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IN THE PIMA COUNTY JUSTICE COURT  
PIMA COUNTY, ARIZONA

STATE OF ARIZONA, )  
 )  
Plaintiff, )  
 ) No. TR07-016082  
vs. )  
 )  
GUY KIRKPATRICK, )  
 )  
Defendant. )  
\_\_\_\_\_ )

Tucson, Arizona  
August 24, 2007

BEFORE JUSTICE CARMEN DOLNY  
TRANSCRIPT OF PROCEEDINGS

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14  
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19  
20  
21  
22  
23  
24  
25

TABLE OF CONTENTS

Page

August 24, 2007

Evidentiary Hearing

Defense Witness - Janine Arvizu

Direct Examination . . . . . 13

Voir Dire . . . . . 150

Direct Examination (Resumed) . . . . . 152

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
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APPEARANCES

August 24, 2007

Judge: Judge Dolny

For the State:

Bill Dickinson

Kerry Johnson

Witnesses:

None

For the Defense:

Joe St. Louis

Michael Bloom

Witnesses:

Janine Arvizu

1 Tempe, Arizona

2 August 24, 2007

3 (Justice Carmen Dolny Presiding)

4 EVIDENTIARY HEARING:

5 THE COURT: Everybody here on the Kirkpatrick case?  
6 Nobody here is on anything else, and if you are, I guess we're  
7 going to have to wait until later to handle your matter. So  
8 we'll wait until everybody comes on in. Are we all ready to  
9 begin now?

10 UNIDENTIFIED SPEAKER: Yes, we are, Your Honor.

11 THE COURT: Oh. Okay. I think we're on the record.  
12 All right. This is the date and time set for an evidentiary  
13 hearing in the matter of State versus Guy Kirkpatrick, case  
14 number TR 07-016082.

15 MR. DICKINSON: Bill Dickinson and Kerry Johnson  
16 appearing on behalf of the State of Arizona.

17 MR. ST. LOUIS: Joe St. Louis and Michael Bloom  
18 appearing on behalf of Guy Kirkpatrick. Your Honor, we were  
19 also taking evidence that you're going to use to make a  
20 decision in the State versus Julio Esposito.

21 THE COURT: Exactly. Did you say Michael Bloom?

22 MR. BLOOM: Yes.

23 MR. DICKINSON: Yes.

24 THE COURT: All right. And you can call her.

25 MR. BLOOM: That's what I'm here for, Judge.

1 THE COURT: Good. Thank you. All right. And as  
2 Mr. St. Louis mentioned, some of the testimony that's being  
3 taken today, specifically the testimony of the State's  
4 criminalist with regard to blood draws, is also going to be  
5 considered and used in the case of State versus Julio Esposito,  
6 which is case number TR 07-005007.

7 MR. DICKINSON: That's not my exact understanding.

8 THE COURT: Okay. Mr. Dickinson.

9 MR. DICKINSON: My belief is what we've agreed to do  
10 is that the testimony of Ms. Arvizu, the defense expert as well  
11 as the State's expert or experts, Mr. Heller and possibly Ms.  
12 Spirks, is the testimony that you're going to consider with  
13 regard to both cases; is that correct?

14 THE COURT: Is that not what I said?

15 MR. DICKINSON: No. You said blood draw. I thought  
16 you were talking about -- what's on the record, you were saying  
17 blood draw, and so I didn't --

18 THE COURT: I'm sorry.

19 MR. DICKINSON: -- want the record to be confusing --

20 THE COURT: Okay.

21 MR. DICKINSON: -- about the fact that we're dealing  
22 with a phlebotomy issue. We're not. We're dealing with lab  
23 issues.

24 THE COURT: Okay. Are we not dealing with the manner  
25 in which the draws were taken, as well as the testing?

1 MR. DICKINSON: I don't believe so.

2 MR. BLOOM: We are not.

3 THE COURT: Okay. Simply the testing procedures,  
4 laboratory things --

5 MR. DICKINSON: That's correct.

6 THE COURT: -- and that kind of thing. All right.  
7 Thank you, I stand corrected. I thought it was both issues.

8 MR. ST. LOUIS: And what we've done, Your Honor, is  
9 we have filed a motion for inspection of the laboratory by Ms.  
10 Arvizu.

11 THE COURT: Okay.

12 MR. ST. LOUIS: And that is really what we're talking  
13 about today. The issue is do we have a substantial need to  
14 have an expert go in and examine this laboratory, or can the  
15 defense get what we need in our cases through the disclosure of  
16 documents by the laboratory and through the interviews of lab  
17 personnel. We have an affidavit from Ms. Arvizu that we  
18 attached to the motion. I'm sure you must have had a chance at  
19 some point in life to read it. It's about six pages long.

20 THE COURT: Okay.

21 MR. ST. LOUIS: And we have the original copy of the  
22 -- well, not original copy. We have the original affidavit  
23 today, which is our Exhibit B. Thank you.

24 MR. DICKINSON: Thank you.

25 THE COURT: Thank you.

1 MR. ST. LOUIS: Which we'll be --

2 THE COURT: Thank you.

3 MR. ST. LOUIS: - offering for the record, where Ms.  
4 Arvizu goes into great detail about the issues in this  
5 laboratory and why the paperwork and the interviews aren't  
6 enough.

7 There are kind of two parts to it, Your Honor. The  
8 first is there is a history of contamination in this laboratory  
9 that we're going to present to you today, that is at least four  
10 years old. It is an ongoing issue. It affects the reference  
11 samples that the laboratory uses, it affects the blanks that  
12 the laboratory uses, it affects the client samples where  
13 contamination appears. And this has been going on for some  
14 time and individuals who do a lot of DUI cases such as Mr.  
15 Bloom and myself are aware of that because we see a pattern in  
16 the individual cases.

17 MR. BLOOM: Are we going to invoke the rule?

18 MR. ST. LOUIS: Yes. We would like to go ahead and  
19 invoke the rule, your Honor.

20 THE COURT: All right. Let me, before we begin, find  
21 out who all each side is going to call and we'll start with the  
22 State.

23 Who are the State's expected witnesses? And just so  
24 I can list them.

25 MR. DICKINSON: The expected witnesses are Ed Heller

1 and Michelle Spirks. I'm requesting that Ms. Spirks be allowed  
2 to remain as an investigator under the rule.

3 THE COURT: All right. Would you give me her name  
4 again, please?

5 MR. DICKINSON: Michelle Spirks. S-P-E-R-K-S.

6 MR. BLOOM: S-P-I-R-K.

7 MS. SPIRK: S-P-I-R-K.

8 THE COURT: S-P-I-R-K. And is it M-I-C-H-E-L-L-E or  
9 L-E?

10 MS. SPIRK: Yes, Your Honor. Two Ls.

11 THE COURT: Okay. Two witnesses then.

12 MR. DICKINSON: And Ed Heller.

13 THE COURT: And Ed Heller. Okay.

14 And who is the State planning to -- I mean the  
15 defense planning to call?

16 MR. ST. LOUIS: Janine Arvizu, Your Honor.

17 THE COURT: And I think we have the rest of the day  
18 so we're not in any particular hurry. I don't think we're  
19 going to be getting other cases coming in, but we will proceed  
20 then until about noon. At an appropriate time we can break for  
21 noon.

22 Yes, Mr. Johnson.

23 MR. JOHNSON: I think you have a status conference at  
24 10:30.

25 THE COURT: Okay.



1 MR. JOHNSON: It's marked. It's Marcus --

2 THE COURT: All right. What is the name of that  
3 case?

4 MR. JOHNSON: Elise Marcus (phonetic) I believe.

5 THE COURT: Okay. Is Ms. Marcus here by any chance,  
6 yet? I see that. Elise Marcus. All right.

7 And then at 2:30, I see there's some quick little  
8 review hearing and it may be something that's pretty minor.

9 All right. You may continue, Mr. St. Louis.

10 MR. ST. LOUIS: To the best of my understanding, we  
11 need to excuse Mr. Heller because he is not here for this case.

12 THE COURT: Okay. Then why don't you call come on  
13 up, get sworn in so that you come under the jurisdiction of the  
14 Court. Raise your right hands, please.

15 WITNESSES SWORN

16 THE COURT: Okay. So we'll ask you to wait outside  
17 and the investigating officer can stay.

18 MR. ST. LOUIS: We're going to designate Ms. Arvizu  
19 as the defense investigator I believe.

20 THE COURT: Okay.

21 MR. ST. LOUIS: That means you get to stay.

22 MS. ARVIZU: I get to stay.

23 THE COURT: Then you can stay after all.

24 MR. ST. LOUIS: We have this pattern, with this  
25 continuous pattern of contamination affecting blood runs in the

1 laboratory, affecting the reliability of results of defendants  
2 blood samples that's been going on for four years. And you  
3 don't have to take my word for that, we're going to show you  
4 that today.

5 Late December of last year, there are two articles in  
6 the newspaper talking about the need for funds for a new crime  
7 laboratory. And we read in there about all of the problems  
8 that the reporter says exist, and there are some quotes from  
9 Mr. Heller, there's a quote from Tim Bee, the president of the  
10 Senate, talking about how they had to put off on inspection in  
11 the laboratory because of an electrical problem fried one of  
12 the computers is the language in the article.

13 And so Mr. Bloom and I see this, we talk, and Mr.  
14 Bloom does a very comprehensive Freedom of Information Act  
15 public records request, and doggedly sticks to it until that  
16 request is fulfilled. And the items that come out are simply  
17 shocking. We have a video that was made apparently by the  
18 laboratory, apparently given to the legislature in an effort to  
19 convince them of the need for money in the laboratory,  
20 documenting all the deficiencies in the lab, with at least an  
21 introduction by Barbara LaWall, the County Attorney and the  
22 chief law officer in Pima County, recognizing all of the  
23 problems that exist in this laboratory.

24 We have a series of assessments and inspections of  
25 the laboratory, reports that none of us have ever seen, that

1 have never been disclosed to Mr. Bloom, to myself, to any  
2 defense attorney that we are aware of, to any defense experts  
3 such as Mr. Flaxmayer that we are aware of, talking about the  
4 electrical problems that are in the laboratory, talking about  
5 how they cannot maintain fresh air in the laboratory, talking  
6 about the electrical problems they're having in the laboratory,  
7 and talking about how these things impact on evidence, how  
8 there's a problem with evidence integrity.

9 Ms. Arvizu is going to take the stand today and she  
10 will link up these two separate things, Your Honor, link up  
11 this history of contamination and will show you how some of  
12 that can be explained by what she is saying in these documents  
13 and in that videotape.

14 But she's also going to tell you that there is a  
15 systematic problem over in that laboratory that is showing up  
16 in the chromatograms she's seen through the years, showing up  
17 in the documentation on the lab inspections, and she needs to  
18 get into the laboratory to try to figure out what is causing  
19 it.

20 This is not a unique thing for Ms. Arvizu. Her  
21 history Your Honor is that she ran a laboratory for the  
22 Department of Energy in Idaho.

23 She then went on and ran a quality control program  
24 for some laboratories in the Navy.

25 She then went on and get accredited by an

1 international organization to be a lead inspector in doing lab  
2 audits.

3 She then went on and was hired by the Federal  
4 Government on a number of occasions to go into their  
5 laboratories and to instruct them to do an audit.

6 This is a lady who has been working in the laboratory  
7 for 25 years. She knows when things are happening and the  
8 different tests. She knows when to stay out of the way. This  
9 is a lady who for many years when she was working for the Navy  
10 had nuclear secret clearance. I'm not quite sure I'm phrasing  
11 that right, but certainly understands how, you know, to go into  
12 a laboratory and then not disclose the information. If she  
13 sees a name on a tube of blood, not to tell people hey I saw  
14 your blood being tested in the lab. You know, she's somebody  
15 that can be trusted with nuclear secrets. She is somebody who  
16 can be trusted not to reveal information that she sees in the  
17 laboratory. She's done this in other cases. In other cases,  
18 she has been, pursuant to court order, allowed into different  
19 laboratories around the country while testing has been going  
20 on.

21 That's what we're asking to today. We are asking  
22 that you allow Ms. Arvizu to go in and do an inspection. We're  
23 asking that it occur while casework is going on so that she is  
24 able to see how they do the different procedures when they're  
25 actually doing the tests. She's capable of staying out of the

1 way while they're doing that, she will do that. She is capable  
2 of determining the significance of how they do things in the  
3 laboratory, she will do that.

4 We need her to do that because there is a substantial  
5 ongoing problem. The contamination is present in Mr.  
6 Kirkpatrick's blood samples and in his blood run.  
7 Contamination is present in Mr. Esposito's samples and his  
8 blood run. We cannot determine the source of it through the  
9 paperwork or through interviews with the lab personnel, and  
10 that's why we're asking for this inspection. So that is where  
11 we're going today.

12 THE COURT: Now this contamination of which you  
13 speak, is that your opinion that there's contamination, or have  
14 the parties agreed that as to his samples there is some  
15 contamination.

16 MR. ST. LOUIS: It's my opinion, it's Ms. Arvizu's  
17 opinion. The parties don't agree on much.

18 MR. DICKINSON: It is not the State's opinion or the  
19 Department of Safety lab personnel opinion.

20 MR. ST. LOUIS: But again, you'll hear evidence of  
21 that today.

22 THE COURT: All right.

23 MR. ST. LOUIS: What we're talking about. You'll get  
24 to look at it too.

25 THE COURT: Okay. Very good.

1 Did you wish to make any opening remarks, Mr.  
2 Dickinson?

3 MR. DICKINSON: Briefly. I believe that the case is  
4 familiar -- excuse me the parties are familiar with the Fields  
5 (phonetic) case. Have you had a chance to review that  
6 recently?

7 THE COURT: I'm not sure.

8 MR. DICKINSON: Let me provide the Court with a copy  
9 of that.

10 THE COURT: Yes. And if I have it, I'll make sure I  
11 refresh my memory of that.

12 MR. DICKINSON: And this was a case Mr. Bloom --

13 MR. BLOOM: I worked -- oh, I seem to remember it.

14 MR. DICKINSON: -- Yeah, had participated in. So  
15 he's quite familiar with it.

16 It's the State's position that the standard to which  
17 the Court must find that there are issues with the lab is set  
18 out in Fields, and that specifically the defense has to show  
19 that there are not other procedures that are appropriate to  
20 deal with this issue.

21 And it's the position of the State that at no time in  
22 either of these cases has there been an attempt to have the  
23 independent samples, which were collected by the officers at  
24 the time, tested to determine number one, whether the blood  
25 alcohol was inaccurate, and number two, whether there in fact

1 was contamination in these samples. And that absent having  
2 done that, that this attempt to basically bootstrap and allow  
3 an inspection is inappropriate and untimely.

4 And therefore the Fields case I believe is the law in  
5 this area that has not been overturned, and it's also a blood  
6 alcohol case and deals specifically with these issues. So  
7 that's the thrust of what the State intends to show as a result  
8 these hearings.

9 THE COURT: Thank you. All right.

10 Are the parties ready to proceed with testimony at  
11 this time?

12 MR. DICKINSON: Yes, Your Honor.

13 THE COURT: No other preliminary matters? All right.  
14 The State may call it's first witness.

15 MR. DICKINSON: Actually, the defense is going first.

16 THE COURT: All right. You're going to go forward?  
17 All right.

18 MR. ST. LOUIS: Happy to, Your Honor. Call Ms.  
19 Arvizu.

20 THE COURT: Janine Arvizu, please come forward. And  
21 you have just been sworn in, so you are still under oath. And  
22 you may take the stand at this time.

23 JANINE ARVIZU, DEFENSE WITNESS, PREVIOUSLY SWORN

24 THE COURT: And who's going to do the interrogation?

25 MR. ST. LOUIS: I am, Your Honor.

1 THE COURT: All right. Mr. St. Louis, your witness.

2 DIRECT EXAMINATION

3 BY MR. ST. LOUIS:

4 Q Good morning?

5 A Good morning.

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

7 A Janine Arvizu, A-R-V-I-Z-U.

8 Q Ms. Arvizu, how are you employed?

9 A I perform independent consulting services in the area of  
10 quality assurance.

11 Q Quality assurance in what area?

12 A Specifically my area of interest, because of my  
13 background, is in the assessment of laboratories and analytical  
14 data produced by those laboratories.

15 Q Why don't you give us a little bit of your educational  
16 working background that'll -- that allows you to do that?

17 A Okay. I have a BS degree in biochemistry from Cal Poly,  
18 and what's called a BD in chemistry from the University of New  
19 Mexico. That's an indication that I've completed the  
20 coursework in examination in the advance for candidacy for a  
21 Ph.D. degree, but did not complete a dissertation.

22 When I left graduate school, I went to work for the  
23 Department of Energy at one of the national labs, Idaho  
24 National Engineering Laboratory, where I established and  
25 managed a full service analytical laboratory that provided a



1 full suite of analytical testing on samples of a variety of  
2 matrices of right of physical forms. And during my employment  
3 with the department -- and I should clarify, I was not a  
4 Department of Energy employee, I was an operating contractor,  
5 not an employee. And during that --

6 Q Let me stop you there just for one second.

7 A Uh-huh.

8 Q You're working in a laboratory. Did the lab do work for  
9 anybody but the Department of Energy?

10 A No. We received samples from a variety of locations, not  
11 just one site but it was all Department of Energy facilities.

12 Q And does -- how does that work? Does the Department of  
13 Energy run its own lab or do they contract out their lab work  
14 to somebody else?

15 A The national labs are actually operated by operating  
16 contractors. It's not Department of Energy employees who  
17 actually operate the national labs in this country. The  
18 analytical work that supports the Department of Energy's  
19 mission for the most part is done within the DOE complex,  
20 within the Department of Energy complex, because so many of  
21 their samples have radiological contamination associated with  
22 them, and are not appropriate for sending to the private  
23 sector.

24 Q Okay. And so what you were you doing in the lab in Idaho?  
25 What sorts of things? Would you test substances?

1 A Yes. We tested samples for -- to qualitatively identify  
2 materials and to quantitate how much of that material was  
3 present. Both types of analysis. And when I say full suite,  
4 it was a variety of testing from classical chemistry  
5 techniques, inorganic analysis, organic analysis, volatile  
6 organic analysis, which for the purposes of this hearing  
7 included purge and trap headspace gas chromatography with FID  
8 detection.

9 Q What's FID detection?

10 A I'm sorry. Flame ionization detection.

11 Q That's where you inject a sample into the gas  
12 chromatograph, it goes through a long tube called a column, and  
13 at the other end there's a little flame detection --

14 MR. DICKINSON: I'm going to object to the leading  
15 nature of this. He can ask a question, she can answer it --

16 THE COURT: All right. Sustained.

17 MR. DICKINSON: -- but not the other way around.

18 BY MR. ST. LOUIS:

19 Q Do you want to tell me what a FID detection system is?

20 A Gas chromatography is a very robust long-standing  
21 analytical technique that has its power in separation of  
22 compounds and in identifying and quantifying those compounds.  
23 So in fact a sample that may include a mixture of components is  
24 injected into an instrument. It's basically a fancy oven,  
25 programmable oven. It has a long column inside, and depending

1 on the characteristics of the column, the materials that are  
2 present in the sample are separated to more or less degree.  
3 And on the far end of that column is essentially a detection  
4 device, in this case a flame ionization detector, although a  
5 variety of different detectors are available. And when the  
6 components of the mixture elute, because I'm going to define  
7 that because I'm probably going to use that over the course of  
8 today --

9 Q Okay.

10 A -- basically come off the column and are introduced to the  
11 detector, there's a response indicated and that response can be  
12 correlated with the amount of the material that is present. So  
13 you get a peak each time a component is eluted from the column  
14 and comes off the column. So it's a very powerful tool for  
15 separation of component mixtures.

16 Q Okay. How long did you work in the Department of Energy  
17 lab in Idaho?

18 A I'm not sure of the precise time, but it was over ten  
19 years, ten or eleven years, something like that.

20 Q And what position did you end up advancing to in that  
21 laboratory?

22 A I believe it was titled scientific specialist. In that  
23 capacity, I was detailed to DOE headquarters, working intra-  
24 agency quality assurance issues between DOE, DOD, EPA.

25 Q What do you mean when you say you were working on quality

1 assurance issues?

2 A The Department of Energy historically had operated its  
3 analytical labs in a very sort of isolated environment. They  
4 invented nuclear chemistry and it was unique to the DOE  
5 complex. So they had operated largely independent of the kinds  
6 of quality assurance that the rest of the analytical industry  
7 in this country had been exposed to for a number of years. And  
8 they were just getting into the business of understanding and  
9 applying quality assurance within the national laboratory  
10 complex. And so it was an evolutionary process of introducing  
11 the principles of quality assurance to the national laboratory  
12 complex, not unlike the sort of evolutionary process that's  
13 been going on in recent years in the forensic industry.

14 Q Okay. Would you like some water?

15 A I've seen it right here and I may be --

16 THE COURT: You may go ahead.

17 THE WITNESS: It's the dry heat. Thank you.

18 BY MR. ST. LOUIS:

19 Q So at some point you part ways with the Department of  
20 Energy lab in Idaho?

21 A Yes.

22 Q Where do you go?

23 A I started my own consulting firm, doing quality assurance  
24 consulting. And that was the environment when I bid on and was  
25 awarded a contract to run the Navy's national laboratory

1 quality assurance program, to evaluate and assess laboratories  
2 that do analytical work for the U.S. Navy, both commercial and  
3 government laboratories, and to assess the quality of the data  
4 reported by the those labs, the approved labs, on an ongoing  
5 basis. So we did the initial evaluation before samples were  
6 ever sent to the laboratory. If they had an appropriate  
7 quality system in place, then we monitored the quality of the  
8 data reported by the laboratories.

9 Q Give me a feel for what you mean when you say an  
10 appropriate quality system in place?

11 A In the field of analytical chemistry and the field of  
12 metrology in general, it has been amply demonstrated over very  
13 many years that it's insufficient to simply rely on having  
14 qualified scientists performing analytical work and that that  
15 will somehow serendipitously result in an acceptable result.  
16 There are simply too many -- it's the ultimate multi-varied  
17 equation. There are so many things that impact the quality of  
18 the final result that's reported by an analytical laboratory  
19 that it's been determined in this business of analytical  
20 chemistry that quality assurance is how you make that happen.  
21 It's not a management theory of the month. It is a rigorous  
22 scientifically based system for ensuring that all aspects of  
23 the measurement process are controlled, that you don't simply  
24 rely on the fact that I have a qualified person, that's  
25 sufficient. Because it simply is not. And so what a quality

1 assurance program attempts to do is to put in place all the  
2 controls necessary to identify problems when they occur, to  
3 prevent problems from occurring, and to have a fully and  
4 robustly documented system so that we don't rely on individual  
5 memory to remember a sample analysis that you performed two  
6 years ago last Tuesday. You can actually go to the record and  
7 there's a very complete documentary file that another  
8 independent scientist can review and assess and really  
9 understand all the assumptions that were made in reaching that  
10 final result. It's a basic premise obviously of science that  
11 science is subject to independent peer review. And so quality  
12 assurance in a laboratory environment puts those steps in place  
13 to enable that to happen.

14 Q Okay. How long did you run the quality assurance program  
15 for the Navy?

16 A Four years.

17 Q And what did you do after that?

18 A Since then, I have been doing independent consulting.  
19 That's about the time period when I got interested in the  
20 forensic field and have been doing independent consulting in  
21 the forensic arena.

22 Q Big difference between analytical labs and forensic labs?

23 A Really no appreciable difference except people with guns  
24 walk through forensic laboratories.

25 Q And at some point, did you obtain some sort of

1 qualification to do inspections or audits of laboratories?

2 A I hold certification as a certified quality auditor from  
3 the American Society of Quality, which is -- you said  
4 international in your opening statement, that's actually a  
5 national organization, although they do have reciprocity with  
6 the international organization.

7 Q Okay. What's involved in getting that sort of  
8 qualification?

9 A The certification process requires, and I don't know the  
10 specifics because it's been so long since I initially  
11 certified, but it requires a certain amount of education and  
12 work experience in the discipline. There's a -- you have to  
13 sit for a written examination. It's not a trivial examination,  
14 it actually has an appreciable failure rate. It includes  
15 everything from the principles of auditing to statistical  
16 application in the auditing environment, and those types of  
17 things.

18 Q So it's not one of those send in 25 bucks and they send  
19 you the certification?

20 A That's correct.

21 Q After obtaining -- what is that, is that a certification,  
22 is that what I would call that?

23 A Yes.

24 Q After obtaining that certification, were you asked by  
25 anyone to go in and perform inspections or audits on

1 laboratories?

2 A Yes. I've been auditing laboratories for many years,  
3 commercial laboratories, government laboratories, all across  
4 the country.

5 Q Okay.

6 A And in general, those are performed for -- the majority of  
7 the cases, those have been performed for government clients  
8 where the government is going to use the analytical results to  
9 make a very important decision. And they don't want to simply  
10 accept an analytical result at face value because it truly is  
11 not commodity product. There is recognition that there is  
12 dramatic differences in the reliability of results from  
13 different labs, and so they want to know how reliable the  
14 result is from a given laboratory. The way they accomplish  
15 that is by conducting such audits to evaluate the scope and the  
16 rigor and the effectiveness of the laboratory's quality  
17 assurance program.

18 So I've done that for labs ranging from very large  
19 commercial laboratories, Navy labs at Navy facilities across  
20 the country, in the DOE complex, Lawrence Berkeley Lab, a whole  
21 suite of different laboratories.

22 Q Okay. The Federal Government hires you and pays you to go  
23 in and inspect laboratories?

24 A Yes.

25 Q Have you ever entered a laboratory or performed an



1 inspection of a laboratory as a result of a court order?

2 A Yes.

3 Q Tell us about that if you would, please.

4 A There have been three instances, and the first was a  
5 capital case in New Mexico involving DNA testing. And my work  
6 observing operations in that laboratory stretched over a period  
7 of many months because the testing stretched over a period of  
8 many months. So every time they were doing testing, I would go  
9 into the laboratory to observe the operations.

10 I also observed testing just a few weeks ago in  
11 Indianapolis Marion County Laboratory. Again, it was DNA  
12 testing.

