor.

**THE COURT:** Yes. Sure.

**MR. HEMANN:** Your Honor, I just might notice the door is still locked.

**THE COURT:** Oh, yes.

**MR. HEMANN:** We should probably unlock it.

**THE COURT:** Would somebody unlock the door? Yes. Thank you.

If anybody has any people that they can control, they should tell them that it's highly improper when the Court's

instructing a jury for them to be running in and out of the courtroom. It happened during the preliminary instruction; and what I plan on doing is, as a prophylactic matter, I'm going to lock the door, I think I have discretion to do that, for that brief period because people just were running -- I don't know whether they were press or, we certainly can't control them, but I will tell people that if they want to leave, they have to leave before -- finish leaving before I instruct the jury.

**MR. AXELROD:** Understood, Your Honor.

**MR. HEMANN:** Yeah, I don't think it was anybody with either party.

**THE COURT:** I'm not saying it was, and I don't care at this point.

Yes?

**MS. AGNOLUCCI:** The second document is a 302 dated June 22nd, 2011, Bates number C2-000293 through 300.

**THE COURT:** Sounds good. All right.

**MS. AGNOLUCCI:** Thank you, Your Honor.

**THE COURT:** All right. We're adjourned until tomorrow morning unless something comes up before then, and I'll see you all tomorrow. Thank you.

**MR. HEMANN:** Thank you, Your Honor.

**THE COURT:** Have a good evening.

(Proceedings adjourned at 1:34 p.m.)

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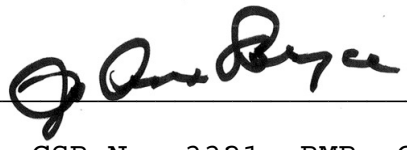
**CERTIFICATE OF REPORTERS**

I certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter.

DATE: Tuesday, January 28, 2014



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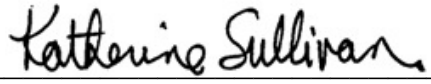

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