13 And I witnessed testing in a commercial laboratory in  
14 North Carolina that was also DNA testing.

15 Q Okay. All of those, the court ordered you into the lab?

16 A That's correct.

17 Q Do you know if any of those were ASCLAD certified  
18 laboratories?

19 A All three of those laboratories held active ASCLAD  
20 accreditation at the time I was asked to go in.

21 Q Anybody lose their accreditation because you came you in  
22 and inspected their work?

23 A No.

24 Q All right. What is ASCLAD?

25 A It's essentially a trade organization. The American

1 Society of Crime Laboratory Directors. The name is pretty  
2 self-explanatory. The group that accredits labs has an  
3 appendage laboratory accreditation journal, branch, I'm not  
4 exactly sure what the D stand for.

5 Q Were you going to take a sip of water?

6 A Yes, sir.

7 Q Go ahead before we ask the next question.

8 When you were in the Navy, did you hold any --

9 MR. DICKINSON: I'm going to object. That assumes a  
10 fact not in evidence.

11 MR. ST. LOUIS: I apologize.

12 THE COURT: Sustained.

13 BY MR. ST. LOUIS:

14 Q When you were working --

15 THE COURT: Go ahead.

16 MR. ST. LOUIS: I'm sorry.

17 BY MR. ST. LOUIS:

18 Q When you were working for the Navy, when you were doing a  
19 quality assurance program for the Navy, did you have any sort  
20 of military clearance in regard to keeping matters secret?

21 A No. My security clearance was a DOEQ clearance, a nuclear  
22 security clearance during the term of my work for the  
23 Department of Energy.

24 While I worked under contract of the Navy, as a condition  
25 of accepting that contract, I had to sign some kind of a

1 statement attesting to the fact that I had no personal or  
2 professional relationship with the laboratory during the term  
3 of the contract, and for three years thereafter, to ensure that  
4 the very necessary auditor independence.

5 And as part of my certification through ASQ, there are  
6 ethical standards that an auditor has to adhere to, which would  
7 specifically preclude any external release of private  
8 information that you obtain during the course of an assessment.

9 Q Hypothetically speaking, if the Court allows you to go in  
10 and inspect the DPS southern lab here in Tucson, would you be  
11 able to abide by a court order that you not reveal any names or  
12 case numbers of work that you may see while you're in the  
13 laboratory?

14 A Yes.

15 Q Have you done that in the other instances in which you  
16 have inspected laboratories?

17 A I -- I've certainly not released inappropriate  
18 information. Are you asking have I ever had to, like, promise  
19 I wasn't going to tell?

20 Q I suppose.

21 A I don't understand the question.

22 Q Yeah.

23 A I don't recall that I was ever -- it's just so much a part  
24 of being an auditor that I guess -- I don't recall.

25 Q You don't reveal the information such as case names or

1 numbers that you may see while you're inspecting a laboratory?

2 A No.

3 Q You wouldn't if you were allowed to inspect this  
4 laboratory?

5 A No, I wouldn't.

6 Q How many labs have you been in your life, do you know?

7 A You know, many. Many dozens and dozens. I guess I've  
8 never tried to actually count, but in virtually every -- almost  
9 every state and Puerto Rico and all over the place. Not Puerto  
10 Rico, St. Thomas. Some island in the Caribbean.

11 Q All right.

12 MR. ST. LOUIS: Now I think I will, for purposes of  
13 this hearing, need to admit a copy of Ms. Arvizu's curriculum  
14 vitae.

15 MR. DICKINSON: No objection.

16 THE COURT: All right. Any objection?

17 MR. DICKINSON: No.

18 THE COURT: All right. That is admitted as Defense A  
19 it looks like.

20 (Defendant's Exhibit A admitted)

21 BY MR. ST. LOUIS:

22 Q Now, ma'am you prepared an affidavit in Mr. Kirkpatrick's  
23 case at my request?

24 A Yes.

25 Q Have you had the opportunity to review the work product,

1 or at least some of the work product of the Department of  
2 Public Safety southern regional laboratory?

3 A Yes.

4 Q Do you -- what have you seen, generally?

5 A You know, during the course of my career as an auditor, I  
6 have seen work product that very clearly tells me this is a  
7 wonderful lab. Every lab has issues. That's not the point.  
8 The difference between the very best labs and the very poor  
9 labs is what they do when presented with problems and how they  
10 respond to identifications of quality failures and quality  
11 deficiencies. So I've seen some really wonderful laboratories  
12 with very robust, very strong quality assurance programs. I've  
13 also audited some really dreadful laboratories that just simply  
14 do not have the systems and the controls in place to reliably  
15 produce data that a user can use with confidence, that any sort  
16 of a due diligence assessment of those laboratories would warn  
17 you that you shouldn't make really important decisions based on  
18 those results because of the pervasive and serious nature of  
19 the problems in the laboratory. So I've seen pretty much the  
20 full spectrum and that's for the laboratories that I've been  
21 into the lab and actually conducted on site specimens. So I've  
22 developed a sense from looking at the written work product and  
23 the available documentation as to where along that time line a  
24 lab is likely to appear.

25 And the -- my conclusion at this point from reviewing the

1 available records and the testimony of the personnel from the  
2 laboratory is that the DPS laboratory in Tucson is an  
3 extraordinarily challenging working environment, clearly, as  
4 evidenced by their own -- their own words and their own  
5 requests for a new facility. It is quite evident that that is  
6 an extraordinarily challenging facility. I know that chemistry  
7 is best practiced in a facility that is extremely well  
8 controlled because your most important responsibility is  
9 ensuring the integrity of that sample so that when a result  
10 comes out the back end of the instrument, you can have a high  
11 degree of confidence it actually reflects the value that was in  
12 that sample at the point it was originally collected. That  
13 requires controls at every step of the process. That requires  
14 physical controls, administrative controls, and having audited  
15 so many government laboratories, it's ironic and kind of  
16 disappointing but unfortunately an awful lot of government  
17 laboratories are operated in substandard facilities. They take  
18 a facility that was never designed for use as a laboratory and  
19 try to retrofit a laboratory into that space. Now there are  
20 certain kinds of testing that you can manage that pretty well.  
21 It's extremely difficult to manage that in the case of volatile  
22 organics analysis, which is the kind of testing that is in  
23 question in this particular case.

24 So my review of the records sort of put up a serious red  
25 flag about the contamination issue in this laboratory, which

1 was essentially validated by review of the records that  
2 indicates they have chronic long-standing contamination  
3 problems in the laboratory that have apparently not been  
4 investigated or addressed by either staff or management in the  
5 laboratory as indicated in the testimony that I've read.

6 In addition, having managed an analytical laboratory that  
7 does this kind of testing, it's an extremely difficult,  
8 difficult job to do science on a production line. And that's  
9 essentially the task that we have put in front of the analysts  
10 in this laboratory, to do -- to perform technically sound,  
11 valid science on a production line, because they're processing  
12 an awful lot of samples. That's made infinitely more difficult  
13 by the physical conditions that I could see, admittedly not  
14 very -- not to a great deal of detail because a lot of the  
15 shots were very tight that I could see in the video. Not less  
16 than ideal conditions, truly appalling conditions to try to  
17 have to perform science on a routine day-in and day-out basis.  
18 It's not that it would be impossible to do it successfully, but  
19 it would require an extraordinarily effective QA program with  
20 very strict quality control measures that I see no evidence  
21 exist in this laboratory. And we certainly can't rely on sort  
22 of the intellectual curiosity or technical curiosity of the  
23 staff in the laboratory because when questioned about follow up  
24 on these kinds of things, they simply don't do it. They're  
25 running samples. They're not investigating the scope and

1 nature of their quality problems.

2 So I think back to my work for the Navy, for example, and  
3 they always, always would do an on-site inspection before they  
4 would ever send a sample to a laboratory, just as a matter of  
5 due diligence.

6 But even just based on the paperwork, I would say that  
7 there are serious questions about this laboratory's ability to  
8 reliably and consistently produce acceptable quality data.

9 Q Let's talk about what items you received. You've  
10 mentioned some paperwork and you mentioned a video. What was  
11 the video you were talking about?

12 A It was a DVD you referenced in our opening statement that  
13 as I understand was prepared for purposes of justifying the  
14 construction of a new laboratory facility. So it sort of  
15 toured through the laboratory and provided an indication that  
16 it was clearly an unacceptable facility.

17 Q All right. And then you talked about some reports that  
18 you had received, did you not?

19 A Yes.

20 Q Okay. What reports are you talking about?

21 A I've reviewed actual analytical results from cases  
22 spanning a period of several years. I've reviewed a variety of  
23 what I'll call support documentation, support quality control  
24 records, things like maintenance logs, standards logs, the  
25 kinds of paper that go into supporting an audit trail in a



1 laboratory. I've reviewed audit reports. I've reviewed  
2 depositions by members of staff and management in the  
3 laboratory.

4 Q Okay. Did you review any inspections that had been done  
5 of the laboratory?

6 A Yes.

7 Q Tell us about those, if you would?

8 A Well there's -- there was an ASCLAD inspection report that  
9 specifically addressed some of these issues.

10 Q Okay.

11 A There was also -- and I'm not sure who the inspecting  
12 agency was, but a needs assessment that identified deficiencies  
13 in this and other laboratories within the Arizona complex.

14 Q Let me -- let me show you what has been marked as Exhibit  
15 L and ask you if that's the document that --

16 THE COURT: Defense L?

17 MR. ST. LOUIS: Yes, Your Honor.

18 THE COURT: Thank you.

19 BY MR. ST. LOUIS:

20 Q Is that the document you're referring to?

21 A Yes. This is one of them.

22 Q Okay. And it is a -- what is it?

23 A It's titled report of review and state plan, a needs  
24 assessment of forensic science laboratory services in the State  
25 of Arizona.

1 Q And who performed the needs assessment?

2 A This is performed by the National Forensic Science  
3 Technology Center, NFSTC.

4 Q All right. So you said you've seen some ASCLAD audit  
5 reports?

6 A Yes.

7 Q You've seen this needs assessment, Exhibit L. Have you  
8 seen -- did you see a needs assessment that was apparently  
9 prepared and submitted to the legislature?

10 A Yes.

11 Q So you've seen the video, you've seen these documents, you  
12 saw chromatograms from different cases, and then you made some  
13 reference to having reviewed some testimony or statement of  
14 some of the folks in the laboratory?

15 A Yes.

16 Q What was that, do you recall?

17 A They were transcripts and frankly I didn't pay a lot of  
18 attention to whether they were hearings or trials or what  
19 because it just doesn't matter to me. But they were  
20 transcripts of testimony by Mr. Heller, and by some of the  
21 analysts in the laboratory. I'm terrible with names, but a  
22 lady named Brook, I think.

23 Q Would that be Brook Arnone?

24 A Yes. And the lady named Rayna. I'm not sure how you  
25 pronounce it.

1 Q Rayna Ramirez?

2 A Ramirez, yes. And another guy, his name escapes me. I  
3 only process them as they were an analyst or a director.

4 Q Would it be the Seth Russkin (phonetic)?

5 A That could be it, yes.

6 Q All right. Well let's talk, I guess, about what you saw  
7 in some of those chromatograms.

8 MR. ST. LOUIS: Shifting to something else, Your  
9 Honor. Folks have been kind of wandering in and out. Do you  
10 need to take a break and do something else before we get into  
11 this?

12 THE COURT: All right. Let me just ask if anybody is  
13 here on anything other than the Kirkpatrick case. Is Elise  
14 Marcus here? I saw some people come in and out. Okay. I  
15 think we're okay.

16 MR. ST. LOUIS: We're good?

17 THE COURT: Yeah.

18 MR. ST. LOUIS: All right.

19 THE COURT: I think they did come in and out, but the  
20 clerk took care of it, so that's great. And thanks.

21 MR. ST. LOUIS: Sure.

22 BY MR. ST. LOUIS:

23 Q You said, Ms. Arvizu, that one of the things that you did  
24 in the laboratory was headspace gas chromatography?

25 A Yes.

1 Q All right. Are you familiar with how the Department of  
2 Public Safety Southern Regional Crime Laboratory analyzes blood  
3 for alcohol?

4 A I've reviewed their procedures and I've seen the results.

5 Q What is the methodology that they use?

6 A Headspace virgin trapped gas chromatography.

7 Q With the flame detector, you're talking about?

8 A With the flame ionization detector.

9 Q All right. Let's talk --

10 MR. ST. LOUIS: I think I'm going to have to stand  
11 here, so can everybody see?

12 MR. DICKINSON: My problem is are you going to show  
13 things that are admitted exhibits or not?

14 MR. ST. LOUIS: I have copies --

15 THE COURT: Well, have you stipulated to any of these  
16 things?

17 MR. DICKINSON: No. We have not, Your Honor.

18 THE COURT: Okay. What is the --

19 MR. DICKINSON: I haven't seen any of this stuff  
20 either.

21 THE COURT: Okay. These are some of the  
22 chromatograms --

23 MR. ST. LOUIS: Yes.

24 THE COURT: -- that were observed by you?

25 THE WITNESS: Yes, ma'am.

1 MR. ST. LOUIS: These -- actually I have copies of  
2 all of them. I can have them admitted and marked as we're  
3 going through this. These were all presented at a deposition  
4 of Mr. Heller that Mr. Dickinson attended as the representative  
5 of the State, and Mr. Heller has seen and sat through this  
6 PowerPoint presentation in court last Monday.

7 MR. DICKINSON: Whether Mr. Heller has or hasn't, I  
8 don't think is relevant, Your Honor.

9 THE COURT: Okay. What you would be your objection  
10 if these -- I'm assuming if you are objecting to the Court  
11 seeing those to illustrate the testimony of this witness --

12 MR. DICKINSON: I think my --

13 THE COURT: -- if she's talking about these  
14 particular chromatograms --

15 MR. DICKINSON: Well, I think my --

16 THE COURT: Go ahead.

17 MR. DICKINSON: -- my problem and issue is that she's  
18 testifying concerning matters that don't show up on the record.  
19 I want a decent record on this, so if she's talking about some  
20 sort of PowerPoint display, then when an appellate court, if it  
21 has to review this, is faced with that task, we have a lousy  
22 record.

23 I do not have a problem if Mr. St. Louis has the  
24 copies that he talks about and he can admit them as he goes.  
25 That's fine, as long as what he's admitting corresponds to what

1 he's showing.

2 THE COURT: Okay. So basically you want to have good  
3 and complete --

4 MR. DICKINSON: Yes.

5 THE COURT: -- record to show everything that's  
6 happening --

7 MR. DICKINSON: Yes.

8 THE COURT: -- for possibly a higher court, which is  
9 quite proper. All right.

10 MR. ST. LOUIS: Bernadette stepped out, but I'm  
11 assuming --

12 THE COURT: Okay. Why don't you just stop, like  
13 cancel it -- it's going to be what?

14 MR. ST. LOUIS: M I think because L was the last one.

15 THE COURT: Okay. Well assuming it's going to be  
16 that, what is it?

17 MR. ST. LOUIS: It is a set of chromatograms from  
18 January 21<sup>st</sup> of 2006.

19 MR. DICKINSON: If I could see those for a second?

20 THE COURT: And do you want to show those to Mr.  
21 Dickinson.

22 MR. ST. LOUIS: Sure.

23 MR. DICKINSON: Are these all on the PowerPoint then?

24 MR. ST. LOUIS: Not every single one, no. But there  
25 are chromatograms --

1 MR. DICKINSON: So --

2 MR. ST. LOUIS: -- from this one.

3 MR. DICKINSON: Which are and which aren't?

4 MR. ST. LOUIS: You'll see as we go through.

5 MR. BLOOM: Can I have it just one second?

6 (Mr. St. Louis and Mr. Bloom Confer)

7 THE COURT: Defense Exhibit M, is that the next  
8 number?

9 MR. ST. LOUIS: Judge, the other thing I can do is  
10 I'm happy over the lunch hour to print out a set of the  
11 PowerPoint slides and we can admit that as a record too.

12 THE COURT: Okay.

13 MR. BLOOM: So then you'll have a complete record.

14 MR. DICKINSON: That would --

15 MR. BLOOM: That solves the prop problem?

16 MR. DICKINSON: That would solve the problem.

17 THE COURT: All right. Then we proceed then with the  
18 proviso that that will happen over the noon hour. We are at  
19 11:15 now, so probably another 45 minutes.

20 MR. DICKINSON: So let me -- let's proceed and see  
21 how this goes. I have some concerns with whether or not  
22 individual items are going to be sufficiently identified as to  
23 where they came from, the foundational issues.

24 MR. BLOOM: We'll print out a complete set of all the  
25 slides so you'll have an exact record.

1 THE COURT: But as you go -- I think the other  
2 concern is as you go for the oral testimony to coincide with --

3 MR. ST. LOUIS: Sure.

4 THE COURT: -- with what's being shown.

5 MR. DICKINSON: Yeah.

6 THE COURT: If you make sure you identify each one  
7 orally so that that can be followed along with a paper  
8 submitted later on.

9 MR. DICKINSON: And the other issue is for example  
10 State's -- excuse me Defendant's appears to be 20 or 25 pages  
11 if -- on a case called James Porter. A lot of this won't have  
12 any reference -- I'm concerned that it may not have a reference  
13 on the exhibit as to which case it refers to.

14 THE COURT: Or which it came from, right?

15 MR. DICKINSON: Yes.

16 THE COURT: Okay. So if you would, Joe, just try to  
17 make sure that if Ms. Arvizu's talking about a particular  
18 chromatogram that it is referenced orally as to which one and  
19 what -- perhaps what case.

20 MR. ST. LOUIS: And what I --

21 THE COURT: So that it can be hooked up with the  
22 actual evidence that later will be in the record, in the file.

23 MR. ST. LOUIS: Just to explain to the Court and  
24 perhaps Mr. Dickinson, we have taken chromatograms that show  
25 something that we think is important, scanned them in, and have



1 a PowerPoint of them. The set of chromatograms, what we get  
2 from the lab is all the calibrators and controls and verifiers  
3 in a packet. Those are the packets. So there may be six  
4 chromatograms that we'll be referencing from Mr. Porter's case,  
5 but Exhibit M is a set of all of the chromatograms.

6 THE COURT: So it's not only the final but all the  
7 preceding --

8 MR. ST. LOUIS: Yes.

9 THE COURT: -- and preliminary and subsequent results  
10 of the tests in question. Okay.

11 MR. ST. LOUIS: Just so you know.

12 MR. DICKINSON: And your know I guess the thing which  
13 is difficult obviously is at some point we may want to chat  
14 about some of these things, so if we don't have a paper exhibit  
15 to deal with, it makes it very difficult --

16 THE COURT: Yes.

17 MR. DICKINSON: -- because it's Mr. St. Louis'  
18 PowerPoint --

19 THE COURT: Sure.

20 MR. DICKINSON: -- I have no idea how to operate any  
21 of that.

22 THE COURT: Okay. And I'm sure he's going to supply  
23 you with a copy of that.

24 MR. DICKINSON: As long as he's providing copies as  
25 we go, that's fine.

1 THE COURT: Okay. All right. If you get to the  
2 point where you kind of lose track of what you're doing, we can  
3 stop momentarily and get everybody back on track.

4 MR. DICKINSON: Kerry will get me on track.

5 THE COURT: Okay. Okay, so go ahead.

6 BY MR. ST. LOUIS:

7 Q Let me show you what's been marked for identification as  
8 Exhibit M. Ma'am, can you tell me what that is, please?

9 A It's a package of laboratory records related to some work  
10 that was performed in January of 2004, and the DR number, which  
11 is the laboratory's identification number, is 2004-004863.

12 Q What date in January?

13 A This first page is January 21<sup>st</sup>.

14 Q Of 2004?

15 THE COURT: 2004?

16 THE WITNESS: Yes.

17 THE COURT: Okay.

18 BY MR. ST. LOUIS:

19 Q Let's talk about what we're going to do -- we're in the  
20 laboratory, we are going to do a blood alcohol test on a gas  
21 chromatograph to try and determine an alcohol concentration.  
22 What do we have to do, if anything, to set up the instrument?

23 A Before you start running samples, before you start getting  
24 ready to go do that, you've obviously got to go into wherever  
25 the samples are stored, property room or an evidence storage

1 area. And typically the laboratory will generate work lists  
2 for an analyst and I'll come in on a Monday morning and I'll  
3 see that I have this list of samples in my queue. So gas  
4 chromatographs are instruments that need to equilibrate, they  
5 need to come up to temperature, so I'm probably going to go in  
6 and check out my instrument, make sure everything is running  
7 properly, I have adequate gas supplies and so forth. I'm going  
8 to go to the evidence locker and I'm going to check out from  
9 the custodian the samples that I'm going to run that day, and  
10 then I'm going to go to the instrument and I'm going to  
11 calibrate my instrument.

12 Now, in order to do that, I have to have a series of  
13 prepared solutions that are known as calibrators. And I've  
14 reviewed the laboratory's procedures, I've reviewed their  
15 records. It's not -- I can't tell exactly how their practices  
16 are executed. It can be done a variety of different ways, some  
17 better than others, some have problems, but in point of fact,  
18 at some point, the only way I know what's in a sample is --  
19 ever -- is by comparing an unknown to a reference standard, a  
20 standard reference material that's of known origin and purity.  
21 So I have is certificate of analysis that's traceable to the  
22 national institute of standards and technology and I have all  
23 this, an unbroken chain, back to a traceable reference  
24 standard.

25 And so I'm going to calibrate my instrument with these

1 prepared solutions. It's not clear to me whether -- how  
2 frequently those are prepared by the analysts. The only way I  
3 can tell is by reviewing the testimony of the analysts. You  
4 can't tell from the laboratory's records. That's a significant  
5 deficiency. The reason for that is because volatile organic  
6 solutions are by their very nature volatile. They're subject  
7 to change. The volatile compound that's present in a solution  
8 doesn't necessarily want to stay there because it's so  
9 volatile, it wants to off gas and come out into the  
10 environment. So those are solutions that need to be stored  
11 under refrigeration, the headspace protected, not left a cap  
12 off for any appreciable period of time to protect the integrity  
13 of those solutions.

14 It appears from the testimony that they only prepare their  
15 standards once a year, but I can't confirm that necessarily,  
16 but I'm getting off track, I apologize. I'm supposed to give  
17 you a scenario of how I prepare samples.

18 Q You told us that before you can analyze people's blood for  
19 alcohol, you have to calibrate the machine?

20 A That's essential.

21 Q And when you say calibrate, what do we do?

22 A We are introducing to the gas chromatogram, solutions of  
23 known concentration and purity and we're sending them through  
24 the oven, through the column, to be detected by the FID. And  
25 we're going to measure the response that that known solution

1 gives me. And then I build what's called a calibration curve,  
2 ideally a straight line that correlates an instrumental  
3 response on the flame ionization detector with a concentration  
4 of alcohol in the sample.

5 Q Okay. So are we telling the machine this is what a .10  
6 looks like?

7 A That's precisely what we are doing.

8 Q Okay.

9 A Because the instrument has no clue.

10 Q So the first thing we have to do is calibrate the  
11 instrument. Do you know how many calibrators are used in the  
12 Department of Public Safety laboratories?

13 A They use four.

14 Q Do you know what those are?

15 A Yes. They typically use .1, .2, .3, and .01 I believe.  
16 Yeah.

17 Q So .01 --

18 A I don't have the procedure in front of me, but yes.

19 Q Do you need to see something else, or can you tell --

20 A No, that's fine.

21 Q -- from --

22 A I can tell from this if I go through that.

23 Q And by this you mean Exhibit M.

24 A Exhibit M, yes.

25 Q All right. So they use four calibrators, and this is

1 something that is run at the beginning of every blood test  
2 before you start testing?

3 A Every day prior to an analysis.

4 MR. DICKINSON: Okay, Your Honor. Now there's  
5 nothing in any of these exhibits I think that's showing what's  
6 showing on the screen now.

7 MR. ST. LOUIS: That's why we're going to make a copy  
8 of the entire PowerPoint presentation and have it marked as --  
9 over lunch have it marked as an exhibit.

10 THE COURT: All right. So what's on the screen is in  
11 the computer. He's going to print out everything if I'm  
12 understanding correctly, and then provide copies to everybody  
13 and provide a copy of the record so that it can be followed by  
14 anybody else who might want to check --

15 MR. DICKINSON: Okay.

16 THE COURT: -- the proceedings against --

17 MR. DICKINSON: And by the way --

18 THE COURT: -- the tangible record; is that correct?

19 MR. BLOOM: I understand Bill's concern. We'll print  
20 them out. We'll number the slides if he likes so that we have  
21 a complete record.

22 But just to clarify, the evidence before the Court is  
23 the testimony of the witness. This is simply for illustration.

24 MR. DICKINSON: Let's proceed. We'll see how it  
25 goes --

1 THE COURT: All right. Let's keep going.

2 MR. DICKINSON: -- and what comes up. New surprises  
3 each time.

4 THE COURT: And it is on the record as far as the  
5 witness testifying to those four calibrators that were just  
6 shown to illustrate her testimony.

7 MR. DICKINSON: I guess I was making notes and I'm  
8 not sure whether she was testifying or reading off the slides.  
9 So if we can have her testify, that would be probably helpful.

10 THE COURT: All right. Is it your testimony that you  
11 know that those are the four calibrators that are used by the  
12 DPS lab?

13 THE WITNESS: Yes, ma'am, those were the four  
14 calibrators used in this package --

15 MR. ST. LOUIS: This package being Exhibit M?

16 THE WITNESS: This being Exhibit M. And to the best  
17 of my recollection, those same four solution concentrations are  
18 used in all of the records -- in all of the data sets that I've  
19 reviewed.

20 MR. ST. LOUIS: Over the years?

21 THE WITNESS: Over the years.

22 THE COURT: For this lab?

23 THE WITNESS: For this particular laboratory, that's  
24 right.

25 THE COURT: All right.

1 THE WITNESS: Most laboratories use five calibrators.

2 BY MR. ST. LOUIS:

3 Q What does a calibrator consist of? What's in a  
4 calibrator?

5 A Calibrators are prepared solutions, prepared from standard  
6 reference materials, as practiced in this particular  
7 laboratory. They do not purchase reference calibration  
8 solutions, they prepare them by what's called serial dilution.

9 So they start with neat alcohol, or pure alcohol  
10 essentially, and they prepare subsequent dilutions to get a  
11 more and more dilute sample of known concentration. Their  
12 ability to do that and do that accurately sets the stage for  
13 all subsequent quantitative analysis. So it's absolutely  
14 important that they know precisely how much volume of alcohol  
15 is introduced in each subsequent dilution. That depends on  
16 what's called good laboratory practice, and that's something  
17 that can really only be witnessed in person. How people use  
18 the pipette, their physical practices for use of the vat  
19 equipment to ensure that they have good volumetric solution.

20 Q When you say a known concentration, is that the one oh,  
21 the two oh, the three oh?

22 A Yes.

23 Q Okay, so in a one oh calibrator, we have alcohol that when  
24 tested by a gas chromatogram will produce a result of .10?

25 A Well, what we're actually doing as a calibrator is what



1 you described earlier, we're introducing that solution that we  
2 have prepared to be theoretically of that concentration. So we  
3 wade out the proper amount of alcohol, dilute it to volume, and  
4 I can compute what it's concentration ought to be. I inject it  
5 into the instrument and I'm telling -- instructing the  
6 instrument that that is .10. It's not that the instrument's  
7 telling me it's .10, I'm telling the instrument. And it's used  
8 in the calibration curve to run things later and compare to  
9 that calibration.

10 Q So we've got alcohol in our calibrator. Once the  
11 calibrator is completed, is there anything else they do?

12 A Yes. They use an internal standard and in this case that  
13 is n-propanol.

14 Q What is n-propanol?

15 A Normal propanol, it's a three chain hydrocarbon, it's  
16 another alcoholic material, another organic chemical volatile,  
17 organic chemical that is structurally very similar to Ethanol.

18 Q So a different type of alcohol with a different chemical  
19 composition?

20 A Yes. Just has an extra CH<sub>3</sub>, an extra carbon stuck on the  
21 end. Otherwise it's essentially the same as Ethanol.

22 Q Okay. Anything else in the calibrator?

23 A I would have to review their procedure. I believe they  
24 put a preservative in after they've prepared a volumetric  
25 dilution, but I would have to review my copy of the protocol to

1 --

2 Q Do you want to see that?

3 A I think they add a hundred milligrams of -- I don't  
4 recall.

5 Q Do you have that with you, Ms. Arvizu, or is it -- I think  
6 mine's back at the office.

7 A I do not. I'm sorry.

8 Q Okay.

9 A My best recollection is that they add on the order of some  
10 number of milligrams, on the order of 50 or 100 milligrams of a  
11 preservative to the sample after the known concentration has  
12 been prepared.

13 Q Any water in there?

14 A No.

15 Q There's no water in a calibrator?

16 A Oh yeah. That's how you prepare the dilution.

17 Q Okay. So we have alcohol in a known concentration, an  
18 internal standard solution, there's some water, and perhaps  
19 there's a preservative?

20 A My recollection is it's a solid preservative.

21 Q All right. Tell me what we're looking at now?

22 MR. DICKINSON: Can we identify this, ma'am?

23 MR. ST. LOUIS: This is page 10 of Exhibit M. This  
24 is page 10 of the January -- I should say Bates stamp page 10  
25 in the lower right hand corner of Exhibit M, which is the

1 January 24<sup>th</sup> --

2 MR. DICKINSON: Okay. Thank you.

3 THE WITNESS: Okay. This is an example of instrument  
4 output from the laboratory's GC instrument and the -- do you  
5 want me to go through everything on the page and explain what  
6 it is?

7 BY MR. ST. LOUIS:

8 Q Do we call this a chromatogram?

9 A These are two chromatograms.

10 Q Okay. Let's talk about -- first of all, there is some  
11 information -- there's a block of information at the top of the  
12 page?

13 A Yeah. This is the header information that provides  
14 descriptive information for people who review the data as to  
15 the origin of this data set. So you can see there's a data  
16 file that shows you electronically where the actual original  
17 raw data records are stored. There's a sample identifier in  
18 this case, it's 0.30 percent, an operator, the initials of  
19 whoever performed the actual preparation, LJH, the date and  
20 time that that particular analytical sample was introduced to  
21 the instrument so you can sequence and you can reconstruct the  
22 run sequence for the samples. The injection method references  
23 back to the conditions, what kind of oven temperature, flow  
24 rate and so forth. Run mill tells you what are we doing here,  
25 are we trying to -- what's the purpose of this run. It's in

1 this case calibration. How are we measuring the peaks? In  
2 this case it's peak area. This is the fourth calibrator and  
3 the instrument's name is Brad. That's a common practice in  
4 analytical laboratories to give instruments affectionate names  
5 that are a lot more interesting than their serial number.

6 Q This is the seventh item that was run on this particular  
7 date?

8 A Yes, in sequence, that was the seventh item.

9 Q It is a .30 calibrator?

10 A Yes.

11 Q And we can see that it was run on January 22<sup>nd</sup>, 2004?

12 A Yes.

13 Q You said that there are two chromatograms on the page;  
14 correct?

15 A Yes.

16 Q All right. Why are there two?

17 A Because as this instrument is configured for the analysis  
18 performed in this laboratory, a single injection is made to the  
19 instrument, but essentially then there's a splitter, the sample  
20 is split in half and it goes through two different columns  
21 while it's in the inside of the oven, so I get two different  
22 outputs and two different degrees of separation for the  
23 component.

24 MR. DICKINSON: Your Honor, I'm going to request that  
25 in the future she testify first and then if Mr. St. Louis wants

1 to put up the descriptors to describe what she's testified  
2 about, that would be fine. But I think this is leading at its  
3 best, to put the answers up and then have her testify about it.  
4 That's just --

5 THE COURT: You know I think from where she's --  
6 well. You needed to kind of keep going on how you're going?  
7 When she starts you just put it up?

8 MR. ST. LOUIS: I was trying to ask first and punch  
9 second.

10 THE COURT: I -- you know I don't think she's going  
11 to be --

12 MR. DICKINSON: Well, I was kind of watching what was  
13 going on and he put the first one up and then I think pressed  
14 the button three more times and got those --

15 THE COURT: Green things.

16 MR. DICKINSON: -- the green boxes on. And that, you  
17 know if he did it verbally I'd be objecting to leading. That  
18 he does it visually doesn't make it any less leading.

19 THE COURT: All right. Sustained. It'll be a little  
20 more awkward, but I --

21 MR. ST. LOUIS: It's no problem. I want to put on  
22 the record Ms. Arvizu isn't looking at me. I haven't --

23 THE COURT: I want to make sure that the testimony is  
24 the witness's testimony and not something that you might have  
25 previously prepared.

1 MR. ST. LOUIS: I do want to make a record that I  
2 think you've seen Ms. Arvizu is looking over at me.

3 THE COURT: She is.

4 MR. ST. LOUIS: She's not looking at the screen and  
5 reading as well.

6 THE COURT: And I have noticed that. For the most  
7 part she's -- she is looking at you and not at the screen.

8 BY MR. ST. LOUIS:

9 Q All right. So let me see if I understand. We take --

10 MR. ST. LOUIS: I'm sorry, Judge.

11 THE COURT: I was just going to say I've just noticed  
12 that she sometimes glances over there, I guess maybe to see if  
13 what's on there is the same thing she's been testifying to.

14 THE WITNESS: Same thing I'm looking at.

15 THE COURT: Yeah. All right.

16 BY MR. ST. LOUIS:

17 Q So we take a vial of blood with the internal standard in  
18 it?

19 A The vial of blood that's received from the field is not  
20 the sample that's actually introduced to the instrument.  
21 There's an intermediate step where they have to take an aliquot  
22 of the sample in a small little vial that's actually introduced  
23 into the instrument.

24 Q But we're doing a calibrator I guess. We're not testing  
25 blood at this point?

1 A That's correct. This is not.

2 Q We've got our alcohol and water and internal standard  
3 solution, we heat that up and it becomes a gas?

4 A Under controlled temperature conditions, there's a known  
5 relationship between how much of the alcohol stays in the  
6 liquid solution, and how much of it, because it gets hot, it  
7 gets more volatile and essentially it moves up into the  
8 headspace of that sample. Because when you -- in this case, in  
9 this particular technique, the injection needle is only  
10 withdrawing a sample of the headspace. They're not going down  
11 into the water or taking any of the solution. They're just  
12 withdrawing a sample of the headspace from this thermally  
13 equilibrated sample.

14 Q All right. That gets injected into the gas chromatogram?

15 A Yeah.

16 Q It then goes you said through like a Y splitter?

17 MR. DICKINSON: I'm going to ask that you not lead,  
18 please.

19 THE COURT: Sustained.

20 BY MR. ST. LOUIS:

21 Q What's the next thing?

22 A The sample is injected through -- it's like is syringe  
23 needle into -- is how it's withdrawn, it's injected into the  
24 instrument, it's split into two parts, and then those two parts  
25 each go through a capillary column, two different columns of

1 two different materials in two different performance  
2 characteristics.

3 Q A capillary column, is that like a tube?

4 A It's a giant long, very, very, skinny tube with material  
5 on the inside. And it's -- I keep doing this, making circle  
6 motions in the air, because that's how you get that long column  
7 inside of an oven. You roll it into -- into a circle.

8 Q What happens when it gets to the end of the column or the  
9 tube?

10 A In each case, those samples are introduced to a detector  
11 and a response signal indicates each time a component of the  
12 sample is released from the column. So like in this case, you  
13 can see that the zero point in time, time is the access along  
14 the bottom. If -- can I --

15 Q Yeah. Push the silver button?

16 A I'll give it a try.

17 THE COURT: Okay. Now she hasn't testified to that,  
18 whatever's in the green box.

19 MR. ST. LOUIS: Well, she just said that --

20 MR. DICKINSON: Actually she did, just a second ago.

21 THE COURT: Measures time in minutes? I didn't hear  
22 that. Okay.

23 THE WITNESS: Okay. I didn't say in minutes, but --

24 THE COURT: All right.

25 THE WITNESS: It actually says minutes right there,

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1 but you wouldn't be able to read that.

2 THE COURT: No.

3 THE WITNESS: At least I certainly wouldn't be able  
4 to read that.

5 THE COURT: I don't think I can either.

6 THE WITNESS: But what this is telling you is that  
7 when this particular sample was run, it was injected right here  
8 at time equals zero, and then for the first minute or so,  
9 nothing was happening. Just the helium gas that they were  
10 pushing through the instrument was just coming along through,  
11 and my sample was being separated into its components as it  
12 went through the column, and then look right around here, which  
13 is just about a little over a minute, a minute point three six  
14 seconds -- a minute point three six, then you get this elusion  
15 -- what's called elusion of the first component of the mixture.  
16 And then here is the second thing that's in that .30 sample.  
17 Ask then out here, there's the third thing that's in that .30  
18 sample.

19 BY MR. ST. LOUIS:

20 Q Okay. We talked about the X axis, the horizontal part of  
21 the graph. What is the vertical part of the graph, or the Y  
22 axis?

23 A The vertical axis here is millivolt, and that's simply the  
24 raw instrumental response to a component being detected as it  
25 comes out of the column. So we saw up here that our

1 measurement approach is peak area. So the height is not what  
2 matters here. It's the area under the curve that matters.  
3 That's an indication of how much material is coming through the  
4 columns.

5 Q So what you're saying is if we have a peak, we're not  
6 measuring it based on how high the peak is?

7 A That's correct.

8 Q We are measuring it based on what's inside of the peak?

9 A That's correct.

10 Q All right.

11 THE COURT: And actually at the bottom, is that it?

12 THE WITNESS: All the way to the baseline, and that  
13 turns out, Your Honor, to be a very important consideration,  
14 exactly where that baseline is.

15 BY MR. ST. LOUIS:

16 Q How many peaks will we see in a calibrator?

17 A You should see in a calibration standard like this one,  
18 you should see a peak for the internal standard, in this case  
19 n-propanol, and you should see it peak for the -- what's called  
20 the analyte of interest. We're calibrating for the -- for  
21 purposes of knowing how much Ethanol is in the sample. So the  
22 second peak ought to be Ethanol. Those should be the only two  
23 things ever in a calibration solution.

24 Q So -- okay. Let's talk about that. We've got two peaks -  
25 - as we're looking at page 10 from Exhibit M, what is the first

1 peak, the peak on the left?

2 A The first peak is Ethanol, and the reason that, you know  
3 -- you can see it right there now. This identifies that peak  
4 as Ethanol, it's calling it peak number one. Right there is  
5 the retention time, that correlates with this 1.3 minutes. And  
6 that's the integrated peak area.

7 Q That's the area of --

8 A That's the red area that you have drawn here.

9 Q Okay. And the second peak is what?

10 A The second peak is the internal standard.

11 Q And again there is printed out information underneath the  
12 graph describing what each peak is?

13 A That's correct. And the reason that the instrument knows  
14 that those -- that first peak is Ethanol and that second peak  
15 is n-propanol is because that's experimentally determined.  
16 Again the instrument doesn't know that. What they do is they  
17 run a known reference sample of Ethanol through that particular  
18 column. You'll see that these -- can you get all that stuff  
19 out of the way?

20 Q If I can?

21 A These are both samples of Ethanol and normal propanol, but  
22 you can see that these two are coming out at a little over a  
23 minute, and a little over two minutes. But down here, the  
24 first peak comes out at two minutes, and the second peak comes  
25 out at three minutes. Well, how in the world does the

1 instrument know that? That's because -- the instrument doesn't  
2 know. That's because somebody's gone through and figured it  
3 out that this particular column under these particular  
4 operating conditions, Ethanol comes out here and n-propanol  
5 comes out here. So it's an empirically determined sequence and  
6 position.

7 Q Does -- in other words if something shows up at 1.369  
8 minutes, the gas chromatograph will call it Ethanol?

9 A No matter what it is. And that's a very important  
10 concept. The -- anything that comes out -- if you had  
11 something that came out close to it, like right around here?  
12 I'm shaky of something.

13 Q Just to the right? Just to the right of the peak?

14 A Yeah. Just to the right of the peak, sometimes the  
15 instrument won't be able to resolve it. It won't be able to  
16 separate it from the target analyte of interest. And there's  
17 an example of that in this -- in the records that I reviewed.  
18 So the instrument is really -- it's really dumb. It doesn't  
19 know the difference. It's just doing its best to resolve them,  
20 but if they come out too close then it may just look like a  
21 single peak.

22 Q Okay.

23 THE COURT: So the instrument is set. Is it set by  
24 the criminalist perhaps?

25 THE WITNESS: Yes.

1           THE COURT: Or by the -- for Ethanol to come out at a  
2 particular time.

3           THE WITNESS: No. We don't tell the instrument that  
4 we want Ethanol to come out at 1.3 minutes. What we do is we  
5 go buy a particular column. They have little manufacturer  
6 trade names. We buy that column and under that -- those  
7 conditions, under that temperature range and ramp and flow rate  
8 and all those kinds of operating conditions, it's simply  
9 empirically determined. You run alcohol through and you see  
10 where it comes out. You run a clean known alcohol through  
11 sample and you see where it comes out. And you develop what's  
12 called a retention time window so you know if it comes out  
13 between 1.31 and 1.36, then it's -- then that's where alcohol  
14 comes. It doesn't mean that anything that comes out at 1.3 is  
15 alcohol, it just means if you've got alcohol in there through  
16 that column and under those conditions, it should come out at  
17 that retention time.

18           The problem is -- and the reason they use two columns, and  
19 that's good analytical practice, is because different things  
20 come off the column at different rates in different columns.  
21 So that's a way -- that's how they qualitatively identify yes  
22 it's really alcohol, because they run it on two different  
23 columns, and if it comes out at the expected position for  
24 alcohol in both columns, that's confirmation of the fact that  
25 it's alcohol. You simply cannot use gas chromatography to

1 identify alcohol based on one column run. That's trash  
2 science. You have to do two different columns, and you have to  
3 have a peak show up at the expected position in both columns in  
4 order for you to call it alcohol.

5 THE COURT: And is there a little leeway on each  
6 side?

7 THE WITNESS: Absolutely. Yes, there is.

8 THE COURT: As there were in that proceeding one?

9 THE WITNESS: Yes, there is. And that's part of the  
10 laboratory's validation process that they have to go through to  
11 say in my lab, with my instrument, my operating conditions,  
12 this is where it is. And they set those boundaries.

13 BY MR. ST. LOUIS:

14 Q At the beginning of the run, do we test anything other  
15 than alcohol? Do we do anything other than tell it here's what  
16 an oh one looks like, here's what a one oh looks like?

17 A Yes. There's the -- boy I wish I had my procedure --  
18 because these are not in time order, but I'll do my best to try  
19 to get them in sequence order. The laboratory first runs  
20 through the calibration, and they really should not proceed if  
21 the calibration isn't good. You have to get a good straight  
22 line on your calibration curve before you proceed. So  
23 typically, in deciding what you're going to do in the  
24 laboratory that day, the first thing you do is run your  
25 calibration curve to make sure it's all in control.

1           The next sample that they ran in this case that's M is  
2 what they call standard mix. It's a mixture of a variety of  
3 different volatile organics, and in this -- that's what's  
4 displayed here.

5       Q     That's page --

6       A     This is page 12, standard mix right there.

7       Q     And this is a group of what? Chemically similar  
8 substances?

9       A     Yeah. If you look at the list down here.

10      Q     Right.

11      A     I'm sorry. Yeah these are all -- if you look, it's  
12 methanol, acetaldehyde, Ethanol, isopropanol, acetone and  
13 toluylene. These are all volatile organic compounds with  
14 similar kinds of volatility.

15      Q     But let's go through the -- just the information block at  
16 the top again. Item 12 is what now?

17      A     Okay. This is Bates stamp number 12. This sample was run  
18 on January 22 of -- at 9:16 in the morning. It's the ninth run  
19 in sequence -- ninth injection in sequence on that day.

20      Q     That's the nine that's circled on there?

21      A     That's the nine that's circled up there. The sample ID  
22 here is called standard mix. It's not very enlightening, it  
23 wouldn't help anybody demonstrate the traceability of that  
24 material, but it's a standard mix that includes a variety of  
25 different volatiles, run by that same analyst, using the same

1 method. Whereas before the run load was calibration, now it  
2 says analysis. So now I'm not calibrating my instrument, I'm  
3 actually analyzing this known standard mix and seeing if I get  
4 the expected result by analyzing it.

5 Q So we are no longer telling the machine this is what this  
6 is, the machine is now testing the substance?

7 A That's correct. When it says analysis, it is evaluating  
8 the sample in relation to the calibration that you had  
9 performed.

10 Q Okay. And I hit it before I asked you, but the date  
11 again, same run -- I think you said already?

12 A That will always and forever on these data outputs, be the  
13 date and time that that particular sample was injected into the  
14 instrument.

15 Q Okay. You mentioned -- you read off the bottom what we're  
16 looking at. The first one was what? Look at the page.

17 A On the chromatogram on top, the first compound to elude is  
18 methanol.

19 Q What is methanol?

20 A It's another alcohol. Ethanol has two carbons, methanol  
21 only has one.

22 Q Wood alcohol?

23 A Propanol has three. Excuse me?

24 Q Wood alcohol?

25 A Yes. Yes.



1 Q People can drink it?

2 MR. DICKINSON: Only once.

3 THE WITNESS: I wouldn't recommend it.

4 BY MR. ST. LOUIS:

5 Q Not real good for you?

6 A No.

7 Q Okay. What is this second substance that we test for?

8 A Acetaldehyde.

9 Q And what is that, please?

10 A It's another small mass volatile organic compound.

11 Q Where does it come from?

12 A It's a breakdown product.

13 Q Of what?

14 A Alcohol.

15 Q Okay. What's the third item that we look for?

16 A Ethanol.

17 Q And that's just drinking alcohol?

18 A That is drinking alcohol.

19 Q The fourth item?

20 A Isopropanol.

21 Q What is that, please?

22 A That is an alcohol that has three carbons, but they're in  
23 a little chain instead of in a long straight line.

24 Q You are such a scientist. It's rubbing alcohol?

25 A It's rubbing alcohol.

1 Q People drink that, right? Or can I guess?

2 A I suppose you can drink any liquid for a short period of  
3 time.

4 Q Not real good for you?

5 A No.

6 Q What's the next item, please?

7 A Acetone.

8 Q And what is that, please?

9 A Okay. I'm getting it. It's a ketone but it's used for  
10 fingernail polish remover.

11 Q Why do we test for that? Is this something people consume  
12 or something manufactured by the body? Why do we look for it?

13 A You know, their protocol does not prescribe to me why they  
14 look for acetone. I would expect them to do that, but it  
15 doesn't.

16 Q Can acetone be produced by the human body under certain  
17 conditions?

18 A Yes.

19 Q What are those conditions?

20 A I -- that's outside my area of expertise. I only have a  
21 lay knowledge of that, so --

22 Q Okay. What's the next item?

23 A N-propanol, that's the internal standard.

24 Q Tell me about this internal standard. What I remember --  
25 sorry -- in science, don't you have to have something that's

1 the same in everything that you test?

2 A It's the principle of a control. It enables you to  
3 address different matrices and so forth. You get the same  
4 amount of n-propanol in every sample. It gives you a point of  
5 reference if you will.

6 Q Okay. And what is our last item?

7 A The last item is toluylene.

8 Q What is that?

9 A That's actually an aromatic compound and it's pretty  
10 toxic. It's used in a variety of solvents. It's in gasoline,  
11 it's --

12 Q Do you know why we're checking for that?

13 A I do not.

14 Q Okay. All right. What -- so all right. So we're setting  
15 up a run, and the first items in the run are going to be what?  
16 In the DPS lab in Tucson?

17 A Okay. I don't have a run log. That's actually something  
18 that most laboratories produce as a standard part of their data  
19 review package because it's things -- that's part of how you do  
20 a quality assessment. You have to reconstruct it from time and  
21 date sequence, but after the calibrators --

22 Q So the -- how many calibrators do we have at the  
23 beginning?

24 A There are four calibrators at the beginning.

25 Q And one of each calibrator or two of each calibrator?

1 A They run them each in duplicate.

2 Q So the first two would be what?

3 A The first two are the .01 percent.

4 Q Okay. And then the next two are what?

5 A The next two are .10.

6 Q The next two would be what?

7 A Point two zero.

8 Q And then I guess the last one?

9 A The last one is .30, there are two -- those are run in  
10 duplicate.

11 Q All right. Once we've run all of our calibrators, what do  
12 we run next?

13 A The next sample that they inject by the times here appears  
14 to be the standard mix.

15 Q That's what we were just looking at with the methanol and  
16 the isopropanol and the --

17 A Whole bunch of peaks, looks like grass.

18 Q But it is the one we were just talking about?

19 A That is the standard mix, yes.

20 Q Okay. What's after the standard?

21 A After the standard mix, the next sample looks like the  
22 blank.

23 Q Okay. What is a blank?

24 A Blanks are negative control samples, and they serve a  
25 variety of purposes in the analytical arena. You introduce

1 blanks at different parts of the process to try to be able to  
2 identify contamination when it occurs.

3       What you want -- you can have field blanks where you  
4 actually transport a known vial of clean water with absolutely  
5 no volatiles in it from -- all the way from the field through  
6 transportation and storage.

7       You can have refrigerator blanks that sit in the  
8 refrigerator along with your analytical samples. And  
9 periodically you take them out and you analyze them to see if  
10 there's any volatiles escaping and cross contaminating samples  
11 during refrigerator storage.

12       You can have method blanks that are introduced to the  
13 analytical process at the same time you're actually processing  
14 the samples, so when I go get the samples from the locker and  
15 bring them to my bench top, at that time I'm going to prepare a  
16 sample to take through in exactly the same time and space as my  
17 known samples, as my evidentiary samples. And the purpose of  
18 that kind of a method blank is to see whether or not during the  
19 processing of those samples there's any -- there's the  
20 possibility that they've been cross contaminated and that their  
21 integrity has been compromised. So a method blank is processed  
22 at the same time, in the same place, and using all the same  
23 techniques as your actual evidentiary samples. That's really  
24 important. It's not something you do separately. It's not  
25 something that you introduce up front, make sure it's clean,

1 and then you get out your samples and start processing them.  
2 It has to be processed in the bath, right along with all the  
3 other 40 samples that I'm going to prepare that day.

4 I can't tell from reviewing this laboratory's protocols  
5 what their intentions are for this particular blank. I can't  
6 tell if they intend it to be a method blank or if they intend  
7 it to be what's called an instrumental blank. And that's  
8 simply a sample that's known to be free of Ethanol, known to be  
9 free of volatiles, that is introduced to the instrument and  
10 it's run in between each of the other samples to see whether or  
11 not there's contamination occurring at the point where you're  
12 actually analyzing the samples. So you can introduce blanks at  
13 any point in the process. I just truly can't tell their  
14 intentions for this particular blank, because they don't  
15 identify it any further than calling it blank, and their  
16 protocol does not explicitly describe in sufficient detail. I  
17 hope it's a method blank, that's it's not an instrument blank,  
18 but I'm not sure of that.

19 Q It sounds like you're saying that there should be a number  
20 of blanks used when you are doing tests of a number of samples  
21 of blood for alcohol concentration?

22 A Yeah. It's just -- it's a means of protecting yourself,  
23 because if you don't look for contamination, you'll never find  
24 it, whether or not it's there.

25 Q I mean, is there a set number? How many blanks should you

1 use?

2 A You know different -- different programs specify different  
3 numbers. And in this laboratory's procedures, they say one.

4 Q Is that adequate?

5 A In my opinion it is not for volatile organics,  
6 particularly given the very large sample sizes that are used in  
7 this practice. Best practice, because I look at a lot of blood  
8 data from a lot of laboratories. But really the best  
9 laboratories run a blank in between every single unknown sample  
10 to be able to identify cross contamination, to really have a  
11 solid empirical basis for saying no contamination was present  
12 in my samples. One, certainly I guess would be the absolute  
13 minimum, blanks are required under the ASCLAD protocols. It  
14 does not prescribe a specific number. It just says generally  
15 blanks. It doesn't address it by type of analysis. So it  
16 means that if you're running an inorganic, a chromium test you  
17 have to run one blank. If you're running a volatile, you have  
18 to run one blank.

19 The difficulty with that is that as scientists we're  
20 supposed to be intellectually curious and we're supposed to be  
21 anticipating what can go wrong and putting in place things to  
22 prevent it from going wrong. And the problem with volatiles is  
23 it's particularly susceptible to contamination. It's all -- I  
24 ran a lab that handled radiologic materials, and I learned a  
25 lot about contamination control. I taught contamination

1 control in the laboratory. Contamination control is a  
2 complicated process in the laboratory. And volatiles are  
3 particularly susceptible to contamination because of their very  
4 nature. They're not going to sit politely on the bench top.  
5 They want -- those volatiles want to move and want to get out  
6 of there and move. So best practice for volatiles is that's  
7 the example of where you would require more blanks for  
8 volatiles analysis than you would for something like chromium  
9 analysis, where it's not as susceptible to contamination. One  
10 is certainly the absolute minimum.

11 My concern is I can't tell their actual at-the-bench  
12 practices for doing this. I can't tell if they're going to the  
13 instrument and preparing their calibration samples, running  
14 that standard mix, running their blank, yeah everything's good,  
15 now I can go input -- put in my samples, in which case it is  
16 not serving the necessary purpose, because it's not being, that  
17 blank is not being processed contemporaneously in the same  
18 manner in the same place at the same time as my analytical  
19 samples. They could be exposed to contaminants and I would  
20 never know it from reviewing the results of that one single  
21 lonely blank, because if you look at this analytical run in  
22 this particular case, it starts at --

23 Q Again, Exhibit M?

24 A I'm sorry, yes. Exhibit M. It starts at --

25 MR. DICKINSON: What page are we talking about now?



1 THE WITNESS: Well, if you look at the very first  
2 chromatogram, Bates stamp -- no that's not right. That's the  
3 sample. Never mind. The .01 percent standard, Bates stamp 4  
4 is injected at 8:05 in the morning on January 22<sup>nd</sup>. It's Bates  
5 stamp 4.

6 MR. DICKINSON: Is it the four in the lower right  
7 hand corner?

8 THE WITNESS: Yes. Yes, sir.

9 MR. DICKINSON: Okay.

10 THE WITNESS: And then if you look up at the  
11 injection date it's January 22<sup>nd</sup> at 0805.

12 MR. DICKINSON: Okay.

13 THE WITNESS: So basically the analyst came in, set  
14 up the instrument, started injecting their calibration  
15 standards first thing in the morning, and then we run through  
16 this whole protocol and you see time passes, time passes,  
17 control one is run at 9:34, control two is run at 11:12,  
18 control three is run at 12:54, control four is run at 02:32,  
19 control five is 04:10. These things are run on an auto  
20 sampler. They're not done by manual injection. That again is  
21 a very good analytical practice, very desirable analytical  
22 practice. And so they rack and run. They set up the auto  
23 sampler and it runs all night. So what they do is make sure  
24 the calibrators are in control, that it's a good -- that it's  
25 going to be a good in-control run. Then they have it set to

1 run those samples all night and do those injections all night  
2 when nobody's there. They come in in the morning and make sure  
3 that all the quality control passed and process the data.

4 But you can see that this last control sample is run --  
5 well, let's see.

6 MR. DICKINSON: And which page number are you talking  
7 about?

8 THE WITNESS: I have a date and time problem because  
9 -- then I've gone over past midnight.

10 THE COURT: She's on 23 I believe.

11 THE WITNESS: Yes, I'm sorry. Yes, thank you. On  
12 Bates stamp 23, you can see it's January 23<sup>rd</sup> now at 12:30. The  
13 next page is -- it's two clock in the morning on January 23<sup>rd</sup>,  
14 25 is 2:17 on January 23<sup>rd</sup>. So you can see that this is running  
15 over a very long period of time.

16 Just as an example, when you're running drinking water  
17 samples for example for the Environmental Protection Agency,  
18 they require blanks be run with dramatically more frequency and  
19 the time window is 12 hours. So you have to do your control  
20 checks ever 12 hours. This is a very long run, with one lonely  
21 little blank at the very, very beginning.

22 MR. ST. LOUIS: Do you want to take a break at this  
23 point?

24 THE COURT: It's a little after 12 o'clock now. This  
25 might be an appropriate time to break if everybody is in

1 agreement.

2 MR. DICKINSON: That's fine, Your Honor.

3 THE COURT: And would you like to have an hour and a  
4 half or an hour? Whatever suits you guys.

5 MR. DICKINSON: That's fine. I would request in  
6 order for me to understand what's going on --

7 THE COURT: And to have time to --

8 MR. DICKINSON: -- that I send one of my folks over  
9 and have Mr. St. Louis print out a copy of these slides --

10 THE COURT: And I think he's intending to do that.

11 MR. DICKINSON: -- so that I can review them over  
12 lunch.

13 THE COURT: So why don't we come back at 1:30, 1:35?

14 MR. DICKINSON: That's fine.

15 THE COURT: Come back at 1:35? Okay. That gives you  
16 a little more time to do some of the things you have to do.  
17 Thank you. And we'll see you back at 1:35.

18 (Recess)

19 THE COURT: -- versus, what's the first name?

20 MR. ST. LOUIS: Kirkpatrick.

21 THE COURT: Guy Kirkpatrick. Yes, an interesting  
22 name.

23 MR. DICKINSON: And I think for the record we didn't  
24 indicate this morning whether or not the Defendant was present  
25 or waived his presence.

1 MR. ST. LOUIS: Well, he was present this morning. I  
2 don't know if you saw Mr. Kirkpatrick.

3 THE COURT: All right. Okay. I think he was in the  
4 back there wasn't he?

5 MR. ST. LOUIS: He has tinted glasses.

6 THE COURT: Okay. And he --

7 MR. ST. LOUIS: Mr. Esposito, we waived his presence  
8 yesterday because he had to get back to California for his  
9 business.

10 MR. DICKINSON: And so this afternoon you're waiving  
11 his presence?

12 MR. ST. LOUIS: Sure.

13 THE COURT: Couldn't pique Mr. Kirkpatrick's interest  
14 in staying for the rest of the day?

15 MR. DICKINSON: When you can't keep your own client  
16 in the courtroom, it's not a good sign.

17 THE WITNESS: It's chemistry and on Friday afternoon.

18 THE COURT: All right. So we were going to, at some  
19 point I'm sure we'll break during mid afternoon.

20 MR. ST. LOUIS: There's Mr. Kirkpatrick. We were  
21 just talking about you there.

22 THE COURT: Hey there. Okay. We thought maybe you  
23 found better things to do like a nice little Italian restaurant  
24 on the corner or something like that.

25 MR. KIRKPATRICK: I just got back from Texas and I

1       couldn't find one. I tried hard.

2               THE COURT: Okay. Well, I guess we're about ready to  
3 continue on. I don't see a minute entry in here. I don't know  
4 if there was one or not. Do you think it might have landed on  
5 my desk or something? Okay. Yeah. That'd be the easiest  
6 thing.

7               (Counsel and Client Confer)

8               MR. ST. LOUIS: And Mr. Kirkpatrick is going to go  
9 ahead and excuse himself, Your Honor.

10              THE COURT: All right. I think your case is in  
11 fairly good hands here.

12              MR. KIRKPATRICK: That's always good to hear. I need  
13 to hear something good. I just got a horse that came down with  
14 colic.

15              MR. ST. LOUIS: Are we good to go, Judge?

16              THE COURT: We're good to go. All right. We're on  
17 the record, all the parties are present, Mr. Dickinson on  
18 behalf of the State, Mr. St. Louis and Mr. Bloom here on behalf  
19 of the Defendant, who also was present a second ago and may  
20 leave during the course of these proceedings.

21              So you may proceed, Mr. St. Louis, with cross-  
22 examination.

23              MR. DICKINSON: Direct.

24              MR. ST. LOUIS: Direct.

25              THE COURT: All right. I meant direct.

1 MR. DICKINSON: It'll go faster if I can go cross.

2 THE COURT: You can proceed with direct examination  
3 of your witness.

4 MR. DICKINSON: I might find an objection if he did  
5 cross.

6 THE COURT: All right. That's Janine Arvizu, right?  
7 Okay. Go ahead.

8 BY MR. ST. LOUIS:

9 Q Ms. Arvizu, before we broke for lunch, one of the things  
10 that you wanted to double check was whether there was a  
11 preservative in the calibrators created in the DPS lab in  
12 Tucson?

13 A Yes.

14 Q Did you have an opportunity to look that up?

15 A According to their protocols, 100 milligrams of mercuric  
16 chloride is added as a preservative to their calibration  
17 standards.

18 Q Okay. We were talking and we're setting up because in  
19 just a minute we're going to start looking at some  
20 chromatograms that have issues that may be of interest at this  
21 hearing. We had talked about a blank. What is the next item  
22 that DPS has in their run after the blank?

23 A A control sample.

24 Q And what is a control sample?

25 A It's a positive control sample. It's a sample of known

1 composition and concentration that is introduced as a quality  
2 control periodically during the course of the run.

3 Q And is this something that's made in the laboratory?

4 A It is prepared in the laboratory, yes.

5 Q Do you know if it's made in the DPS lab or if this is  
6 something that's purchased from somewhere else?

7 A I would have to refer to the protocol.

8 MR. ST. LOUIS: I should probably have them marked I  
9 suppose.

10 BY MR. ST. LOUIS:

11 Q I'll show you what has been marked as Defendant Exhibit 0.  
12 What is that please?

13 A This is the Southern Regional Crime Laboratory's alcohol  
14 protocol version 2002.1.

15 Q Is that the document you were referring to?

16 A Yes, it is.

17 Q Okay.

18 A This is -- does not prescribe preparation of a positive  
19 control sample so I have to assume that they purchase it.

20 Q Are there companies that make control samples?

21 A Yes. They don't indicate that as one of their supplies or  
22 reagents or materials used in the lab, but there are  
23 manufacturers who will sell you certified reference materials.

24 Q So I can go out and I can buy something and when I test it  
25 on a gas chromatogram -- gas chromatograph, it would -- do we

1 know what the target is supposed to be?

2 A Yes.

3 Q So they -- after the blank, they have a control. What do  
4 they run after that?

5 A After that they run analytical samples, unknown samples.

6 Q People who have been arrested?

7 A They're unknown.

8 Q How many do they run? When is the next time they put in a  
9 control?

10 A The first control is done at 9:34, the next control is  
11 done at 11:12.

12 Q And what number is that?

13 A That's control 2, Bates page number 15.

14 Q And what sample number is that?

15 A Control 2.

16 Q In the box above it there's a number?

17 A Oh, sequence number is 022, sorry.

18 Q Okay. So we would run presumably five tests in duplicate?

19 A Yes.

20 Q And then we run another control. What comes after that?

21 A Another series of samples in sequence.

22 Q And after that?

23 A Another control.

24 Q Okay.

25 A After every ten injections of an analytical sample, they



1 run a control sample.

2 Q All right. And then so at the end we get to whatever the  
3 last control is; correct?

4 A Yes. In this particular batch that is item M, the last  
5 control sample is control sample 11.

6 Q And what -- I'm sorry, what number is -- what sequence --

7 A Sequence number 121.

8 Q All right. Do we run anything after the last control?

9 A Yes. They run a series of what they call verification  
10 samples.

11 Q And what's a verification sample?

12 Q As implemented in this laboratory, it appears to be a  
13 reanalysis of the samples used for calibration purposes. And  
14 this time instead of using them for calibration purposes,  
15 they're using them for quality control purposes to see if the  
16 results have changed over the course of the analysis?

17 Q So how many verifiers do they run?

18 A They run four.

19 Q And what are they?

20 A The same concentration as the calibration standards .01,  
21 .1, .2, .3.

22 Q Okay. So we are at the beginning of the run, we've taken  
23 a calibrator -- we've made it the calibrator and we have told  
24 the machine this is what a .10 looks like?

25 A That's correct.

1 Q And then we take that same substance at the end and we  
2 test it to see if it reads it as a one oh?

3 A That's correct.

4 Q Is that good practice?

5 A That's essentially a precision check. It doesn't address  
6 accuracy. It simply addresses precision. It's a really  
7 important distinction, a really important difference, but  
8 they're not verifying that it was an accurate calibration or  
9 the accuracy of the results, they're only verifying precision,  
10 and can I -- may I draw on the board?

11 Q Yeah, sure.

12 A If that's a target and I make four measurements, the  
13 overall accuracy of those four measurements is very good  
14 because if you average them all out, you get one result right  
15 there. That's contrasted with this is a result that's very  
16 inaccurate and -- but it's very precise, so the results all  
17 look very similar, when I read the same sample over and over  
18 again I get the same result again. That in no way correlates  
19 with the accuracy. Two results -- just because you get the  
20 same answer lends no credence for whether or not it's the  
21 accurate answer. It simply says you can -- you know good  
22 precision. You can get the same result again and again when  
23 you make that measurement. So it's real important to  
24 distinguish between accuracy and precision. That's a very  
25 inaccurate result that's very, very precise.

1 Q So we take a red brick, put it on a scale, set the scale  
2 to one pound, weigh a bunch of things --

3 MR. DICKINSON: I'm going to object to the form of  
4 his question. It's leading.

5 THE COURT: Well I think he's going to get to a  
6 question with it. Go ahead. You may proceed. Overruled.

7 BY MR. ST. LOUIS:

8 Q And then after we've weighed the thing, if we put the same  
9 brick on the scale and if it weighs one pound, we're saying  
10 that we can tell what the weight of -- the weight was of the  
11 items in between?

12 MR. DICKINSON: Objection. It's a leading question.  
13 It requires yes or no. I'd suggest that --

14 THE COURT: I don't think it's leading. I think he's  
15 -- overruled.

16 THE WITNESS: The answer is no, it doesn't tell you  
17 anything about the accuracy of the measurement. It's simply is  
18 a quality -- a quantitative assessment of whether or not the  
19 lab could get the same result on replicate attempts. It  
20 doesn't speak to whether the result is correct or not.

21 BY MR. ST. LOUIS:

22 Q Okay. Let's take a look at some chromatograms. Before  
23 lunch, you opined that you had seen contamination in this  
24 laboratory's results for a number of years?

25 A Yes.

1 Q Was one of the set of chromatograms that you reviewed in  
2 reaching that decision a set that was run on January -- in  
3 January of 2003?

4 A If I could see it --

5 Q Sure.

6 A -- I can tell you.

7 THE COURT: When you say this lab, what lab are you  
8 referring to?

9 THE WITNESS: The Southern Regional Crime Laboratory  
10 in Tucson.

11 MR. DICKINSON: Do you have an extra copy of this  
12 one, Joe?

13 MR. ST. LOUIS: I do.

14 MR. DICKINSON: Thank you. And you're marking it  
15 what?

16 UNIDENTIFIED SPEAKER: Q.

17 THE COURT: Q?

18 UNIDENTIFIED SPEAKER: Q.

19 BY MR. ST. LOUIS:

20 Q I'm showing you what was been marked for identification as  
21 Defendant's Exhibit Q and I'll ask you if you have seen this  
22 document?

23 A Yes.

24 Q Is that one of the sets of chromatograms that you reviewed  
25 in regard to this laboratory?

1 A Yes.

2 Q Okay. And what is it, please.

3 A This is another data set from work that was performed in  
4 2003, in January of 2003.

5 Q What day in January?

6 A The initial calibration was performed on January the 15<sup>th</sup>.

7 Q 2003?

8 A 2003.

9 Q Let me ask you, ma'am, if you would to turn to the three  
10 oh calibrator. There's a Bates number in the right hand  
11 corner. I can't read it. Is it the 10<sup>th</sup>?

12 A Ten.

13 Q Okay. What are we looking at now?

14 A This is a chromatogram of the highest concentration  
15 calibration standard. It's the result that was obtained during  
16 the calibration process as calibration four.

17 And as you can see on the bottom chromatogram, there's  
18 something you don't see routinely there, and there's a diagonal  
19 line extending from the right hand of the primary peak tail to  
20 the tip of the little negative P.

21 Q Now, first of all, tell me about the baseline. You were  
22 talking about the baseline earlier?

23 A Uh-huh. The baseline is essentially the zero point for  
24 the instrument. It's the point at which no signal is detected.

25 Q Can you make sure Judge Dolny is on the same page as you

1 are?

2 THE COURT: On these the Bates number is wrong.  
3 You're on 10? I was on 11 so I'm -- okay. Thanks.

4 BY MR. ST. LOUIS:

5 Q What do the numbers above zero signify?

6 A That's positive indication of heat, some compound eluted  
7 in the column.

8 Q And below the baseline, we have negative numbers?

9 A Those are negative numbers.

10 Q Okay. And so what we -- what do we have here with this  
11 peak?

12 A You remember that we were quantifying by using peak areas,  
13 and so the instrument is actually going in a performing an  
14 integration, determining the area under the curve. That's what  
15 the integration process is. So in most cases, the instrument  
16 is automatically assigning the baseline and picking the two  
17 points at which -- if I may?

18 THE COURT: You may.

19 THE WITNESS: In your little diagram here, the  
20 instrument, two colors, I have multi (indiscernible) capability  
21 here. So the instrument is actually picking the point at which  
22 -- and it's drawing a line from this point to this point, and  
23 selecting that as the point where it decides that this peak has  
24 touched the baseline, and it's integrating everything in this  
25 area. And that's an automatic process and there's an algorithm

1 for how that happens. But it's ordinarily done automatically  
2 by the instrument.

3 What has happened in this case is the baseline comes  
4 along and has this little negative peak, so the instrument,  
5 because it's a stupid instrument, it doesn't recognize  
6 necessarily what that might be, has come along and said oh this  
7 is the area that I need to integrate for this sample.

8 BY MR. ST. LOUIS:

9 Q Now if we -- if it arrives at a value based on the area,  
10 isn't that going to overstate the value?

11 A That would certainly be an inaccurate result,  
12 unquestionably.

13 Q Okay. What causes, you said a little negative peak. What  
14 causes a negative peak?

15 A An example of something that might cause that is an  
16 electronic interference, electronic spike.

17 Q So some problem in the electrical system?

18 A Yes.

19 MR. ST. LOUIS: You need a minute, Your Honor?

20 THE COURT: Yeah. Just a second.

21 MR. ST. LOUIS: Okay.

22 THE COURT: So what I'm trying to do is if, Ms.

23 McGuire, there's no Dena McGuire(phonetic) here right now,

24 right? If she shows up, I'm going to see if there's a pro tem

25 who can take that. And if she doesn't show up, it'll be at ten

1 minutes after the hour, okay? And I'll just do the paperwork  
2 and you can leave.

3 UNIDENTIFIED SPEAKER: Thank you, Your Honor.

4 THE COURT: And you will be in charge, you'll be the  
5 referee.

6 BY MR. ST. LOUIS:

7 Q And would you remind us again of when this chromatogram  
8 was created by the gas chromatograph?

9 A The sample was injected at 10:36 on January 15<sup>th</sup>, and it  
10 ran for just over five minutes.

11 Q All right, 1/15/03 at 10:36:52 a.m.

12 A Yeah.

13 Q So would you look at the next page. Please. Page 11.  
14 What are we looking at there?

15 A The page with the Bates stamps 11 is essentially a  
16 different display of the same raw analytical data that has been  
17 manually reprocessed by the analyst in this case.

18 Q So this is a .30 calibrator at 1/15/03 at 10:36?

19 A Yes. They didn't reinject the sample. They took the same  
20 electronic data file from that same injection and instead of  
21 accepting this default, the automatic instrument baseline  
22 assignment, I have to conclude, even though it's not noted on  
23 here as it should be, I have to conclude that the analyst went  
24 in there and changed it to manually integrate this peak in a  
25 more appropriate manner. That is an acceptable and in fact



1 necessary thing for analysts to do, but it's also really  
2 important that analysts notate that that's the case rather than  
3 require us to draw assumptions that are unsupported by their  
4 notes.

5 Q The analyst can go into the gas chromatograph and change -  
6 -

7 A Yes.

8 Q -- the analysis?

9 A They can change the actual integration parameters, if you  
10 will. They can change the baseline for the integration.

11 Q Okay.

12 Q And they can --

13 A That's what scientists do. We're not instrument  
14 operators.

15 Q Okay. So before we had the peak measuring the entire,  
16 including the negative spike?

17 A Correct.

18 Q And afterwards, it is what this the analyst has changed?

19 A That's correct.

20 THE COURT: And I am right to assume that if that  
21 adjustment hadn't been made, if you go over the top  
22 chromatogram, that that would show a larger concentration of  
23 whatever substance that was?

24 THE WITNESS: That could be the conclusion, yes.

25 THE COURT: Of a whole year, because it really should

1 be from the two places that the peak starts?

2 THE WITNESS: Yes, ma'am.

3 BY MR. ST. LOUIS:

4 Q Did you have the opportunity to review and interview that  
5 Mr. Bloom conducted with Ms. Arnone, concerning what was  
6 happening in this?

7 A Yes.

8 Q Okay. What's the one in front of you Janine?

9 A This is Q.

10 MR. DICKINSON: This is R.

11 BY MR. ST. LOUIS:

12 Q I'm showing you what's been marked for identification as  
13 Defendant's Exhibit R. Have you seen this before?

14 A Yes.

15 Q What is it, please?

16 A It's a transcript of an interview of Brook Arnone, A-R-N-  
17 O-N-E that was conducted on October 20<sup>th</sup>, 2004.

18 Q And it concerns the January 15<sup>th</sup>, 2003 chromatograms?

19 A Part of it. That's my understanding.

20 Q Okay. At some point Mr. Bloom is asking Ms. Arnone what  
21 is happening in the chromatograms that we were just looking?

22 A Is that page 13?

23 Q Page 13, yes.

24 A Okay.

25 Q Ms. Arnone talks -- what does she say about it? Take a

1 look if you would at line 3 for example.

2 MR. DICKINSON: Your Honor, I'm going to object. The  
3 exhibits and the Court can review it. She wasn't there. She  
4 doesn't have any personal knowledge of this.

5 THE COURT: All right. I'll sustain the objection.  
6 If you want to say look it over, see if that conforms to  
7 whatever. How would you compare that do something else.

8 MR. ST. LOUIS: All right.

9 THE COURT: That would be an appropriate question.

10 BY MR. ST. LOUIS:

11 Q One of the things we talked about is in considering the  
12 quality assurance in the laboratory as you looked at the  
13 analyst's explanation for some of the things that occurred  
14 during the runs?

15 A Uh-huh.

16 Q Is that a fair statement?

17 A Yes.

18 Q Okay. Was there anything in particular about Ms. Arnone's  
19 explanation of the run that concerned you?

20 A I think that her handling of the integration was  
21 appropriate, her documentation was insufficient, because an  
22 independent party reviewing this simply cannot tell which was  
23 the result that she used, which was generated by the  
24 instrument, which was generated by her. You just simply can't  
25 tell.

1 Q Okay.

2 A So that's a significant documentation error in order to  
3 know what data was really used for purposes of calibration.  
4 And then I'm trying to see if this is the place where she talks  
5 about the negative peak.

6 Q Take a look at page 13, lines 3 through 10.

7 A She refers to it as some sort of spike, electronic spike  
8 per bearing is what they were calling them. And she recognizes  
9 that it's an operational problem with the instrument. Doesn't  
10 address the process through which they investigate and resolve  
11 and prevent that from happening in the future, just sort of  
12 accepts it as something that happened with the instrument.

13 And Varian is the instrument manufacturer, and so from  
14 this and from other testimony, I understand that they were in  
15 contact with Varian in attempting to identify and resolve the  
16 problem.

17 Q And I think there may be some more on page 14?

18 A Yes. There is. She says on page 9, acknowledges that  
19 we've had some difficulties with our instrument. They thought  
20 it was water somehow in the system, but that doesn't account  
21 for an electronic spike, that's true. And she states that in  
22 the past they used to do 50 samples in a batch, an analytical  
23 batch if you will, load up the auto sampler with 50 analytical  
24 samples, and they found that they got better results and had  
25 fewer of these negative spikes if they went to 40 samples in an

1 analytical batch. For some reason that was influencing that.  
2 Apparently they never bothered to document that anywhere,  
3 because there's no indication of such a requirement in the  
4 protocol.

5 Q Ultimately on page 19, does she talk about what their  
6 conclusion was?

7 A Yeah. On lines 9 through 11, she indicates that as far as  
8 the analysts, have talked about it yes, and as I said we did,  
9 there was a lot of discussion with the higher ups at Varian  
10 because honestly we were ready to throw the instrument away for  
11 lack of a better word to say it. Obviously this was a chronic  
12 long-standing, frustrating problem with the instrument.

13 MR. DICKINSON: Objection. That calls for  
14 speculation.

15 THE COURT: Sustained.

16 MR. DICKINSON: I'm sorry?

17 THE COURT: Sustained.

18 BY MR. ST. LOUIS:

19 Q Is --

20 THE COURT: Long standing she might be able to  
21 determine that, I don't know about frustrating, we might be  
22 able to infer that, but I guess she's not really competent to  
23 testify to that.

24 BY MR. ST. LOUIS:

25 Q From your review of the statements of the analyst and Mr.

1 Heller, was anyone ever able to figure out what was causing the  
2 electronic spike?

3 A In all the interviews and testimony and records I've  
4 reviewed, nothing was ever documented about the ultimate  
5 solution of that issue.

6 Q Okay. Again, that question was asked of (indiscernible),  
7 I suspect of everybody?

8 A Yes.

9 Q Could it be (indiscernible)?

10 A I think that's pretty unlikely.

11 Q So the solution as I understand is instead of testing 50  
12 samples at a time, we're going to test 40 samples at a time?

13 A In each batch, that's correct.

14 Q Did that resolve the problem?

15 A Well, I don't have data to support that, but I have heard  
16 her testimony or her interview transcript that says that that  
17 seems to have improved the situation. She doesn't actually say  
18 it solved it. She says it improved it.

19 Q Okay. Do you recall seeing examples of drops below the  
20 baseline in samples since 2003?

21 A That is my recollection.

22 Q Okay.

23 THE COURT: That is your recollection?

24 THE WITNESS: Yes, ma'am.

25 THE COURT: That you have seen?

1 THE WITNESS: Yes.

2 BY MR. ST. LOUIS:

3 Q I'm showing you what has been marked for identification as  
4 Defense Exhibit S and ask you, ma'am, if you have seen that  
5 document before?

6 A Yes, I have.

7 Q What is that, please?

8 A It's another data set for work that was performed in the  
9 laboratory starting on the 12<sup>th</sup> of May, 2006.

10 Q Okay. Can I -- and can I ask you please if you would turn  
11 to the second item, the oh one calibrator.

12 A Okay.

13 Q All right. And in the far right hand side of both  
14 baselines, is there some sort of spike below the baseline?

15 A Yeah, there's obviously a negative.

16 MR. DICKINSON: Wait, I'm not getting it.

17 MR. ST. LOUIS: Number 02, Bill.

18 MR. DICKINSON: Mine has no numbers on it.

19 MR. BLOOM: May I show you?

20 THE WITNESS: Nor does this, but --

21 MR. DICKINSON: Okay. So this -- my copy doesn't  
22 have the numbers at the bottom.

23 MR. BLOOM: No. See we're going by these numbers.

24 MR. DICKINSON: Okay.

25

1 BY MR. ST. LOUIS:

2 Q Does that look like the same sort of electrical problem  
3 that was occurring in January of 2003?

4 A That could be.

5 Q All right. May 31<sup>st</sup>, 2006 it jumps around -- do you have  
6 one from June 17<sup>th</sup> of 2006?

7 MR. BLOOM: In the interest of saving trees, can we  
8 stop marking these since you've got a complete set of the  
9 slides and evidence anyway?

10 MR. DICKINSON: My problem is that the slides are so  
11 small, I can't read them.

12 MR. BLOOM: Judge, we need a younger prosecutor here.

13 MR. DICKINSON: That may help.

14 THE COURT: All right Kerry, jump in.

15 MR. DICKINSON: Nothing against trees, sorry.

16 BY MR. ST. LOUIS:

17 Q I'm showing you, ma'am, what has been marked as Defense  
18 Exhibit C. Can you tell me what that is, please?

19 A Another data set, starts with the quality control data  
20 sheet for samples that were starts on the 16<sup>th</sup> of June, 2006.

21 Q Would you turn, please, to the 11th item -- how do you  
22 say it, item run?

23 A Injection.

24 Q The 11th item injection, should be a two oh there?

25 A Is that the --



1 MR. DICKINSON: The problem is I have a faxed copy.

2 THE WITNESS: It's a faxed copy and it obliterates  
3 the --

4 THE COURT: Does everybody has that same faxed copy  
5 that obliterates it? You can help Bill.

6 MR. DICKINSON: No, I got it. I had a copy that had  
7 a fax number along the top, so --

8 THE COURT: Oh, oh. Why would you want to know --

9 THE WITNESS: Okay. It's on line two.

10 MR. DICKINSON: Actually what we need to do is  
11 calibrate my blood pressure.

12 BY MR. ST. LOUIS:

13 Q The bottom column --

14 THE COURT: Do you get spikes at certain times?

15 MR. DICKINSON: Oh yes.

16 BY MR. ST. LOUIS:

17 Q The bottom column, do we have the same sort of electronic  
18 issue?

19 A Yes. Possibly. There are other explanations, but that's  
20 certainly one.

21 Q What else could that be?

22 A The issue really relates to what sensitivity you're going  
23 for and if you get low enough, and you look low enough, this  
24 line doesn't look flat, it starts to look more like a field of  
25 grass.

1 Q Okay. Let's talk about -- so we talked about electronic  
2 spiking. One of the things -- I don't know if you did talk  
3 about this. You did. You said earlier that you had an example  
4 where there were two peaks that were coming out at the same  
5 time; correct?

6 A Yes.

7 Q Okay.

8 MR. ST. LOUIS: I believe this will be U that I'm  
9 handing in.

10 BY MR. ST. LOUIS:

11 Q I'm handing you what's been marked as Defense Exhibit U.  
12 Can you tell me what that is?

13 A Data package with quality control results for analysis  
14 that was performed starting on October 9<sup>th</sup>, 2003.

15 Q When did it end up?

16 A The last calibration verification sample was run on  
17 October 10<sup>th</sup>, at 3:00 in the morning.

18 Q You've used a phrase earlier, rack and run?

19 A Yes.

20 Q Does that mean somebody is in -- an analyst is there at  
21 three o'clock in the morning when the testing is being done?

22 A No. It's essentially a robotic auto sampler, and what the  
23 analyst does is they load or put them in the rack, they load  
24 each of the individual little crimped files of the analytical  
25 samples and all the control samples. Each position in that

1 rack is known to the instrument and you make sure -- it's  
2 really important that you make sure you put the right sample in  
3 the right position so that constantly during the night it's  
4 going through and taking samples out of each of the files.

5 Q So like a needle comes down and pulls up some blood?

6 A Doesn't pull up blood. It just pulls up headspace.

7 Q Okay. And then how does it get to the next vial?

8 A Depends. Different auto samplers work a little bit  
9 differently. Sometimes the tray actually moves to the next  
10 position. The needle is fixed and the tray moves to the next  
11 position.

12 Q Comes down and sucks up --

13 A Pulls -- sucks -- pulls up the sample and then it moves  
14 and then comes down and sucks up the next one. Sometimes it's  
15 a fixed tray and the needle is on an X Y axis and it tracks and  
16 moves to the right position. The really important thing from a  
17 quality assurance perspective, because those robotic things  
18 work really well, is making sure that you know exactly which  
19 sample goes in exactly which vial in this little matrix. In  
20 most labs that's such a critical quality control checkpoint  
21 that they actually have a second analyst observing and signing  
22 off on the fact that yes everything went in the right spot. I  
23 didn't inadvertently put something -- these are really small  
24 vials. I didn't inadvertently put the wrong one in the wrong  
25 hole.

1 Q Cause we're not doing a DNA test or anything, to see who's  
2 blood we're testing?

3 A No.

4 Q We just -- we're running the machine, whatever is in  
5 sample slot 15 that belongs to Joe Smith?

6 A That's one of the -- one of the laboratory practices  
7 that's evaluated during an onsite inspection. It's -- it's the  
8 kind of work that -- it's absolutely necessary that it's really  
9 important that you be very focused on this kind of mindless but  
10 very important task to get the right things in the right slots.  
11 So if you're interrupted with phone calls or in a very  
12 congested environment with having to move out of the way or  
13 getting bumped into by people or a lot of noise around,  
14 anything that might compromise your ability to make sure you  
15 get all of these 40 some analytical samples in the right slot.

16 Q Have you had a chance to see Exhibit U before?

17 A Yes.

18 Q Okay. In fact this is a case in which you testified here,  
19 an asbestos claim?

20 A Yes.

21 Q Would you take a look, please, at the sixth injection?  
22 Did I get that right?

23 A Yes. Very good.

24 Q What is that, please?

25 A Well, it looks like 0.20. This has been highlighted so it

1 doesn't show up well in the copy I have of it. This is the .20  
2 percent standard.

3 Q This is the .20 calibrator?

4 A Calibrator, correct.

5 Q Okay. All right. I want to bring your attention to the  
6 Ethanol peak on the bottom column. We have what looks to be a  
7 little line drawn prior to the end of the peak. Do you see  
8 what I'm referring to?

9 A Yes.

10 Q What is that?

11 A You know the resolution of this is such that it's pretty  
12 difficult to tell. In some labs, there have been issues with  
13 people for example doing things like peak shaping and moving  
14 the point at which this kind of calibration happens. And  
15 that's why this is something that people pay attention to, is  
16 to make sure that they aren't getting something in control by  
17 moving where the baseline is integrated. Because that's -- you  
18 have manual control over that as you can -- as you've seen  
19 previously, an analyst can change it and there's no indication  
20 on this that that's -- I mean physical output that that's the  
21 case. So it looks like that's the instrument putting a line  
22 indicating that that's where the calibration -- I can't be  
23 sure, but that's where the calibration integration was  
24 performed.

25 Q Okay. Is that something you could tell during an onsite

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1 inspection?

2 A I can certainly assess those practices. That particular  
3 sample I'd have to have the electronic data.

4 Q Okay. In that sample, we have some very small peaks  
5 before and after the Ethanol and toluylene.

6 A I'm sorry, is this still the .20?

7 Q It is.

8 A Okay. Thank you.

9 Q What is that we're looking at on this one?

10 A Those are just really small peaks evident just before a  
11 minute and just before five minutes in the first chromatogram.

12 Q Is that something moving through the flame detector?

13 A Yes.

14 Q Do we know what that is?

15 A Well, no we don't. This is supposed to be a standard  
16 reference -- a reference material used for calibration  
17 purposes. It really shouldn't have anything in it but the two  
18 large peaks that you see, the Ethanol and the propanol.

19 Q The 98th thing, item that was run --

20 MR. DICKINSON: Injection.

21 MR. ST. LOUIS: Injection. Thank you.

22 THE WITNESS: Yes.

23 BY MR. ST. LOUIS:

24 Q That is in fact a test that was performed on the blood of  
25 Veronica Rush (phonetic)?

1 A Yes.

2 Q Something unusual about this result?

3 A Yes. This result failed.

4 THE COURT: This result what?

5 THE WITNESS: This analytical run failed.

6 BY MR. ST. LOUIS:

7 Q Tell us what else we're looking at if you would.

8 A On the bottom chromatogram -- thank you. On the bottom  
9 chromatogram, this peak right here, this is the peak that we're  
10 expecting to be alcohol because it's eluting at about two point  
11 oh five three is the listed retention time. We're expecting  
12 that to be alcohol. But what you can see is when the  
13 instrument calls this out, it calls two separate peaks, one at  
14 2.053 and one at 2.113. Now if you look at this you might  
15 think well it just kind of looks like one oddly shapen large  
16 peak to me, but what's that telling you is that I have a second  
17 constituent of that sample that's co-eluting, coming off the  
18 column at the same time that my alcohol is. When this kind of  
19 situation happens, when you have two peaks that are so close  
20 that the instrument can't distinguish between them, and I need  
21 to draw again if that's okay --

22 Q Sure.

23 A If you have two peaks that are coming off the column very  
24 close, what happens is the band comes all the way down to the  
25 baseline in between, so you can very clearly say this side is

1 one peak and this side is another peak. But if those two peaks  
2 are too close for the instrument to resolve, what happens is  
3 they can't, they can't overlap and it doesn't have the  
4 opportunity to have this peak come all the way down the  
5 baseline. So you've got one peak and you've got another peak,  
6 and it's not able to separate those, so it simply says I see  
7 one big peak. That's what's known as a co-eluting contaminant.  
8 That tells you that I can't use this result for Ethanol. It's  
9 failed. The analytical technique has failed to resolve those  
10 two compounds.

11 Q And yet --

12 A In this particular case that result was reported by the  
13 laboratory without qualification.

14 Q Should it have been?

15 A Absolutely. This is sort of the nightmare --

16 Q Absolutely yes?

17 A Absolutely yes. This is sort of the nightmare scenario of  
18 reporting something that's present at a certain concentration  
19 when we have objective -- objective evidence of the fact that  
20 it overestimates that concentration.

21 Q Okay. So can you get reliable results under this  
22 nightmare scenario?

23 A No.

24 Q What should you do?

25 A This particular sample should not have been reported by



1 the laboratory. The nature of this particular problem is not a  
2 batch-wide quality control problem. It doesn't compromise the  
3 usability of the entire batch. It only compromises the  
4 usability of this particular sample.

5 Q Let me turn your attention to some chromatograms from just  
6 a few days after October 20<sup>th</sup> and 21<sup>st</sup>.

7 THE COURT: You know, I haven't heard anything that  
8 the same instruments that were in use in 2003 is the same  
9 instrument that's used now or --

10 MR. ST. LOUIS: We will get there.

11 THE COURT: -- instruments that are used, okay?

12 MR. ST. LOUIS: It's the same.

13 THE COURT: Because otherwise what's the relevance of  
14 this?

15 MR. ST. LOUIS: We'll get there. Do you want to look  
16 at the chromatographs in the case and establish that right now,  
17 Judge? Happy to.

18 THE COURT: We're going to run out of alphabet.

19 UNIDENTIFIED SPEAKER: Does it matter what --

20 MR. ST. LOUIS: That's fine.

21 THE COURT: That's exactly right.

22 MR. DICKINSON: And what are these going to be  
23 labeled?

24 THE COURT: AA, BB, CC.

25 UNIDENTIFIED SPEAKER: Oh no, no. These are -- we're

1 still -- we still have some left.

2 THE COURT: Oh okay.

3 MR. DICKINSON: He handed me two so I'm not sure.

4 MR. ST. LOUIS: These are V and W.

5 MR. DICKINSON: And which is which?

6 MR. ST. LOUIS: V is the 20<sup>th</sup>, W is the 21<sup>st</sup>. And --

7 UNIDENTIFIED SPEAKER: Is this in your slide show?  
8 This part?

9 MR. ST. LOUIS: This is Z.

10 MR. DICKINSON: Is this particular section in your  
11 slide show?

12 MR. ST. LOUIS: Not the Defendant's.

13 UNIDENTIFIED SPEAKER: Not that, but --

14 MR. DICKINSON: So I'm sorry, the Kirkpatrick is --

15 MR. ST. LOUIS: Is Y.

16 MR. ST. LOUIS: And Mr. Esposito is X, I'm sorry.

17 BY MR. ST. LOUIS:

18 Q Okay, let me show what has been marked as Defense Exhibit  
19 Y, ma'am. Can you tell me what that is, please?

20 A It's data package and a report in the Guy Kirkpatrick  
21 case.

22 Q For his blood test?

23 A For his blood test that was run on June 20<sup>th</sup> of 2006.

24 Q And what was the instrument used?

25 A The instrument identified in here is Brad.

1 Q Okay. And can you tell where it was tested? What  
2 facility?

3 A Southern Regional Crime Lab by Rayna Ramirez.

4 Q Okay. And then I will give you what has sent to me by the  
5 prosecutor as the calibrators and controls for Mr. Esposito.  
6 That is Defense Exhibit X. Can you tell me what that is?

7 A Again a data package for work done on the 18<sup>th</sup> of March,  
8 2007.

9 Q On which instrument?

10 A And that instrument is also Brad.

11 Q And where was that done?

12 A From this data package it doesn't state it explicitly, but  
13 because Brad is located in the southern region of the crime  
14 lab, I would like to hope it's there.

15 Q All right. All right. So we were talking about October  
16 20<sup>th</sup>, 2003. Let me hand you what has been marked as Defense  
17 Exhibit V and ask you what that is, ma'am?

18 A A data package, quality control, and results for work  
19 performed on October 20<sup>th</sup>, 2003.

20 Q All right. Is that something that you've seen before?

21 A Yes.

22 Q Okay. Can you ask you please to turn to the blank on --

23 A Yes.

24 Q All right. Anything unusual about this blank?

25 A Yes. There are clearly other contaminants that are

1 present in the blank at low concentrations, one just before a  
2 minute, and one just after four minutes in the top  
3 chromatogram.

4 Q What is that that we're looking at?

5 A I don't know. Neither do they.

6 Q Okay.

7 A They are unidentified.

8 Q Isn't a blank supposed to be free of stuff like this?

9 A The blank should be free of stuff like this. Again,  
10 without seeing how they prepare their blanks in the laboratory,  
11 I don't know how they ensure that that's the case. And from  
12 their own protocol, it requires that you run a blank, but it  
13 never asks you to look at the blank and evaluate it and decide  
14 if it passes or fails. So presumably it's just an exercise in  
15 checking the box because there are -- prescriptively in their  
16 protocol it requires that you run one blank, but in the quality  
17 control evaluation it doesn't address what you should do if  
18 there is evidence of volatile organic contaminants present in  
19 your blank.

20 Q Okay. And is that because it's so obvious that everybody  
21 knows what to do when that happens?

22 MR. DICKINSON: Objection. Leading.

23 THE COURT: It's not leading. Overruled, sorry.

24 It's my opinion that it's not.

25 THE WITNESS: I've reviewed literally hundreds of

1 standard operating procedures for volatile organics analysis  
2 and it is a rarity that explicit criteria are not set, pass  
3 fail criteria for each quality control sample. It doesn't tell  
4 you that if there's things in the blank you have to stop and do  
5 over. It says failure to meet any of these criteria is a batch  
6 failure and it requires, it doesn't address that specifically.  
7 It addresses that part of all quality control. Any quality  
8 control result that fails to meet the criterion specified in  
9 the protocol mean fail and do over.

10 BY MR. ST. LOUIS:

11 Q But that's not in the protocol for the DPS lab in Tucson?

12 A There are no such requirements whatsoever.

13 Q Okay. Let's look at now Defense Exhibit W. This is a --  
14 what is that, please?

15 A This is a data package for work done on the 21<sup>st</sup> of  
16 October, 2003 using the instrument Brad.

17 Q All right. Something you've seen before?

18 A Yes.

19 Q Okay. Would you look please at the blank in that run?

20 A Yes.

21 Q Anything unusual in there?

22 A Oh those pesky little contaminant peaks are bigger than  
23 they were in the last one.

24 Q That's just in the course of one day?

25 A That's correct.

1 Q Are you -- you were talking the very first thing we were  
2 talking about, we were looking at the slides on what is a data  
3 set from January 22<sup>nd</sup> and 23<sup>rd</sup> of 2004; correct?

4 A Yes.

5 Q I think that's M.

6 A Yeah.

7 Q Would you take at a look, please, at the fifth injection  
8 of .20 calibrator?

9 A Yes.

10 Q Anything unusual in that?

11 A That's a really technically unacceptable circumstance.  
12 You have a sample, a calibration sample that clearly has had  
13 what would be considered massive contamination present in it  
14 from another volatile organic. Now, I will state right up  
15 front, it is not alcohol that is contaminating that particular  
16 sample, because it comes out at a different retention time than  
17 the Ethanol standard. However, it is absolutely empirical  
18 evidence that demonstrates that the laboratory's practices for  
19 use of reference standards is so deficient that it enables this  
20 level of contamination to occur in a calibration standard.  
21 That's dreadful.

22 Q What -- can we go ahead and use the calibration standard  
23 if we know that it's not Ethanol in there?

24 A No.

25 Q Why not?

1 A Once again, the basic underpinning of analytical chemistry  
2 is we have stupid instruments that we have to give them  
3 reference standards to tell them what something is. And that -  
4 - the reliability and the traceability of your results depends  
5 on those being of known composition and purity. We don't know  
6 the composition and purity of this sample.

7 Q Okay. Is it in just one of the columns?

8 A No. It's in both.

9 Q Is this the only sample where this peak shows up?

10 A No.

11 Q Would you take a look, please, at the very next item, the  
12 sixth injection or the seventh injection?

13 A Yes. This is the .20 calibrator. And this contaminant  
14 peak is large.

15 Q It -- in our data box, our information box, it is not  
16 identifying what this third peak is?

17 A It is not, and the analyst exercises control over that  
18 data display, so I would probably conclude that they elected  
19 not to report that result.

20 Q Okay. But yet the sample test, the subject test that this  
21 was a calibrator for, those were reported?

22 A Yes.

23 Q In fact you read the trial testimony of Ms. Holden in Mr.  
24 Porter's case?

25 A Yes.

1 Q Let's look at the one oh verifier if we may. It's the end  
2 of the run, the 123rd injection.

3 A Yes.

4 Q All right. Anything unusual in this chromatogram?

5 A Yes. If you'll look at the bottom chromatogram, you see  
6 this kind of broad hump out just before five minutes. That  
7 again is not identified on the instrument output.

8 Q Okay. So we have seen tall peaks in both columns on the  
9 left side of the Ethanol internal standard peaks; is that  
10 right?

11 A Yes.

12 Q And now we're seeing a single long low peak from the far  
13 right side of the Ethanol internal standard peaks?

14 A Yes.

15 Q And it's in just one column?

16 A And it's in just one column.

17 Q What's going on with this run?

18 A They clearly have materials that are detected by the flame  
19 ionization detector that are being introduced into the samples  
20 at some point in the analytical process.

21 Q Why -- how could there be just a peak in just one of the  
22 two columns?

23 A It depends on what it is and there are -- because the  
24 chemical composition of the peak col- -- of the two columns is  
25 so different, some of them will tend to retard things and some



1 of them will tend to push them through. This could be from any  
2 number of origins. And my understanding is that the lab has  
3 not been able to or really done any serious attempt to identify  
4 it.

5 Q Okay. Something is contaminating the one oh verifier?

6 A It appears to be the case, yes.

7 Q And that's a reference standard?

8 A That's a reference standard.

9 Q Okay. And then finally on this run, the very next item  
10 after that, the one oh verifier, we have the two oh verifier.  
11 And what do we have here?

12 A Those early eluting peaks contaminants are back. You know  
13 when you're investigating volatile organic contamination, this  
14 tells a little bit of the story because you're seeing -- when  
15 does it show up and when does it not show up over time and in  
16 any particular run you can see it in the .20 but not the .30.  
17 It gives you clues that you really just need to get into the  
18 laboratory and watch practices to see what -- hands on what the  
19 analysts are doing in terms of good lab practices that could  
20 allow this kind of thing to happen.

21 Q Are you -- in addition to unknown contaminants appearing  
22 in the blood runs, have you seen identified contamination in  
23 the blood runs?

24 A Identified contaminations. I don't recall in which case.

25 Q Okay. Let me show you -- we've broken the alphabet

1 barrier here. Let me show you what has been marked for  
2 identification --

3 MR. DICKINSON: Which one?

4 MR. ST. LOUIS: Mr. Henley's (phonetic).

5 MR. DICKINSON: Okay.

6 THE WITNESS: It's toluylene.

7 MR. ST. LOUIS: Yes, double A.

8 THE COURT: All right.

9 BY MR. ST. LOUIS:

10 Q Have you seen -- and what is double A, please?

11 A This is a data package for analytical work started on the  
12 23<sup>rd</sup> of March, 2004.

13 Q Is this an item that you have identified?

14 A Yes, it is.

15 Q Okay. Did -- this is for a Michael Henley, correct?

16 A Yes.

17 Q And did you at some point read the trial testimony of the  
18 analyst Seth Russkin in regards to Mr. Henley?

19 A Yes.

20 Q Okay.

21 MR. ST. LOUIS: BB.

22 THE COURT: Uh-huh.

23 MR. DICKINSON: This is what?

24 MR. ST. LOUIS: BB.

25

1 BY MR. ST. LOUIS:

2 Q I'm showing you what has been marked as Exhibit BB. Is  
3 that the testimony that we were discussing a moment ago?

4 A Yes, it is.

5 Q Okay. And that -- what we're talking about is what  
6 happened in Mr. Henley's case in Exhibit AA on March 23<sup>rd</sup>, 2004;  
7 correct?

8 A Correct.

9 Q On page 28, is Mr. Russkin discussing calibrators and  
10 contamination?

11 A Yes.

12 Q Okay. Did you find his explanation of what he does in  
13 regard to calibration contamination adequate?

14 A Well, he's asked if he would use a contaminated calibrator  
15 to actually perform testing and he says not intentionally, no,  
16 that he would not. That's a good answer. That's the  
17 appropriate scientifically valid answer. But clearly that was  
18 not the case in Mr. Henley's samples.

19 Q Okay. Let's look if we may at the seventh item that was  
20 run on March 23<sup>rd</sup>, which is the three oh calibrator. Are you  
21 there?

22 A Yes.

23 Q Anything unusual about this?

24 A Yes. There's a toluylene peak, late eluting toluylene  
25 peak on both columns.

1 Q And it's identified by the gas chromatograph as toluylene?

2 A It is, which is a serious red flag for the analyst,  
3 letting him know that their calibration solution has been  
4 compromised.

5 Q Is it usable? Can we go ahead and use the --

6 A This is a pass fail criterion. This means this run fails.

7 Q Okay. And we can't rely on any of the results obtained?

8 A As Mr. Russkin says, no you do not use contaminated  
9 calibrators.

10 Q Okay. We have toluylene as you've said in both columns.  
11 That is before we have intentionally introduced toluylene in  
12 the mix standard?

13 A In this case that's correct, yes.

14 Q Okay. Because the toluylene first shows up in what, item  
15 seven?

16 A Yes.

17 Q And we don't put in the mix standard where we  
18 intentionally introduce toluylene until what, nine?

19 A I'm looking here at -- yes, nine.

20 Q Okay. All right. What about the blank in this sample?

21 A The blank in this sample also has toluylene present, both  
22 columns.

23 Q Did you review on page 33 of the transcript, Mr. Russkin's  
24 explanation for how toluylene got into the calibrator?

25 A If I may, just a moment.

1 Q Of course.

2 A Yes. In his testimony, Mr. Russkin is describing the fact  
3 that there's toluylene present in the laboratory because he  
4 uses a bulk, essentially a known solution of toluylene to  
5 prepare the mix standard.

6 Q That somehow it got from the mix standard into the three  
7 oh calibrator?

8 A Not necessarily. It could have come from other places as  
9 well. It could -- again you need to look at operations in the  
10 lab to see the potential exposure mechanisms, but it could have  
11 come when he was preparing the mix standard, before he actually  
12 used it, it could have come before. As you've seen here,  
13 toluylene is the last one to come out so it's the least  
14 volatile of anything on that list, which means it could have  
15 been sitting around in the back of the hood for a longer period  
16 of time. So he could have made up his mix standard today --  
17 the day before and then come in the next day and have cross  
18 contamination into the calibrator.

19 It could have come from the mix standard, it could have  
20 come from equipment that he used. And what happens in  
21 laboratories, they use pipettes to withdraw known amounts,  
22 known volumes from -- of toluylene to prepare a mix standard.  
23 Those little pipette tips are then discarded into a little  
24 discard pile. Well, if that stuff isn't taken out of there at  
25 the end of the day and thrown away, then that's a continued

1 source of volatile off gassing if you will.

2 Q Is that something that you could determine during an  
3 onsite inspection?

4 A Those are the kinds of things you're just -- during an  
5 onsite inspection, you've looking at practices and looking for  
6 evidence of whether or not the analysts understand and know how  
7 contamination happens and have introduced the appropriate  
8 physical and administrative controls to prevent that from  
9 happening. And it requires that you really understand how  
10 chemicals move. And it can be direct contact, he could have it  
11 on his gloves putting away a bottle of toluylene and then come  
12 back without changes gloves and start working. It could be  
13 just moving a bottle of toluylene on a storage shelf and then  
14 come back. It could be actual or physical direct transfer, or  
15 it could just be a movement of the volatile through the air.  
16 Can't really tell, but we absolutely know that it's there. And  
17 it's not just -- it's not just theoretical that it's in the  
18 air, it's in significant and appreciable quantities in this  
19 tiny little vial of analytical sample of the calibrators.

20 Q So you can get -- you can contaminate a sample from  
21 chemicals that are hanging around in the air in the laboratory?

22 A Absolutely.

23 Q Is there a way to make sure that doesn't happen?

24 A Well, yes there are ways -- there are a lot of ways. Part  
25 of it is having an appropriately designed laboratory facility.

1 The heating, ventilating, and air-conditioning system in a lab  
2 typically comprises about half the cost of construction because  
3 it's so important to know where your air is coming from and  
4 where it's going. And I -- when I do onsite inspections of  
5 laboratories, I spend a lot of time paying attention to air  
6 handling. And knowing that for example you don't have  
7 extractions going on at one end of the laboratory, and that air  
8 is used as make up air coming in through these little vents  
9 that look very similar to that, feeding into the laboratory  
10 run, trying to do volatile organic analysis. When I ran an  
11 organic lab, we actually had physical separation. And people  
12 who had ever even walked into an organic solvent lab were not  
13 allowed to walk past a point in the hallway approaching the  
14 volatile lab because that -- just you pick it up on your  
15 clothing. And if you've working in a volatile lab, you don't  
16 wear aftershave, you don't wear perfume, you know, there's just  
17 -- it happens. Our ability to detect these things is so strong  
18 that you have to institute those kinds of controls.

19 Q You use the phrase air handling?

20 A Uh-huh.

21 Q Is that yes?

22 A Yes.

23 Q Are you talking about moving air in and out of the lab at  
24 a regular interval?

25 A That's exactly what I'm talking about.

1 Q Okay. You have read either depositions, interviews, or  
2 trial testimony of Linda Holden, Brook Arnone, Seth Russkin,  
3 Rayna Ramirez, and Ed Heller; correct?

4 A Yes.

5 Q Has anyone ever -- has anyone in that laboratory ever been  
6 able to describe how often air moves out of that lab?

7 A No.

8 Q Is that important?

9 A It's extremely important in a volatile organic lab. Not  
10 only just how often it's moved in and out, but how clean the  
11 air is when it's coming in.

12 Q Okay.

13 A How it's conditioned and prepared before it comes in.

14 Q Okay. The other area we talked about is you talked about  
15 a little bottle on a hood?

16 A Yes.

17 Q Is that what you said? What do you mean?

18 A What I am talking about?

19 Q Yes.

20 A Hoods are simply little physical box enclosures used in a  
21 laboratory to protect the analyst from the chemical combustion  
22 in a glass run, typically a door that goes up and down, and  
23 they're piped out and that's how air gets out of the  
24 laboratory. Make up air comes in through vents like -- much  
25 like that, and then they're sucked out through the hood so they



1 -- you actually have people come measure the face velocity of  
2 air moving through the hood on a periodic basis. And so that's  
3 where you handle solvents, you handle toxic chemicals to  
4 prevent exposure to the analyst in question.

5 Q And what is the little bottle that Mr. --

6 A The little bottle in question here is actually a working  
7 solution of the calibration standards. So what happens is  
8 they, in this laboratory, in the laboratory here in Tucson,  
9 they prepare a stock solution of Ethanol at known concentration  
10 and they serially dilute that to get a whole series of their  
11 four calibration solutions.

12 Q So they'll have a bottle of the oh one, a bottle of the  
13 one oh, et cetera?

14 A Exactly. Then what they do, from that bottle they pour it  
15 into another bottle and that's like a working solution.

16 Q And where does that --

17 MR. DICKINSON: I'm going to object to speculation  
18 unless she knows from some information that this is in fact how  
19 they do it, and it's not just speculation on how they way do  
20 it. So I think we need some foundation, Your Honor.

21 MR. ST. LOUIS: What's your basis for --

22 THE COURT: Sustained.

23 THE WITNESS: I can answer that?

24 BY MR. ST. LOUIS:

25 Q Sure. What's your basis?

1 A My basis for that is twofold. The procedures describe the  
2 preparation of the solutions, it describes the use of and I  
3 could get the specific language but basically working  
4 solutions. That's generally understood. That's terminology  
5 used in the analytical industry for an aliquot used in practice  
6 at the bench, so you don't have the stock bottle sitting on the  
7 bench. Also per testimony of the analyst, he's indicated -- I  
8 don't remember if it was he or she actually -- indicated that  
9 the working solution is stored in the back of the hood.

10 Q Seth Russkin is --

11 A Yes. Okay.

12 Q So Mr. Russkin testified that's what he does?

13 A That that was his practice, yes.

14 Q Okay. Is that okay? Is that all right to keep a small  
15 bottle of your three oh calibrator sitting on the hood?

16 A That is a terrible practice.

17 Q Why?

18 A The hood is where all the work goes on. The hood is where  
19 the most air flow in the laboratory is. The highest velocity  
20 air flow in the laboratory is right where that material is  
21 being stored. That's like an invitation to volatile transport.

22 In addition, volatile organic solutions and in particular  
23 reference standards should be stored under refrigeration. Most  
24 protocols, the vast majority of standard operating procedures  
25 I've read and specific requirements from every federal agency I

1 know require that volatile organic standards be stored not just  
2 in a refrigerator, but in a temperature range of plus or minus  
3 two degrees centigrade for example. And if you actually look  
4 at manufacturer specifications for procured certified reference  
5 materials, they -- they only certify them as valid and usable  
6 for calibration purposes or for control purposes in the event  
7 that they're stored under refrigeration in a particular  
8 temperature range, which is why I would expect the lab to have  
9 in place not just a requirement in their protocol which says  
10 the stock standard should be stored in a refrigerator, but  
11 actually a temperature log demonstrating that that material was  
12 appropriately stored during its entire life.

13 THE COURT: Well, if a standard were stored in a  
14 glass container --

15 THE WITNESS: Uh-huh.

16 THE COURT: -- and sealed and then maybe sealed again  
17 along however the original seal was, how do contaminants get  
18 into that container, or how is some of the standard lost?

19 THE WITNESS: That's actually a very good question,  
20 because we're not perfect at sealing these containers. It's  
21 just the reality of our world. That's why the EPA requires the  
22 use of refrigerator blanks to monitor for how much of the  
23 volatile, even under refrigeration, is getting out of these  
24 samples and into the ambient air in the refrigerator, because  
25 these seals are not perfectly airtight.

1 THE COURT: Okay. But it's not going to go through  
2 the glass, right?

3 THE WITNESS: It doesn't go through the glass.

4 THE COURT: It would be somehow --

5 THE WITNESS: Yes. It's at the point of entry at --  
6 sometimes they use crimp files, sometimes they're just screw  
7 tops. It can be a variety of different closure mechanisms.

8 THE COURT: And whatever transfer occurs, either in  
9 or out, would it be in sufficient amount to cause a difference  
10 in a reading --

11 THE WITNESS: It --

12 THE COURT: -- or cause a problem.

13 THE WITNESS: It certainly can be, yes. It certainly  
14 can be. And as we've certainly seen here, it's -- so you know  
15 for example, if it's present in the .20 sample, but it's not  
16 present in the .30 sample, then I know that that contaminant  
17 was introduced after the point where those were prepared. So  
18 it didn't happen at the time I was first preparing them.  
19 Something happened while just the two oh sample was being  
20 manipulated or used. You know it's my experience that  
21 contamination is so -- it's really hard to prevent. It is a  
22 difficult challenge because the amounts that we're talking  
23 about here are low enough that you don't have to be able to  
24 smell it or see it or see obvious oh gee that tipped over and,  
25 you know, it tipped over and spilled it so I have a

1 contamination problem. The quantities that matter are so small  
2 that you have to know chemically the physical characteristics  
3 of this material at a submicroscopic level to be able to  
4 prevent it from happening.

5 BY MR. ST. LOUIS:

6 Q Was Mr. Russkin ever able to identify where the toluylene  
7 came from in the sample?

8 A No. He was not.

9 Q Okay. Did he describe the remedial measures that he took?

10 A Let's see. He states that he did quote look for the  
11 source of the toluylene and that he looked and saw it in the  
12 chromatograms. And let's see, he said that he took his little  
13 bottle --

14 MR. DICKINSON: Can I have a reference as to where  
15 you're --

16 THE WITNESS: Oh sure. It's on that same --

17 MR. DICKINSON: What page?

18 THE WITNESS: Cross-examination page 35, line 7 and  
19 down.

20 MR. DICKINSON: Okay.

21 THE WITNESS: A working bottle of each of the  
22 calibrators and mix standards in my biosafety hood, which  
23 incidentally is an immediate violation of mix storage  
24 protocols, where I prepare the sample, prepare the headspace  
25 vial. See so he's actually got the more concentrated material,

1 the mix standard is a more concentrated material and the  
2 calibrators all in the same hood at the same time. I took that  
3 little bottle, didn't document this, can't say for certain, and  
4 I dumped it out, poured it in the waste and refilled it from  
5 the stock bottle in the refrigerator. So his corrective action  
6 was to say gosh, you know, my working solution has been  
7 compromised. So he didn't document any of this, which is clear  
8 evidence that they don't have a robust quality assurance  
9 program because that's the kind of thing that should be  
10 investigated and communicated to other people in the lab to  
11 prevent that from happening, but he just threw it away to the  
12 best of his recollection.

13 BY MR. ST. LOUIS:

14 Q And did that fix the problem?

15 A No it did not. It comes back.

16 Q Let me show you what has been marked as Defense Exhibit Z.  
17 Can you tell me what that is?

18 MR. DICKINSON: I don't think I have that one.

19 MR. ST. LOUIS: That's -- what is the name --

20 THE WITNESS: Clements, Mary Catherine Clements  
21 (phonetic).

22 MR. DICKINSON: I have X and Y. Oh here it is. I'm  
23 sorry.

24 MR. ST. LOUIS: Okay.

25

1 BY MR. ST. LOUIS:

2 Q Have you seen this item before?

3 A Yes.

4 Q What is it please?

5 A It's a cover sheet and data set for work done on April  
6 15<sup>th</sup>, 2004, Mary Catherine Clements case.

7 Q Okay. Would you take a look please at the seventh item  
8 that was run that day, seventh injection. I'll get it before  
9 we leave.

10 A Yes.

11 Q What is that please?

12 A Toluylene in both columns.

13 Q Of what?

14 A Of the .30 calibration standard.

15 Q And the operator is an individual with the initials SR?

16 A Yes. From the list that I've seen of the analysts in the  
17 lab, that would be Mr. Russkin.

18 Q Okay. And again we have toluylene shown just three weeks  
19 after Mr. Henley's case?

20 A Yeah, and the implication is, he has really not done the  
21 route cause analysis, he doesn't understand where the problem  
22 is coming from. He's responding after the fact to this  
23 problem, which means that if the calibrators are exposed to  
24 unknown -- to known and unknown contaminants, basically to any  
25 volatile organic contaminants, my samples are too.

1 Q Again this occurs prior to the introduction?

2 A It does. The introduction of the reference standard is  
3 after that .30 standard, calibration standard.

4 Q The blank?

5 A And it's in the blank, which is the tenth injection in  
6 that run sequence.

7 Q Does Mr. Russkin discuss this in his trial testimony in  
8 Mr. Henley's case at page 40?

9 A I'll just mention that because it's in the blank, that  
10 implies a somewhat different potential source than just having  
11 it in the calibration standard.

12 THE COURT: Okay.

13 BY MR. ST. LOUIS:

14 Q Does Mr. Russkin, was he asked about how it got back in  
15 there after he dumped out the bottle?

16 A Yeah. He is -- and he says he doesn't know, that because  
17 he didn't write down any action I would have done, I know what  
18 my first action who you have been which is to pour out the  
19 working bottle and refill it from the stock solution in the  
20 refrigerator. That's not going do help him a lot when he's got  
21 it showing up in his blank.

22 Q Okay. Ultimately was he able to identify where the  
23 contamination came from?

24 A No.

25 Q Let us jump ahead to April of 2006.



1 MR. ST. LOUIS: This double C, Bernadette?

2 THE CLERK: Yes, it is.

3 MR. ST. LOUIS: Okay. Double C, Bill.

4 MR. DICKINSON: Thank you.

5 MR. ST. LOUIS: Uh-huh.

6 BY MR. ST. LOUIS:

7 Q I'm showing you what has been marked for identification as  
8 Defense Exhibit CC. Can you tell me what that is, please?

9 Q It's a report, analyst notes, and data set for work done  
10 on April 21<sup>st</sup>, 2006.

11 Q By Brad in the Tucson lab?

12 Q By Brad in the Tucson lab?

13 Q Okay.

14 A The analyst is RDR.

15 Q Rayna D. Ramirez?

16 A Yes.

17 Q I think it might be on the front page.

18 A Yes.

19 Q Okay. Is this something that you reviewed before?

20 A Yes.

21 Q Let me turn your attention to the 34th item then.

22 A Okay.

23 Q What is that, please?

24 A This is actually an analytical sample, an unknown sample.

25 It's not a controlled sample, it's not a calibrator, this is

1 actually an evidentiary sample. It's sample 2006-713378-0001.

2 Q Somebody's blood?

3 A Somebody's blood.

4 Q Okay. Anything that you notice in the blood sample?

5 A Yes. There's a bunch of other stuff present other than  
6 the two primary peaks that you see there, Ethanol and propanol.

7 Q Okay. Do you still have Mr. Kirkpatrick's blood sample?

8 A I believe I do. Yes.

9 MR. DICKINSON: And which exhibit is that?

10 THE WITNESS: That is Exhibit Y.

11 BY MR. ST. LOUIS:

12 Q Do you see similar evidence of organic -- what did you say  
13 these were? I'm sorry.

14 A These are small volatile organics being detected by the  
15 instrument.

16 Q This is something that goes through the --

17 A Yes.

18 Q Something besides Ethanol or --

19 A Yes.

20 Q -- internal solutions. Do you see a similar phenomenon  
21 occurring in Mr. Kirkpatrick's blood sample?

22 A I'm looking for his blood sample. So far I've only found  
23 the controls.

24 Q Might be at the very beginning.

25 A Sometimes they're at the beginning and sometimes they're

1 at the end.

2 Q Here it is. Double D.

3 A I'm sorry. This one doesn't seem to have his actual blood  
4 sample. It's only the control samples.

5 Q Wait, let me check. It's double D. I'm sorry. Showing  
6 you what has been marked as Defense DD. What is that?

7 MR. DICKINSON: Actually we don't have a double B.

8 MR. BLOOM: Double D.

9 THE COURT: Double D. D.

10 THE WITNESS: It's a faxed note from the analyst,  
11 Rayna Ramirez, that includes the report, the analyst's notes,  
12 and the sample chromatograms in this case.

13 BY MR. ST. LOUIS:

14 Q Do you see simpler -- similar organic substances in Mr. --

15 MR. DICKINSON: Wait, I have a question. Okay. I'm  
16 sorry. Strike that.

17 BY MR. ST. LOUIS:

18 Q Do you see similar organic substances in Mr. Kirkpatrick's  
19 blood sample?

20 A Strikingly similar, yes.

21 Q Can you show the Judge what you're talking about?

22 THE WITNESS: You see the same pattern, bleeding  
23 pattern here and here? And on the samples as well?

24 THE COURT: Okay. So they're --

25 THE WITNESS: Yeah. You see it here.

1 THE COURT: Thank you.

2 THE WITNESS: You're welcome.

3 BY MR. ST. LOUIS:

4 Q All right, so we were looking at item 34 from April of --

5 THE COURT: 2006.

6 MR. ST. LOUIS: 2006. Thank you.

7 BY MR. ST. LOUIS:

8 Q Can we look at the next item, item 35. What exhibit is  
9 that, please?

10 A This one?

11 Q Yeah. The April -- CC.

12 A CC.

13 Q Okay.

14 A Okay.

15 Q What is item 35?

16 A This is a duplicate analysis of the same analytical --  
17 unknown evidentiary sample that we were just looking at.

18 A This is the second sample of the same person's blood.

19 A Yes.

20 THE COURT: So the same one as 34?

21 THE WITNESS: Yes.

22 THE COURT: Done by different -- oh same analyst.  
23 Okay, yeah.

24 THE WITNESS: It's done by the same analyst at the  
25 same time. What they do when they're loading up five samples,

1 it takes them ten positions because they prepare two vials of  
2 each sample.

3 THE COURT: Okay.

4 BY MR. ST. LOUIS:

5 Q So this is like a test of the second vial of blood?

6 A It's that precision thing we were talking about.

7 Q Okay. All right.

8 A Do it twice and see if you get the same result.

9 Q What -- is there anything unusual about this chromatogram?

10 A Yeah. In the second column on the second replicate, you  
11 can see that broad lumpy peak that was not present on the first  
12 run --

13 Q That looks like --

14 A -- of that column.

15 Q -- the same long low peak that we saw in Mr. Porter's  
16 blood sample from January of 2004?

17 A Yes, it is.

18 Q And now it's showing up in a client sample in April, 2006?

19 A Yes.

20 Q How can that be?

21 A It's an unresolved problem in the laboratory.

22 Q Let's take a look if we can, again item CC, the blank,  
23 anything unusual about the blank?

24 MR. DICKINSON: Which number are we talking about?

25 MR. ST. LOUIS: CC, it is item ten.

1 THE WITNESS: In this case there's a small peak just  
2 past four minutes.

3 BY MR. ST. LOUIS:

4 Q Is this toluylene?

5 A It certainly appears that way.

6 THE COURT: Is it what?

7 THE WITNESS: Toluylene.

8 THE COURT: Toluylene.

9 BY MR. ST. LOUIS:

10 Q So the instrument --

11 A I'd have to actually look at how long ago these -- how  
12 much that retention chamber might have shifted if the column  
13 has been clipped in the interim. A lot of other things, but it  
14 certainly appears to be.

15 Q Okay. But something is showing up in the blanks?

16 A Yes.

17 Q And about the spot where we saw toluylene --

18 A Yes.

19 Q -- two years prior to that; correct?

20 A Yeah.

21 Q Okay. Why is that?

22 A Unresolved and unaddressed contamination problem.

23 Q All right. Would you look for me again at April 22<sup>nd</sup>,  
24 2006. This is another rack and run, right?

25 A Yes.

1 Q Okay. On the one oh verifier, the hundred and first item  
2 in this injection?

3 A Uh-huh.

4 Q In this run.

5 MR. DICKINSON: This is in CC still?

6 MR. ST. LOUIS: Still in CC.

7 BY MR. ST. LOUIS:

8 Q Anything unusual in that?

9 A Yeah, this is their closing quality control sequence to  
10 check the precision over time. And the second column, you see  
11 that same broad lump out beyond four minutes.

12 Q So it's not only in the client's blood sample, it's also  
13 in the one oh verifier?

14 A It's in the replicate -- the second analysis of the one oh  
15 verifier as a verification sample.

16 Q It's in one of the client's blood tests and also in the  
17 one oh verifier.

18 A Correct. It wasn't there when we ran it as a calibration  
19 sample, but when we ran it as a verifier, it's present.

20 THE COURT: I thought you said it was also present in  
21 the duplicate analysis, the second?

22 THE WITNESS: Yes.

23 THE COURT: Two.

24 THE WITNESS: Yes.

25

1 BY MR. ST. LOUIS:

2 Q This is again, what, two years and three months after Mr.  
3 Porter's sample we were looking at?

4 A Yes.

5 Q What is this?

6 A I don't know.

7 Q Would you look in Mr. Kirkpatrick's sample, please.  
8 Exhibit CC.

9 A CC? Okay.

10 Q Is that Mr. -- that is Mr. Kirkpatrick's?

11 A No. That's Jacobs.

12 Q I'm sorry.

13 A DD is his analytical samples.

14 Q No. I'm looking for his calibrators and controls?

15 A You're looking for calibrators? That is Y.

16 Q I'm sorry. Exhibit Y is Mr. Kirkpatrick's calibrators and  
17 controls?

18 A Yes.

19 Q Would you look at the one oh verifier in Mr. Kirkpatrick's  
20 case, please.

21 A This is Exhibit Y, the one oh verifier at the very end of  
22 the run.

23 Q Anything unusual about that?

24 A Yeah. That same peak is there, present in that case as  
25 well.



1 Q Can you show the Judge, please.

2 MR. BLOOM: This is the one oh verifier?

3 THE WITNESS: Yes. At the very end of the run. In  
4 sequence. That's just -- it's the -- they run it at the  
5 beginning and it wasn't present, but when they ran it at the  
6 end, oh it's been -- the dreaded whole punch has knocked off  
7 the number, but it's the next to last thing that they ran at  
8 seven clock in the morning.

9 BY MR. ST. LOUIS:

10 Q Okay. What you described as a continuing problem with  
11 contamination, that is present in Mr. Kirkpatrick's blood run?

12 A Yeah.

13 MR. ST. LOUIS: We're going to jump into, Your Honor,  
14 the audits at this point. We're shifting gears. Do you need a  
15 couple of minutes?

16 THE COURT: No, it's okay. Unless you need -- do you  
17 want to take a five minute --

18 MR. ST. LOUIS: I don't need it.

19 THE COURT: Okay. Anybody need a quick little break?  
20 Otherwise we can continue on.

21 MR. DICKINSON: No.

22 THE COURT: I'm fine.

23 MR. ST. LOUIS: Okay.

24 BY MR. ST. LOUIS:

25 Q Now, I think you mentioned this, one of the items that you

1 examined was an inspection report of the laboratory by ASCLAD  
2 lab?

3 A Yes.

4 Q Now that's --

5 MR. ST. LOUIS: Do we have that marked already?

6 MR. BLOOM: Who knows. I didn't think so. I don't  
7 know.

8 MR. DICKINSON: She says it's up there.

9 ST. LOUIS: Is that --

10 UNIDENTIFIED SPEAKER: From what I can see.

11 MR. ST. LOUIS: Oh okay.

12 MR. DICKINSON: Yeah. Here's the February ASCLAD lab  
13 report.

14 MR. ST. LOUIS: Okay.

15 THE COURT: Erica, can you come up a quick second?  
16 I'm trying to see if the jury is going to go off on Tuesday so  
17 we can set this for that day, and I think it is.

18 (Court and Counsel Confer)

19 BY MR. ST. LOUIS:

20 Q I'm going to show you what has been marked for  
21 identification as Defendant's Exhibits J and K. Can you tell  
22 me what those are, please.

23 A Yes. ASCLAD inspection reports, it looks like if original  
24 report and a supplemental inspection report from 2003.

25 Q Regarding which laboratory?

1 A The southern regional laboratory.

2 Q Okay.

3 THE COURT: What month of 2003?

4 THE WITNESS: The original one was February, the  
5 supplemental is August.

6 BY MR. ST. LOUIS:

7 Q Tell us, are there certain things that are required of a  
8 laboratory in order to be ASCLAD lab certified?

9 A Yes. There are explicitly-defined requirements that are  
10 variously categorized as essential and I believe the optional  
11 requirements are described as important and desirable.

12 Q Okay. How can a requirement be optional?

13 A I'm still trying to figure that one out.

14 Q Okay. So there are three categories of requirements?

15 A Yes.

16 Q Okay. Would you take at a look, please, at the finding  
17 regarding 1.4, .2, page 19. And that is which category of  
18 report?

19 A That is an essential requirement as indicated by the E.

20 Q E for essential. Okay.

21 THE COURT: Oh.

22 MR. DICKINSON: What page are we on?

23 THE WITNESS: I'm sorry. It's Bates 65 or page 2.

24 MR. DICKINSON: Okay, 1.4.1?

25 THE WITNESS: Two point 19. It's the very first

1 finding.

2 MR. DICKINSON: Okay.

3 BY MR. ST. LOUIS:

4 Q Okay. So this laboratory, at least initially, flunked the  
5 essential requirement if the laboratory is an indication of a  
6 significant technical problem, is there a procedure in writing  
7 and in use whereby the laboratory initiates a review and takes  
8 any corrective action required?

9 A Yes.

10 Q Okay. You've read the reports and the supplemental  
11 information on what this is?

12 A Yes.

13 Q What was it? What happened?

14 A In this particular example, the ASCLAD auditors identified  
15 a problem with a -- the identification of feces on a  
16 proficiency test. And that was identified as a deficiency, as  
17 far as their quality system was concerned, because they did not  
18 do any follow-up remediation as required. It's a fundamental  
19 precept of quality assurance that when you have a technical  
20 problem, you don't rely on people's memories, you don't just  
21 fix it and not tell anybody. You document it, you investigate  
22 it, it's a paper trail so that people can understand that as  
23 part of the context for data reliability, and so that other  
24 people in the lab won't have that problem again. So in this  
25 particular case there's a series of letters describing the

1 nature of the problem.

2 Q Okay. So the analyst is asked to test -- was it fecal  
3 matter?

4 A In this particular case, I'm going to have to remember --  
5 if I could have the report in front of me, it would help a lot.

6 Q Sure.

7 A But --

8 Q Hang on one second.

9 MR. DICKINSON: Actually I'm going to object on  
10 relevance because this does not have to do anything with the  
11 blood alcohol analysis. This is a total -- another discipline  
12 within the lab, Your Honor.

13 THE COURT: Although it goes to whether there are  
14 procedures in place and protocols as to what happens if  
15 problems are identified. So I'll overrule the objection on  
16 that basis.

17 THE WITNESS: From my perspective, it was a  
18 laboratory auditor. The problems that we --

19 MR. DICKINSON: I'm going to object. There's no  
20 question before her.

21 MR. ST. LOUIS: These are two, Bernadette.

22 MR. DICKINSON: You have me two copies.

23 BY MR. ST. LOUIS:

24 Q I'm going to give you what has been marked as Defendant's  
25 EE and FF and ask you what those are.

1 MR. DICKINSON: Which is which, I'm sorry?

2 THE WITNESS: EE is the March 28<sup>th</sup>, 2003 letter to the  
3 quality manager from the technical -- DNA technical supervisor.  
4 FF is the letter dated February 6<sup>th</sup> 2003 to the quality  
5 assurance -- somebody in quality assurance from the  
6 superintendent of the scientific analysis bureau.

7 BY MR. ST. LOUIS:

8 Q Let's take a look at that and see if that refreshes your  
9 memory.

10 A Okay. This was apparently a proficiency test --

11 MR. DICKINSON: Which one are we talking about?

12 THE WITNESS: Oh this circumstance that is addressed  
13 on this, the ASCLAD audit, that these documents refer to.

14 MR. DICKINSON: All right.

15 THE WITNESS: This specific instance -- this is a  
16 specific instance that demonstrated the failure of the  
17 laboratory's procedures for essentially following up  
18 investigators responding to technical problems.

19 In this particular case an analyst reported quote  
20 chemical tests indicate the presence of feces on item 8 in his  
21 proficiency test. And it turns out that that in fact was not a  
22 sample of feces, but it was a sample of brewers yeast that was  
23 submitted to him blind and he reported that it -- chemical  
24 tests indicate the presence of feces. The explanation that's  
25 provided in this letter is --

1 BY MR. ST. LOUIS:

2 Q Which letter?

3 A The one dated March 28<sup>th</sup>, sorry.

4 Q Which is --

5 THE COURT: March 28<sup>th</sup>?

6 THE WITNESS: Defendant's Exhibit EE.

7 THE COURT: EE?

8 THE WITNESS: Yes. The description is a little bit  
9 complicated to follow, but if I'm interpreting it correctly, it  
10 indicates that when he did a -- essentially a screening test, a  
11 chemical test for the presence of feces on this proficiency  
12 sample, he did not find any fluorescence. And it's been  
13 apparent that the quality assurance manager met with him and  
14 reviewed the records in the case and asked in his best memory  
15 of what he did in the case. And he says that the chemical  
16 tests were positive, but he didn't want to report the result as  
17 negative because he knew that the microscopic test was  
18 negative. Yet when he reported the results, he said chemical  
19 tests indicate the presence of feces on item A, despite the  
20 fact that he apparently knew that the -- or at least he says he  
21 knew that the microscopic tests indicated that no feces was  
22 present.

23 BY MR. ST. LOUIS:

24 Q Does that mean what he's looking at under the microscope  
25 contradicts what the chemical test result is?

1 A Yes. And the chemical test result is simply a presumptive  
2 test. It's not conclusive, it's simply a presumptive test.

3 Q Okay.

4 A And this was attributed to the lack of specificity in the  
5 laboratory's protocol, but it didn't explicitly explain to the  
6 analyst what to do in the event that a presumptive test tells  
7 you it's present, but a more conclusive test tells you it's  
8 negative. One would expect a competent analyst to be able to  
9 draw that kind of conclusion, quite frankly, although certainly  
10 the protocol should have stated it. But if a presumptive test  
11 tells you something's there, and you go in and do the more  
12 rigorous scientific test that tells you it's not there, then as  
13 an analyst you should draw the conclusion it's not there. It  
14 would be -- it truly would be inappropriate. He thought that  
15 to -- his explanation was he thought that in order to comply  
16 with the protocol, he had to write it that way even though he  
17 knew -- he knew it was wrong.

18 We were not provided in this document with a copy of the  
19 original protocol that he was relying on to make that incorrect  
20 conclusion, but we apparently were provided with a -- the  
21 protocol that they released in response to this failure, that  
22 supposedly is going to be more explicit and give them more  
23 direction, what to do in that kind of a conflicted situation.

24 Q How did they resolve it?

25 A Well, they give interpretation guidelines this time.



1 Interestingly, they do state that fecal stains can be indicated  
2 by color, texture, and characteristic odor.

3 Q So if it smells like feces, you can call it feces?

4 A It would appear that that's the case. It does not  
5 prescribe that they have to do both tests. That's what a  
6 protocol usually does. It tells you you can't call it a  
7 particular component unless you perform all these tests. But  
8 it does in this case actually provide interpretive guidelines  
9 that tell you if microscopic tests are negative, report it as  
10 no feces were detected. They don't spoon feed them and tell  
11 them that pay no attention to the fact that a screening test  
12 might have been positive. It just tells you that if no -- if  
13 the microscopic tests are negative, report it as no feces were  
14 detected.

15 Q Okay. So he flunks the test, nobody takes any action to  
16 follow up. As a result of that ASCLAD flunks the lab on this  
17 essential requirement, at least initially?

18 A Initially, yes.

19 Q And then what happens after that?

20 A Then they issued another -- let's see if I can -- I got  
21 them out of sequence. ASCLAD actually did this second  
22 examination, allowed it to go through based on this  
23 investigation by the quality assurance manager, and the release  
24 of the revised protocol. That was the basis for them moving  
25 this from a fail to a pass.

1 Q Is that why we have two versions of the ASCLAD report?

2 A Yes.

3 Q So which one is the one in which they failed? K or --

4 A The one in which they failed is K.

5 Q And then --

6 A In J, they have a supplemental finding that explains that  
7 the review was completed and documented in the memorandum dated  
8 March 28<sup>th</sup>. That's the one I referred to earlier. The findings  
9 indicated that the analyst knew that an inaccurate report was  
10 made but was following laboratory protocol.

11 I will tell you that as a scientist, that's a very  
12 troubling statement, that an analyst would quote you know that  
13 something was scientifically inaccurate, but they never let --  
14 they'll actually report it without qualification. That does  
15 not compute.

16 And in this revised supplemental report, they indicate  
17 that the laboratory's protocol was modified to address this  
18 problem in March of 2003, and that is the revised protocol that  
19 was provided with this letter.

20 Q The smell test protocol?

21 A Yes.

22 Q There is this -- gosh what is this page two, one point  
23 four point three point four?

24 A Okay.

25 Q You with me?

1 A Yeah.

2 Q Okay. Apparently they failed the important requirement  
3 was each examiner proficiency tested annually in each sub  
4 discipline in which case work was performed?

5 A That's correct.

6 Q Below that failed, does the laboratory conduct proficiency  
7 testing using reexamination or blind techniques?

8 A And they do not or did not at this point in time.

9 Q What's a blind technique?

10 A Blind techniques are the submission of proficiency samples  
11 where the analyst does not know that they're being tested.  
12 They don't know it's a proficiency sample. It comes in the  
13 queue just like any other sample. And studies have  
14 consistently shown that a laboratory's performance on blind  
15 proficiency samples is worse, significantly worse than it is  
16 when they know it's a proficiency sample and they know they're  
17 being tested. It's not unique to laboratories. That's almost  
18 any testing scenario.

19 Q It's like an open-book test versus closed-book test?

20 MR. DICKINSON: Objection. That's leading.

21 THE COURT: Sustained.

22 BY MR. ST. LOUIS:

23 Q In your laboratories, did you do blind proficiency  
24 testing?

25 A We instituted blind testing on a project-specific basis

1 and were successful in identifying some really significant  
2 performance issues.

3 Q Okay. So you've done that before in your labs?

4 A Yes.

5 Q Is it hard to do?

6 A It's harder than open proficiency testing, but it's  
7 certainly -- we're scientists, we like hard things.

8 THE COURT: Challenges, huh?

9 BY MR. ST. LOUIS:

10 Q Jumping down 2.1.3, and 2.1.4, the laboratory failed the  
11 desirable requirements. Does the laboratory director have some  
12 formal training in management and does the laboratory director  
13 have at least two years of managerial experience?

14 A That's correct.

15 Q Let's talk about this one, 3.2.4.

16 MR. ST. LOUIS: This is on page 3, Mr. Dickinson.

17 BY MR. ST. LOUIS:

18 Q They failed the important requirement. Is there adequate  
19 and proper plumbing and wiring available and accessible for  
20 personnel to carry out assigned tasks?

21 A Yes.

22 Q Okay. There is a notation under that about lack of proper  
23 wiring damaging the computer?

24 A Yes.

25 Q Okay. We were talking about some issues with the

1 electronic spikes appearing in the baseline of samples  
2 throughout the year?

3 A Uh-huh.

4 Q Could that be related to adequate -- a lack of adequate  
5 and proper wiring?

6 A The severity of the electrical problem is obviously  
7 dramatically worse in the event that they have a circuit  
8 overload that actually damages a computer. So the relatively  
9 smaller problem that could be coming from electrical spikes in  
10 the instrument is dwarfed in comparison to the fact that  
11 they're problems were actually so serious they were actually  
12 cooking their computers.

13 Q Now that's in 2003; correct?

14 A That the computer was burned up? Or this report?

15 Q That report.

16 A This report is 2003, yes.

17 Q Okay. Did you review an article in the Arizona Daily Star  
18 on December 27<sup>th</sup> of 2006?

19 MR. DICKINSON: I'm going to object to this, Your  
20 Honor. This is total hearsay.

21 THE COURT: What is the relevance of that?

22 MR. ST. LOUIS: Judge, it describes an incident in  
23 2006 in which another computer was damaged because of  
24 electrical problems.

25 MR. DICKINSON: And I think it's, if you take a quick

1 look at it, it totally is hearsay, it's double hearsay. We  
2 have no way of cross-examining the people involved in this.  
3 You know, they're talking about Senator Bee.

4 MR. BLOOM: Okay. We'll take it up later, Joe.

5 THE COURT: Yeah. I will sustain the objection. I  
6 don't know --

7 MR. ST. LOUIS: We can take it up --

8 THE COURT: You know it might go to show deficiencies  
9 in the lab, of possible deficiencies in the lab, but how that  
10 directly connects with the issue at hand I'm sorry not sure, so  
11 I don't find it to be relevant.

12 MR. DICKINSON: What was that Exhibit, Joe?

13 MR. ST. LOUIS: Bernadette, what number is that?

14 THE CLERK: GG.

15 MR. ST. LOUIS: Thank you.

16 THE COURT: GG.

17 MR. ST. LOUIS: Okay.

18 THE COURT: No. It's not admitted so just put a no  
19 on the back.

20 MR. ST. LOUIS: Okay. And Judge, I'm planning at the  
21 end to ask for the admission of all of the documents that we're  
22 talking about.

23 THE COURT: Okay. Although that one, the newspaper  
24 article was denied its admittance and there was objection.

25 MR. BLOOM: Why don't you offer everything else in?

1 MR. ST. LOUIS: Mike would like me to offer  
2 everything else, so I'll --

3 THE COURT: Well, you know, the things that you don't  
4 -- that you're not going to be objecting to, it could save some  
5 time if they would --

6 MR. DICKINSON: Yeah, I have no objection to the rest  
7 of it.

8 THE COURT: Okay. Everything else is admitted.

9 (Defendant's Exhibits admitted)

10 MR. DICKINSON: Mike feels better.

11 THE COURT: So on the back it would say yes, no  
12 objection.

13 MR. ST. LOUIS: I was worried about that.

14 MR. BLOOM: I'll go back to sleep now.

15 THE COURT: Maybe you should just go ahead and use --

16 MR. BLOOM: Judge, I'll go back to sleep now.

17 MR. ST. LOUIS: All right.

18 BY MR. ST. LOUIS:

19 Q Ma'am, the electronic -- the spikes, the negative spikes  
20 in the baseline that we saw several examples of throughout the  
21 years, and you would describe that as possibly being caused by  
22 electrical problems?

23 A Yes.

24 Q All right. Could that be directly related to a lack of  
25 adequate wiring available in the laboratory?

1 A That certainly would be consistent with the photos I saw  
2 in the video of the wiring situation in the lab.

3 Q Okay. Item 3.2.5, the laboratory fails the important  
4 requirement, does the laboratory have proper general  
5 ventilation?

6 MR. DICKINSON: Objection. Leading.

7 THE COURT: Well, I think -- did you ask whether it  
8 has it or not? And she's not been at that, right?

9 MR. ST. LOUIS: Not yet.

10 THE COURT: Okay. Are you going to ask her a question  
11 related to that?

12 MR. ST. LOUIS: I understand.

13 THE COURT: Go ahead.

14 BY MR. ST. LOUIS:

15 Q You were talking about the need for a laboratory to have  
16 air that moves out on a regular basis and we know where it  
17 goes, we know where it comes from, we know how pure it is?

18 A Yes.

19 Q Could the lack of proper general ventilation be related to  
20 some of the contamination that you have observed in the samples  
21 that we have discussed at length?

22 A Yes.

23 Q Okay. From a scientific point of view, is it significant  
24 that we have a property room that's not air-conditioned where  
25 we're using fans?



1 A Yeah. Protecting and --

2 MR. DICKINSON: I'm going to object to this as  
3 speculative because she has no idea what this layout is. If we  
4 can -- if I can have a moment to voir dire?

5 THE COURT: Sure. You can voir dire.

6 VOIR DIRE

7 BY MR. DICKINSON:

8 Q Are you familiar with how blood is packaged or -- by the  
9 police before it's sent to the lab?

10 A I'm familiar with it in a number of jurisdictions where  
11 I've actually seen photographs of evidence and seen evidentiary  
12 materials, but not in this particular case. My understanding  
13 is that they do not photograph the evidence.

14 Q What's your understanding of how it's typically packaged?

15 A Here?

16 Q In general?

17 A Well --

18 Q You don't know specifically here, right?

19 A I do not know specifically here.

20 Q Okay. So --0

21 A But there's generally good packaging to ensure the  
22 physical integrity of those tubes.

23 Q Okay. So if I were to tell you that the tubes were inside  
24 a plastic container which was sealed which is inside a plastic  
25 -- or excuse me a cardboard box which is sealed and that's the

1 standard, is there any reason -- and that's stored in a  
2 refrigerator in a property room, is there any reason to believe  
3 that the ventilation in the property room is going to affect  
4 those blood samples assuming they're packaged in that manner?

5 A Yeah. My concern would be the temperature in that room  
6 and the ability of the refrigerator actually keep it. If they  
7 had temperature logs for example that would demonstrate --

8 Q Okay.

9 A That that material had been appropriately refrigerated, it  
10 wouldn't be a problem necessarily.

11 Q So the issue is the refrigerators, not the air-  
12 conditioning in the property room?

13 A Well, lack of air-conditioning makes it a lot harder to  
14 have the refrigerators work appropriately in my experience.  
15 It's a lot more trouble in a laboratory to keep the instruments  
16 cool than it is to keep people cool.

17 Q But this isn't the laboratory?

18 A Well, I understand that.

19 Q This is the property room?

20 A But it's the same argument. It's -- the refrigerators  
21 thermodynamically are a heat generating device, so adding extra  
22 heat to the picture just makes them work that much harder.

23 MR. DICKINSON: I have no further questions.

24 THE COURT: You may continue, Mr. St. Louis.

25

## 1 DIRECT EXAMINATION (Resumed)

2 BY MR. ST. LOUIS:

3 Q Is that something that you would be able to assess in an  
4 onsite inspection?

5 A Yes.

6 Q Okay. You were just talking about this, I think the next  
7 item 3.2.6 refers to the laboratory failing to meet the  
8 important requirements, the heating, cooling, and humidity  
9 control in that report adequate?

10 A Yes.

11 Q Okay. That ties into what you were just saying about if  
12 you can't keep -- harder to keep the instruments cooler than  
13 the people?

14 A Yeah.

15 Q Does this equipment, does it work better when it's hot or  
16 when it's cold?17 A It wants a nice stable temperature. It doesn't want it to  
18 be hot, and it doesn't want a lot of variability. And it  
19 generates heat, so that's a consideration in sizing your air-  
20 conditioning system that those instruments generate a lot of  
21 heat.22 Q Okay. Take a look at the last page of that and tell me  
23 how this laboratory did in terms of the score?24 A They met, according to this assessment at this time, they  
25 meet 98 percent of the essential requirements, 82 percent of

1 the important requirements, and 85 percent of the desirable  
2 requirements.

3 A That's before the memo was circulated, the identify feces  
4 by its odor memo was circulated.

5 A That's correct.

6 Q Once that was circulated, then what was their final score?

7 A Then their final score is 100 percent essential, 82  
8 percent important, 85 percent desirable.

9 Q We had previously discussed --

10 THE COURT: Looks like good scores to me. Aren't  
11 they?

12 MR. DICKINSON:

13 THE WITNESS: Well, the problem is that requirements  
14 are generally not considered optional. The laboratory for  
15 example could simply decide to not have a procedure for  
16 calibrating their instruments, and because that's not an  
17 essential requirement, they could still pass. The kinds of  
18 things that they call desirable and important, in every other  
19 laboratory accreditation program I'm familiar with, those are  
20 not optional, those are mandatory.

21 THE COURT: So this particular accreditation is  
22 specific to this particular lab --

23 THE WITNESS: No, it's --

24 THE COURT: -- or this region, or this state?

25 THE WITNESS: It's specific to a particular version

1 of ASCLAD's requirements, the version that I believe it's the  
2 2001 version of their requirements that they're accredited to.

3 THE COURT: Because I think that this American  
4 Society of, that it would be uniform throughout the entire  
5 country and would cover all labs under the same criteria.

6 THE WITNESS: The 2001 version was in fact universal  
7 to forensic labs. Like I indicated, it's much, much less  
8 rigorous, technically less demanding than the other programs  
9 I'm aware of.

10 BY MR. ST. LOUIS:

11 Q In fact, are you aware of ASCLAD's certified labs that had  
12 to be shut down?

13 A Yes.

14 MR. DICKINSON: Objection. Irrelevant.

15 THE COURT: Overruled.

16 THE WITNESS: In locations across the country, there  
17 have been instances where at a time when a laboratory held  
18 current ASCLAD accreditation, quality problems so severe --  
19 were identified that were so severe that the laboratory was  
20 actually closed and stopped testing operations entirely.

21 BY MR. ST. LOUIS:

22 Q Earlier we were discussing and you indicated one of the  
23 things that you reviewed was is 2002 report by the -- needs  
24 assessment I guess by the National Forensic Science Technology  
25 Center?

1 A Yes.

2 Q Do you still have that report?

3 A I think I gave that back to the clerk, I'm sorry.

4 MR. ST. LOUIS: Bernadette do you have that? You  
5 sure do.

6 BY MR. ST. LOUIS:

7 Q I'm showing you what has been admitted as Defendant's  
8 Exhibit L. Is that the document?

9 A Yes.

10 Q Okay. What is this, please?

11 A This is a report that describes the physical conditions in  
12 the laboratories in the DPS system throughout the State of  
13 Arizona, which includes the southern lab.

14 Q Okay. Just DPS labs?

15 A I don't know, let me see. No. There's police department  
16 labs as well.

17 Q Okay. Do you know where it came from?

18 A Do I know when it came from?

19 Q Yes. How they came -- this group came to do an assessment  
20 of the labs in Arizona?

21 A My understanding is that it was in the support of an  
22 attempt to secure funding for construction of the new  
23 laboratory.

24 Q Okay.

25 THE COURT: Who runs ASCLAD?

1 THE WITNESS: Who runs ASCLAD?

2 THE COURT: Uh-huh.

3 THE WITNESS: It's essentially a trade organization  
4 of crime laboratory directors. The only -- in order to be a  
5 member, you have to be a director of an active crime  
6 laboratory. So I guess it's like --

7 (Simultaneous Conversation)

8 THE WITNESS: -- like the American Bar Association.

9 MR. DICKINSON: Did we get a copy of this, Joe?

10 THE COURT: Are they policing themselves then?

11 THE WITNESS: Yes, ma'am.

12 MR. BLOOM: Oh sure.

13 THE COURT: Or assessing themselves.

14 THE WITNESS: Yes, they are assessing themselves.

15 THE COURT: Or however they do it.

16 THE WITNESS: Yes.

17 THE COURT: Okay.

18 MR. DICKINSON: And what's this one marked?

19 MR. ST. LOUIS: What was -- is that L?

20 THE COURT: L.

21 THE WITNESS: Yes, this is L.

22 MR. ST. LOUIS: Okay. All right.

23 BY MR. ST. LOUIS:

24 Q At the beginning of the report, do they set out their  
25 criteria for determining the adequacy of the laboratories?

1 A Yes. They reference the fact that in order to meet ASCLAD  
2 recommendations, a crime laboratory should have 1,000 square  
3 feet per full-time equivalent staff member in the laboratory.

4 Q Okay. Is that the end of that part of it?

5 A Is the end of that part of it? I'm sorry, I don't  
6 understand.

7 Q Did -- they say ASCLAD is recommending 1,000 feet?

8 A Uh-huh.

9 Q Is that yes?

10 A Yes. That is a recommendation.

11 Q Okay. And does this group agree that that's the amount of  
12 space that's necessary?

13 A No. This group concludes, based on some other sources, I  
14 don't know who BSA dot California dot gov is, but they describe  
15 the fact that we identify 700 square feet per FTE as a minimum  
16 acceptable standard.

17 Q Okay.

18 A So while the 1,000 is a recommendation, the 700 is set as  
19 a minimum acceptable standard.

20 Q Do they talk about what happens if you have laboratories  
21 with less than that space?

22 A Yeah. The problems that they identify are potential  
23 contamination of evidence, the restricted ability to examine  
24 evidence correctly, inability to deploy all reasonable testing  
25 procedures, and inefficient work practices leading to prolonged



1 turnaround times.

2 Q So you have to have 700 square feet per analyst?

3 A Their recommendation is that anything less than 50 percent  
4 of that target exposes the lab to those problems, per analyst -  
5 - per staff member, not necessarily analysts.

6 Q So anything less than 500 square feet per analyst is going  
7 to lead to the problems with the potential for contamination of  
8 evidence, inability to --

9 A Anything less than 500 square feet per staff member,  
10 because in a laboratory, you have people who are not analysts  
11 who still occupy space. Filing is a really big deal.

12 Q Okay. Where does the DPS lab come out on this?

13 A In this graph, the DPS laboratory in Tucson at this point  
14 in time was 263 square feet per FTE.

15 Q Twenty-six percent of the space that's recommended by  
16 ASCLAD?

17 A That's correct.

18 Q A little more than one-third of the minimum space required  
19 by this group?

20 A Yes.

21 Q Do they have any further comments specific to the southern  
22 laboratory?

23 A Yes, on page 19.

24 Q At the very top, how do they describe that?

25 A I'm trying to see where the line starts. It starts on the

1 page before, although close and overall space at DPS Western,  
2 the on site auditors reported that space at the DPS Southern  
3 Laboratory, "is drastically undersized for the current  
4 operations".

5 Q This is the 2002?

6 A Yes.

7 Q They're still in the same building today?

8 A That is my understanding.

9 Q Do they have further comments specific to the lab in  
10 Tucson?

11 A Yes. Farther down on that same page there's a section on  
12 DPS southern. It's understood that the grant has been obtained  
13 to conduct a needs analysis and construction documents in  
14 regard to the space issue. Current deficiencies in space,  
15 power supply, and heating, ventilating and air-conditioning are  
16 having a detrimental effect on case work efficiency and must be  
17 addressed immediately.

18 Q This is a report of this outside organization from 2002?

19 A Yes.

20 Q Issues with space, could that be related to what you're  
21 seeing in the -- with the contamination in the chromatograms  
22 you looked at?

23 A Yes.

24 Q How?

25 A It's -- it dramatically complicates the putting in place

1 the systems and controls necessary to prevent compromising the  
2 integrity of your samples. If you're having to transport  
3 materials through the laboratory, if you have to turn your  
4 laboratories into hallways, if people don't have enough  
5 physical room, if you don't have enough space to be able to  
6 keep physical separation between operations that should not be  
7 adjacent, it's -- and hopefully we'll be able to see the video  
8 because it becomes really apparent even to a layperson that  
9 that's an unacceptable working environment. And it would just  
10 be more helpful if you could actually what a real lab ought to  
11 look like and the kinds of space that an analyst really should  
12 have in order to be able to control their environment. A  
13 laboratory ought to be the most highly controlled part of the  
14 process. You know when we're collecting samples, we're  
15 collecting them out in the field and they're getting  
16 transported, that -- we don't have the ability to control that  
17 quite as much, but in the laboratory, it ought to be a highly  
18 controlled environment.

19 Q Power supply, we talked about with the spikes?

20 A Uh-huh.

21 Q Yes?

22 A Yes.

23 Q When I ask you that I'm not trying to get you to change--

24 A I'm sorry.

25 Q -- your answer. I'm just trying to clarify what you said?

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1 A I forget.

2 Q All right. And then you talked about the issues with  
3 heating and cooling.

4 A Yes.

5 Q Okay. Did you also see a needs assessment dated January  
6 27<sup>th</sup>, 2005?

7 A Yes.

8 MR. ST. LOUIS: This is the last document we're going  
9 through, Your Honor.

10 THE COURT: And do you have a number for it?

11 MR. ST. LOUIS: I'm checking, Your Honor.

12 UNIDENTIFIED SPEAKER: It's raining outside. There's  
13 an outside. And we're missing it.

14 MR. ST. LOUIS: Here.

15 THE COURT: That's like where I live, I never could  
16 get rain this year.

17 MR. ST. LOUIS: Well, this is not quite a needs  
18 assessment. Do you have a copy of it, Bill?

19 MR. DICKINSON: No, I don't.

20 MR. BLOOM: I think here's an extra copy.

21 MR. ST. LOUIS: Okay.

22 MR. DICKINSON: Thank you.

23 THE CLERK: Actually they were both marked, so don't  
24 get confused, because I don't know -- I don't know if that  
25 means they're different or not.

1 MR. DICKINSON: It's H and I. they look like --

2 THE COURT: They look the same to me, but I didn't --

3 MR. DICKINSON: Can we withdraw I then?

4 MR. ST. LOUIS: Sure. Go ahead.

5 THE COURT: So it would be H.

6 BY MR. ST. LOUIS:

7 Q I'm handing you what has been marked as Defendant's

8 Exhibit H., what is that, please.

9 A It's titled new Southern Regional Crime Laboratory

10 facility Tucson dated January 27<sup>th</sup>, 2005, although the pages

11 that follow are dated June 9<sup>th</sup>, 2004.

12 Q Any idea where this comes from?

13 A Arizona Department of Public Safety I presume.

14 Q Okay. This document describes the physical conditions in

15 the southern regional lab?

16 A It does in a variety of very, very important areas.

17 Q Okay. What is the significance of the fact that the lab

18 was converted from an aircraft parts company warehouse?

19 A It clearly means that that type of a retrofit facility for

20 a laboratory is an extraordinary challenge to control the

21 environment, to control air flow, the entire HVAC system is

22 unquestionably the biggest challenge that they face in that

23 kind of a physical environment.

24 Q Is there any significance to the fact that the space --

25 A Any time you take a facility that has been designed for a

1 different purpose and you attempt to retrofit in a laboratory,  
2 you face challenges. It's like taking a storage shed and  
3 trying to convert it into your kitchen. You know, kitchens  
4 have requirements in terms of water and waste discharge and  
5 exhaust fans for hoods. That's at a very simplistic level what  
6 they're trying to do here on a much more complicated level is  
7 take a facility designed for a completely different purpose and  
8 turn it into a laboratory.

9 Q What do you make of this statement, this space was not  
10 designed to accommodate a laboratory and has never been  
11 adequate?

12 A I feel sorry for the people trying to do science in that  
13 facility.

14 Q If there's a statement after that that there's a danger  
15 that they could or that their accreditation could be in  
16 jeopardy?

17 A Yes. It referenced the fact that during a recent  
18 laboratory accreditation inspection, facility inadequacies  
19 became a substantial issue and could jeopardize lab  
20 accreditation in the future.

21 Q That would be ASCLAD, wouldn't it?

22 A That is -- my understanding is that's their only  
23 accrediting agency.

24 Q Okay. There's an issue describing substandard air-  
25 conditioning. Tell me the significance of this statement.

1 "Because of inadequate make-up air, the air-conditioning system  
2 cannot maintain fresh air in the laboratory, causing a build up  
3 of toxic and noxious fumes throughout the laboratory."

4 A That's dreadful. There -- it's essentially reporting as a  
5 fact, the fact that in that facility, their air handling  
6 system, their air-conditioning system cannot maintain fresh  
7 air.

8 What that means is air is being sucked out the hoods and  
9 put up those stacks at the laboratory faster than they can make  
10 it up, that they have enough capacity on their air-conditioning  
11 system to blow in fresh, hopefully clean air into the system.

12 So as a result, there's a differential in the  
13 concentration of volatile contaminants in the air space in the  
14 laboratory. That's how to design a laboratory that should  
15 never practice volatile organics analysis.

16 Q Does that affect the reliability of test results in  
17 looking for alcohol in blood?

18 A Yes, it does. And it's further compromised by the fact  
19 that the laboratory's practices for blanks to monitor the  
20 contamination are so seriously limited.

21 Q What do you -- what is the significance of these two  
22 statements? "The property and evidence warehouse has no air  
23 conditioning available and must utilize evaporative cooling.  
24 This results in a concentration buildup of marijuana fumes and  
25 associated pharmaco airborne fungus and pollen."

1 MR. DICKINSON: I'm going to object on relevance. I  
2 do not see -- if the property room or marijuana fumes in the  
3 property room have any relevance to what we're talking about.

4 THE COURT: Unless they get out and affect the  
5 analysts or something.

6 BY MR. ST. LOUIS:

7 Q Would you need to go in and see the layout to make that --

8 A To draw that conclusion, yeah.

9 Q Okay. If we're concerned about volatiles being in there  
10 in the lab, would we be concerned about the marijuana fumes  
11 being in the air no less?

12 A Yeah. I'm concerned about the ambient air quality in the  
13 laboratory throughout the working day, which in the case of  
14 volatiles is 24 hours a day.

15 THE COURT: But would that have any effect on say  
16 testing of blood alcohol?

17 THE WITNESS: You know, for example if there were  
18 marijuana fumes in the air, obviously that would not create a  
19 problem because for the purpose of the analysis, for the  
20 purpose of the analysts I suppose, but not for the purpose of  
21 the analysis, but if in fact the air quality is that bad that  
22 there's that much stuff in the air, I have to draw the  
23 conclusion that if there's volatiles around, they're going to  
24 be in the air as well.

25



1 BY MR. ST. LOUIS:

2 Q The issues with space, what is the significance of that?

3 A You know I'm accustomed to auditing government labs, I'm  
4 accustomed to auditing laboratories that are cramped for space.  
5 I ran a laboratory and it had our own space issues.

6 I obviously haven't seen the lab in person, but just from  
7 viewing the video, it's apparent that this is an  
8 extraordinarily cramped facility to try to perform the breadth  
9 of testing that's performed in this facility.

10 Q Would that affect the reliability of results --

11 A Absolutely, absolutely.

12 Q What do you make of this? "It is a scientific  
13 instrumentation concern that there is inadequate electrical and  
14 environmental infrastructure for scientific equipment to  
15 operate."

16 A Well, we've already discussed several instances of the  
17 fact that the instrumentation has been compromised by the  
18 conditions they have experienced. Instrumentation is -- has  
19 more demanding environmental concerns than those people.

20 Q You said you wanted to point some things out in the video?

21 A Yes, if that's possible.

22 Q It is possible.

23 MR. ST. LOUIS: I have a copy of the video. Should I  
24 mark it and enter it? Did I already do that? Did I send --

25 THE COURT: I'm not sure you did.

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1 MR. DICKINSON: Well, there's a copy attached to my  
2 motion to quash the subpoena in the Kirkpatrick case.

3 THE COURT: Okay. And I have one on my desk if you  
4 need one, but --

5 MR. DICKINSON: And so let me just stipulate to that.

6 THE COURT: Okay. Do you have one for your machine,  
7 though?

8 MR. ST. LOUIS: Yeah. Yes.

9 THE COURT: All right. So the video is going to be  
10 marked as an exhibit, the disk. And I don't whether you have a  
11 physical disk to stick into the evidence, but Mr. Dickinson  
12 said --

13 MR. ST. LOUIS: I've got one in my box. Can I grab  
14 it in a minute?

15 THE COURT: Yeah. You said there was one, otherwise  
16 we can --

17 THE CLERK: That'll be HH.

18 MR. ST. LOUIS: HH, okay.

19 THE COURT: And that other one, H -- no I is now  
20 available for another exhibit. That was withdrawn. If you  
21 want.

22 (Simultaneous Conversation)

23 THE COURT: That's fine. Okay.

24 THE WITNESS: May I have the laser pointer?

25 MR. ST. LOUIS: You may have the laser pointer.

1 THE COURT: HH is disk of the lab.

2 MR. ST. LOUIS: We don't really need the audio.

3 THE COURT: Okay. That's fine. Okay, now that's

4 okay. Don't worry. We've all heard it.

5 THE WITNESS: Can you stop it?

6 MR. ST. LOUIS: Yeah.

7 THE WITNESS: And sort of freeze it?

8 MR. ST. LOUIS: Do you want me to go back a little

9 bit?

10 THE WITNESS: That exceeds my technological ability.

11 MR. ST. LOUIS: You can't move that thing. All you

12 can do is click the laser by pushing the silver button.

13 THE COURT: Oh, it's just a laser.

14 THE WITNESS: Oh okay.

15 MR. ST. LOUIS: Okay. Do you want me to go back?

16 THE WITNESS: Please.

17 MR. ST. LOUIS: Okay.

18 THE COURT: Do you want to turn the lights a little

19 bit? It's kind of --

20 THE WITNESS: That's better. Thank you.

21 MR. DICKINSON: That works.

22 THE WITNESS: Okay. I'll just mention that we draw

23 take-up air from our surrounding environment. That's on a main

24 drag because I drove by it on my way from the airport, so

25 you're going to have all that exhaust from automobiles to deal

1 with.

2 This -- you'll see a lot of analysts not wearing  
3 safety glasses and gloves over the course of this video  
4 display.

5 I'll just have to tell you that things are packed in  
6 much tighter, no gloves, than would ever be considered  
7 acceptable in an analytical environment. That's a very nice  
8 flag. Okay.

9 This looks like possibly a disposal area for waste  
10 chemicals. This -- I have to assume maybe this is for samples,  
11 actual blood samples in that biohazard refrigerator. Generally  
12 not wearing your glasses, bashing yourself into the corner  
13 there, that one probably hurt.

14 This is the ceiling. That's wood. That's not  
15 acceptable in a laboratory. There's flammable solvents, a very  
16 unsafe condition in a laboratory.

17 Remember we're drawing all of our make-up air out  
18 from that highway there.

19 That's a hood that you saw that top --

20 BY MR. ST. LOUIS:

21 Q Do you want me to go back?

22 A -- piece, yeah. Boy it goes by quick, doesn't it? But  
23 that's the working space in a hood, they're typically either  
24 from two to four feet long. Okay. This is a hood, this one's  
25 just open. They typically have sides and actually glass doors

1 or windows that can come down in the front.

2 Q Like a sneeze guard?

3 A Yeah.

4 THE COURT: Like when you go to the salad bar?

5 THE WITNESS: Like when you go to a salad bar, kind  
6 of, yeah. Okay, keep going. There may be egress from the  
7 laboratory, can't really tell. Can't tell exactly what that  
8 is, refrigerator or what.

9 These are gas cylinders. Gas cylinders are necessary  
10 to support the gas chromatography instrument. More typically  
11 those are outside a laboratory, those -- rather than actually  
12 plumbed right inside like that.

13 BY MR. ST. LOUIS:

14 Q Hold on a second. I may want us to -- right there?

15 A Yes. These are compressed gas cylinders. I described  
16 earlier that it's helium gas that transports the compounds  
17 through the GC columns. Typically you have a bank of these  
18 kinds of things outside, accessible through an external area so  
19 they can pull up in a truck and have these things on dollies  
20 and unload them and manipulate them. Here, as best you can  
21 tell from these photographs, they're cruising through the  
22 laboratory with these things on a dolly in very, very tight  
23 corners to get it into that corner and get it going. I would  
24 vote for giving them a new laboratory.

25 This is evidence storage.

1 MR. DICKINSON: Property room.

2 THE WITNESS: Property room. I hope everybody can  
3 tell how crowded this feels, because from my perspective it's  
4 extraordinarily crowded.

5 These are people sitting at their benches where they  
6 do analytical work also having to write reports and do  
7 paperwork.

8 That was an example of the kind of makeshift,  
9 certainly not to code I would suspect, although I'm not  
10 electrician, wires coming through the drop ceilings.

11 The eyewash statement -- station next to there looked  
12 a little bit in the way of all the wires. Oh gosh. It's a  
13 maze.

14 This is hard work. Science shouldn't have to be done  
15 under these conditions. I recall from the air, this is the  
16 outdoor facility. That may be -- that may be the end of the --  
17 yeah, outdoor test range.

18 MR. ST. LOUIS: We can turn the lights back on.

19 BY MR. ST. LOUIS:

20 Q Ms. Arvizu, we've asked you to examine the blood test  
21 results and the reliability of the blood test results in Mr.  
22 Esposito's case and in Mr. Kirkpatrick's case. Can you do that  
23 examination without going in and looking at the laboratory?

24 A I would have to advise a data user to be very cautious in  
25 using results from this laboratory to make important decisions

1 based on what I've seen here today. If the laboratory had a  
2 strong quality assurance program, if the procedures were robust  
3 and complete, if the data indicated that the laboratory was  
4 executing those procedures as written, if there's evidence that  
5 when they found technical problems they fixed them, I do review  
6 a lot of data like that and I advise my clients to use them  
7 with confidence. But because of the number and nature of the  
8 problems in this laboratory, I would strongly recommend data  
9 users, and it frankly doesn't matter if it's the prosecution or  
10 the defense, anybody that's using the data from this laboratory  
11 to really understand the context for the conditions and the  
12 operations of that laboratory before they simply accept and use  
13 the results to make important decisions.

14 Q Okay. Why do you need to go into the lab as opposed to  
15 just looking at the paperwork and looking at interviews of  
16 analysts?

17 A A number of instances have been brought up over the course  
18 of the testimony that I just don't know, but I could tell that  
19 from being present in the laboratory, based on my experience as  
20 an auditor, when procedures are as incomplete as they are in  
21 this case, it leaves a lot of latitude for different and  
22 potentially very troubling practices by analysts in the  
23 laboratory. That's the kind of thing you can only tell by  
24 observing operations. And you can always see things in person  
25 that you will never be able to see from the procedures,

1 particularly with respect to contamination and control.

2 Q You have specific things that you want to go in and look  
3 at based on the examination you've done today?

4 A Yes.

5 Q Can you give me just a quick list of what those are?

6 A I would want to see access and egress controls, how  
7 traffic moves, the air handling system, how the -- that whole  
8 system works; to observe batch processing of a set of volatile  
9 organic samples, blood alcohol samples; to see the sequence and  
10 practice, actual practice employed by the analyst when they're  
11 preparing those samples to see whether or not they're  
12 introducing the potential for contamination of those samples.

13 Because of their practice of only including one blank,  
14 only at the very, very beginning before they've ever run a  
15 sample, if there's contamination occurring, they will never  
16 know it.

17 Q And you've seen evidence of contamination in the results  
18 from the laboratory?

19 A Yes.

20 Q And in Mr. Kirkpatrick's case?

21 A Yes.

22 Q Let me show you Mr. Esposito's chromatogram as well.

23 MR. ST. LOUIS: What are we up to? II?

24 Just the calibrators and controls. I don't have an  
25 extra set, Bill, but these are just the actual blood tests of



1 Mr. Esposito.

2 MR. DICKINSON: What's the exhibit?

3 MR. ST. LOUIS: II.

4 THE WITNESS: Yes.

5 BY MR. ST. LOUIS:

6 Q What's II, please?

7 A It's two sets of chromatograms in a case analyzed by Rayna  
8 Ramirez on March 16<sup>th</sup>, 2007. I'm looking for the name, well I'm  
9 not going to try that first one, Esposito.

10 Q Julio Esposito?

11 A Yes.

12 Q Okay. Do you see the same evidence of organics in the  
13 actual blood test of Mr. Esposito that you saw in Mr.  
14 Kirkpatrick's?

15 A Yes.

16 Q Can you show the Judge again, please.

17 THE WITNESS: This is starting to look familiar. The  
18 early ones and (indiscernible), both columns.

19 THE COURT: Okay.

20 MR. ST. LOUIS: I'm going to get repetitive so I will  
21 stop at this point.

22 MR. DICKINSON: Okay, Your Honor. We've been going  
23 since --

24 MR. BLOOM: Excuse me. Can we offer all the exhibits  
25 that we've talked about except for the one that was excluded

1 into evidence?

2 MR. DICKINSON: That's fine.

3 THE COURT: Okay.

4 (Defendant's Exhibits admitted)

5 THE COURT: So would you like to end now and start  
6 again with your cross-examination? Is that what you were going  
7 to suggest?

8 MR. DICKINSON: The problem is she's here from out of  
9 state.

10 THE COURT: And it's a weekend.

11 MR. DICKINSON: And it's a weekend. And --

12 THE COURT: Do you want to go forward?

13 MR. DICKINSON: We're not going to get done.

14 MR. ST. LOUIS: We can bring her back. That's fine.

15 THE COURT: Well Tucson's is nice place to visit.

16 THE WITNESS: I love Tucson.

17 MR. DICKINSON: Especially in August.

18 THE WITNESS: Especially in August.

19 MR. BLOOM: And Judge, I'm just thinking, it's  
20 obviously up to you. Would you be willing to do your cross by  
21 phone, on a speakerphone? I mean, do you need -- do you have  
22 exhibits?

23 MR. DICKINSON: Yeah. We're going to play with  
24 exhibits.

25 THE WITNESS: It is hard for me to --

1 THE COURT: And we can come back on --

2 THE WITNESS: Do it without --

3 THE COURT: Tuesday and then -- where do you come  
4 from?

5 THE WITNESS: Albuquerque.

6 THE COURT: Albuquerque. I'm from Santa Fe, New  
7 Mexico originally.

8 MR. BLOOM: Judge, I don't need to be here for the  
9 cross of Ms. Arvizu, but I was going to handle Mr. Heller and  
10 Ms. Spirk, and I'm out of town on Tuesday.

11 THE COURT: You're out of town.

12 MR. DICKINSON: And I'm actually in training with  
13 three people. We had a mock trial scheduled.

14 THE COURT: On Monday I had a civil jury that is  
15 going bench trial, but still for Monday. All my other bench  
16 trials have gone off I think for that day.

17 UNIDENTIFIED SPEAKER: That was a jury trial date for  
18 you, wasn't it?

19 THE COURT: And next one, the last one on there is  
20 going to be change of plea, so we could do it on Tuesday but  
21 it's still Tuesday. Do you have any friends here?

22 THE WITNESS: I'll make some.

23 THE COURT: Where you could spend the night? Take  
24 you around sightseeing.

25 MR. ST. LOUIS: Well, what's -- can you come back on

1 Tuesday, Janine?

2 THE WITNESS: Yes.

3 THE COURT: Are you able to, then?

4 THE WITNESS: Uh-huh.

5 MR. ST. LOUIS: I can come back on Tuesday, but Mr.  
6 Bloom won't be able to.

7 MR. BLOOM: I cannot be here.

8 THE COURT: You cannot be here.

9 MR. BLOOM: So do you plan to just do the cross, or  
10 do you plan to do Mr. Heller and --

11 MR. DICKINSON: I was going to ask --

12 THE COURT: Or do you have other suggestions?

13 MR. DICKINSON: We could do the cross on Ms. Arvizu  
14 Tuesday, and then see if we can pick another date --

15 THE COURT: Okay.

16 MR. DICKINSON: -- to do the others.

17 THE COURT: The rest.

18 MR. DICKINSON: That may be probably the best.

19 THE COURT: And what I might do, because my calendar  
20 is really getting bogged up, I'll just take a half -- well, I  
21 don't know how long it'll take after that, a half day or  
22 probably another whole day.

23 MR. DICKINSON: Maybe Tuesday afternoon would be,  
24 that would give us the longer time. Ms. Arvizu could travel  
25 Tuesday morning and not have to stay overnight if she chose to.

1 (Simultaneous Conversation)

2 THE COURT: That's true. Great idea.

3 MR. DICKINSON: Pardon?

4 THE COURT: Well, she just suggested why don't I just  
5 -- you know we're always supposed to clear our calendars and  
6 not use pro tems. I hardly ever, ever use a pro tem but  
7 Bernadette just suggested why don't we use a pro tem for the  
8 civil.

9 MR. DICKINSON: Okay.

10 THE COURT: And then we just come back on Monday.

11 THE CLERK: And you also have -- well it wouldn't  
12 matter.

13 MR. ST. LOUIS: I have a trial on Monday in city  
14 court, Judge. Tuesday I can do, Monday I can't.

15 MR. DICKINSON: Why don't we do Tuesday afternoon and  
16 just do Ms. Arvizu and you can pick another date to continue  
17 the rest of it if that's all right.

18 MR. ST. LOUIS: That's fine.

19 THE COURT: But why in the afternoon?

20 MR. DICKINSON: Because you can -- just a full  
21 afternoon, I can't imagine that the cross and redirect is going  
22 to take more than -- but if you want to go in the morning,  
23 that's fine.

24 THE COURT: Yeah. All morning. And then we could  
25 leave in the afternoon.

1 MR. DICKINSON: Okay. All right.

2 THE COURT: Then you could be on your way or maybe  
3 there's a late afternoon plane to Albuquerque. I know because  
4 I'm going to be taking it the following week.

5 MR. BLOOM: Judge, do you have any thoughts on the --  
6 (Simultaneous Conversation)

7 THE WITNESS: Oh yes, ma'am.

8 THE CLERK: Make sure I have them all.

9 THE WITNESS: Is this what you want?

10 MR. BLOOM: Judge, the terms of the dates for Mr.  
11 Heller and Ms. Spirk, Friday the 31<sup>st</sup> I have things, but I can  
12 move them I think.

13 MR. DICKINSON: You're going to do that on the  
14 beginning of a three day weekend.

15 MR. BLOOM: Thursday September 6<sup>th</sup> I'm free all day.

16 MR. DICKINSON: Okay. Let's see what that looks  
17 like.

18 MR. BLOOM: You don't have to twist my arm about  
19 wanting --

20 THE WITNESS: I'm in Florida testifying on the 5<sup>th</sup>.

21 MR. BLOOM: No, no, no, you --

22 THE COURT: We're going to bring you back --

23 THE WITNESS: Oh okay. I'm sorry.

24 MR. BLOOM: These are for the other witnesses.

25 THE COURT: If you'd prefer Tuesday morning or

1 afternoon, do you prefer the morning on Tuesday rather than the  
2 afternoon? Okay. I'd rather do it in the morning because then  
3 I --

4 MR. ST. LOUIS: You know it's up to you. It's  
5 your --

6 MR. BLOOM: Alternatively, Monday, September 10<sup>th</sup> I'm  
7 free all day. September 11<sup>th</sup> --

8 UNIDENTIFIED SPEAKER: That's a jury trial day for  
9 Judge Dolny.

10 MR. BLOOM: Oh I'm superstitious on September 11<sup>th</sup>.

11 MR. DICKINSON: Actually I'd love to do it on the  
12 10<sup>th</sup>, I'd get out of doing three things I don't want to do.

13 MR. BLOOM: Let's do it on the 10<sup>th</sup>, shall we?

14 THE COURT: Well, that's a jury trial day for me.

15 MR. DICKINSON: Judge, we can --

16 MR. BLOOM: We can just do that in two.

17 MR. DICKINSON: We'll speak to somebody on your  
18 behalf.

19 UNIDENTIFIED SPEAKER: Actually, Judge, I think  
20 Monday may be okay. You have two jury trials. That would be  
21 Davis and Fletcher (phonetic).

22 THE COURT: Okay. And what about the Lindo  
23 (phonetic).

24 UNIDENTIFIED SPEAKER: I don't know about that one.

25 THE COURT: Reznick, Mark Reznick.

1 UNIDENTIFIED SPEAKER: I don't know about that one.

2 THE COURT: Give them a good plea and --

3 UNIDENTIFIED SPEAKER: I don't think it's on the  
4 calendar. That's not on your calendar.

5 THE COURT: It's on mine. Would you check A case  
6 number please? TR 05, 0 -- TR 05-003505. And I've got a Lindo  
7 as a trial on Monday, the 10<sup>th</sup>, September 10<sup>th</sup>.

8 THE CLERK: September 10<sup>th</sup>?

9 THE COURT: Uh-huh.

10 THE CLERK: Yes.

11 UNIDENTIFIED SPEAKER: Is that on -- it's on the  
12 schedule?

13 THE COURT: But you've got a week or two to deal with  
14 it.

15 UNIDENTIFIED SPEAKER: When was that sent?

16 THE COURT: A long -- I'm sure a long time ago. Do  
17 you know when it was sent?

18 THE CLERK: August 6<sup>th</sup>.

19 MR. ST. LOUIS: Judge, if it's Moore and Dingedime  
20 (phonetic), we're always happy to oblige.

21 THE COURT: Oh, do you know Dingedime got -- how is  
22 he anyway?

23 MR. DICKINSON: He's fine.

24 MR. ST. LOUIS: He was just dehydrated.

25 THE COURT: It was -- it was indigestion or



1 something?

2 MR. ST. LOUIS: He got dehydrated on the bench. They  
3 had to vacate a jury trial. He went to the hospital in an  
4 ambulance, but he was fine.

5 THE COURT: I know it. He collapsed and they said oh  
6 he had a heart attack.

7 MR. DICKINSON: He didn't like that trial.

8 THE COURT: Okay. But this one --

9 MR. DICKINSON: So it's between Monday and Tuesday,  
10 the 10<sup>th</sup> and 11<sup>th</sup> is our preference?

11 THE COURT: Yeah, but we're coming back Tuesday,  
12 August 28<sup>th</sup>, for the rest of --

13 MR. BLOOM: Yeah, Monday the 10<sup>th</sup> is better for me,  
14 Bill, because I've got a ten o'clock sentencing on a homicide  
15 case Tuesday. So that might take an hour.

16 MR. ST. LOUIS: You know, if you can give us the 10<sup>th</sup>.

17 THE COURT: Yeah.

18 MR. ST. LOUIS: If you can give us that day, then Ms.  
19 Arvizu can sit and watch the other two people testify and help  
20 us out.

21 MR. DICKINSON: That'd be great.

22 MR. ST. LOUIS: Can we just do it all on the 10<sup>th</sup>?

23 THE COURT: You mean including her cross-examination?  
24 You think that gives you enough time?

25 MR. DICKINSON: I don't think that's enough time.

1 THE COURT: Look at how long -- we only got through  
2 her direct examination. She's not even been crossed. I'm sure  
3 Bill will have some extensive cross-examination and you've got  
4 three -- it won't be extensive?

5 MR. DICKINSON: I'm just going to ask Mr. Heller if  
6 he agrees with everything she said.

7 THE COURT: All right. Then Mr. Heller, can we just  
8 get that out of the way now?

9 MR. ST. LOUIS: Can we see if you agree, because  
10 you've been here, you could have said.

11 THE COURT: Yeah. That would make it easier, do you  
12 agree yes or no. Done. Oh boy.

13 MR. DICKINSON: So Tuesday the 11<sup>th</sup>?

14 MR. ST. LOUIS: No Monday the 10<sup>th</sup>.

15 MR. DICKINSON: Okay.

16 THE COURT: Monday the 10<sup>th</sup> for cross-examination of  
17 Janine.

18 MR. DICKINSON: No. Tuesday, August 28<sup>th</sup>.

19 THE COURT: I mean I'm sorry, Tuesday the 28<sup>th</sup> --

20 MR. DICKINSON: Of August for Ms. Arvizu.

21 THE COURT: For that, and then --

22 MR. DICKINSON: Monday September 10<sup>th</sup> --

23 UNIDENTIFIED SPEAKER: Ten a.m.

24 THE COURT: For everybody else.

25 MR. DICKINSON: Yes.

1 THE COURT: Do you want to come -- okay on Tuesday  
2 the 28<sup>th</sup>, do you wish to come at nine o'clock or 9:30?

3 MR. DICKINSON: Let's do 9:30.

4 THE COURT: Nine thirty. And I'll do a change of  
5 plea at nine then.

6 MR. DICKINSON: Okay.

7 MR. ST. LOUIS: Are you going to fly in night before,  
8 Janine?

9 THE WITNESS: I'll have to get here that early. I  
10 don't think -- I'll look.

11 MR. ST. LOUIS: I don't think you can.

12 THE WITNESS: But that's rush hour too.

13 MR. ST. LOUIS: You know Mr. Dickinson suggested the  
14 afternoon so that you could fly in that day. Would that be  
15 easier to you if we started at one or 1:30?

16 THE COURT: The plane -- there is an early -- there's  
17 a morning plane. There are only two flights a day from Tucson  
18 to Albuquerque.

19 THE WITNESS: Oh really.

20 THE COURT: A bunch to Phoenix, but not to Tucson.

21 THE WITNESS: Oh okay.

22 THE COURT: But the morning one is like --

23 MR. DICKINSON: But that's from here to there,  
24 though. I don't know --

25 THE COURT: I almost could tell you because I've

1     been --

2                   THE WITNESS:   That's pretty scary.

3                   THE COURT:    Well, come the day before.

4                   THE WITNESS:   I can come the day before.   That's not  
5     a problem.

6                   MR. BLOOM:    Judge, I would like to be excused since  
7     I'm running late, I need to get my --

8                   THE COURT:    Of course, of course.

9                   MR. DICKINSON:  I have a temp that I need to let go  
10    at the office.

11                   THE WITNESS:  Judge, can I go?

12                   THE COURT:    Yes, you can step down.   So September  
13    10<sup>th</sup>, right?

14                   (Proceedings Concluded)

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1 STATE OF ARIZONA )  
2 ) SS:  
3 County of Pima )

4 I, P. Renee Rich, Electronic Transcriber, do hereby  
5 certify that I have listened to the digital recording of the  
6 foregoing; further that the foregoing transcript pages 1  
7 through 185, were reduced to typewritten form from the digital  
8 recording of the proceedings held August 24, 2007, in the Pima  
9 County Justice Court, in the matter of State v. Kirkpatrick;  
10 and that the foregoing is an accurate record of the proceedings  
11 as above transcribed in this matter on the date set forth.

12 DATED this 19th day of October, 2007.

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P. Renee Rich