

1 WEDNESDAY, APRIL 28, 2004

2 AFTERNOON SESSION

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4 The matter of the People of the State of
5 California, Plaintiff, versus Dennis Louis Nelson,
6 Defendant, Case Number 02F06021, resumed regularly before
7 the Honorable Gary S. Mullen, Judge of the Superior Court
8 of the State of California, in and for the County of
9 Sacramento, in Department 41 thereof.

10 The People were represented by Jeffrey L. Rose,
11 Assistant Chief Deputy District Attorney for the County of
12 Sacramento, State of California.

13 The Defendant, Dennis Louis Nelson, was personally
14 present and represented by David Lynch, Assistant Public
15 Defender for the County of Sacramento, State of California,
16 as his counsel.

17 The following proceedings were then had in open
18 court, to-wit:

19 THE COURT: We'll go on the record.

20 Both counsel and the defendant are present.

21 Mr. Rose, you have a matter you want to put on the
22 record.

23 MR. ROSE: Yes. This is in regard to the witness
24 for the last motion which was Trombetta. There is one
25 other item that I would like to have marked and for the
26 Court's consideration.

27 THE COURT: People's 5 next in order.

28 MR. ROSE: This is actually the report. We have

1 heard testimony from Ken Callahan regarding the prints that
2 he tried to view that were the latent impressions that were
3 now gone, and this is the report from the individual who
4 took the -- who processed those items, Frank Davidson, 509.
5 I think it's appropriate for the Court to consider this.

6 THE COURT: All right.

7 MR. ROSE: If we don't change the -- okay. You go
8 ahead and do it the way you want. I was thinking now we
9 have got an exhibit number that the jury will never see,
10 and I don't want them wondering.

11 THE COURT: We can mark that Court Number 1.

12 MR. ROSE: That's fine.

13 THE COURT: The other exhibits, the print cards will
14 go before the jury but the --

15 MR. ROSE: That's correct.

16 THE COURT: But that particular report would not.
17 We will mark it as Court's Number 1 for the purposes
18 of the Trombetta hearing, and, for my court reporter, I
19 will get you a spelling. T-r-o-m-b-e-t-t-a.

20 with that, still on the Trombetta issue, do you have
21 another witness?

22 MR. ROSE: I do not.

23 THE COURT: You are resting as far as Trombetta?

24 MR. ROSE: Nothing further on Trombetta.

25 THE COURT: All right. Mr. Lynch, do you have any
26 witnesses?

27 MR. LYNCH: I don't believe I do.

28 THE COURT: Let me read the report and so you can

1 move those items into evidence and then we can start the
2 next matter.

3 MR. ROSE: Great.

4 MR. LYNCH: I think for purposes of the Trombetta
5 the district attorney's willing to submit that the oral and
6 anal swabs that were taken during autopsy are in fact
7 missing, and also that clothing taken, seized into
8 evidence, from Lester Werniche, W-e-r-n-i-c-h-e, I believe,
9 have also become missing. They don't know where they are.

10 THE COURT: I think before we do that, as I read the
11 People's motion, a rectal swab was lost. There is a second
12 swab that is lost, but one of them was retained. There was
13 one swab that was in a packet.

14 MR. ROSE: There was actually three swabs taken
15 during the autopsy; one rectal swab, one oral swab, and one
16 vaginal swab. Each of those were put in their own separate
17 envelopes. We still have the envelope and the vaginal
18 swab. The rectal swab is gone. The oral swab is gone. We
19 still have the envelopes that once contained those items.

20 THE COURT: which may have some or may not have
21 trace evidence.

22 MR. ROSE: As I have outlined in my motion, I have
23 outlined that we actually tested the envelopes that once
24 contained the oral swab and the envelope that once
25 contained the rectal swab, and I agree with that.

26 I mean, I have already put in my motion, in my
27 response, that the clothing of Werniche was no where to be
28 found, and the rectal swab and the oral swab are no where

1 to be found. I don't have a problem with that.

2 THE COURT: All right. And you are willing to
3 stipulate to those facts?

4 MR. ROSE: Sure.

5 THE COURT: All right. Let me read the Court
6 Exhibit Number 1, the report. Just one moment.

7 (Brief pause in proceedings)

8 THE COURT: All right. People move into evidence
9 Court's Exhibit 1?

10 MR. ROSE: Yes.

11 THE COURT: As well as, for the purposes of the
12 motion, Court's -- the other exhibits that were part of
13 both the Miranda and the Trombetta motion. The two latent
14 prints are the Trombetta motion are moved in.

15 MR. ROSE: Right.

16 THE COURT: They will be received for the purposes
17 of the hearing.

18 MR. ROSE: And all of the evidence on the Miranda.

19 (People's Exhibits 1, 2, 3, 3A, 4, 4A and
20 Court's Exhibit Number 1 were received in evidence
21 for 402 Hearing purposes)

22 THE COURT: Both parties rest on Miranda and
23 Trombetta?

24 MR. LYNCH: Subject to argument on the Miranda.

25 THE COURT: With that now we are going to be moving
26 to the pre-complaint delay issue.

27 MR. ROSE: Correct.

28 THE COURT: With that, People wish to call your

1 first witness?

2 MR. ROSE: I would like to call Ken Konzak.

3 THE COURT: Sir, if you would step forward and be
4 sworn.

5 THE CLERK: You do solemnly state that the evidence
6 you shall give in this matter shall be the truth, the whole
7 truth, and nothing but the truth, so help you God?

8 THE WITNESS: Yes, I do.

9 THE CLERK: Please be seated.

10 Will you state your full name and spell it for the
11 record?

12 THE WITNESS: Kenneth Calvin Konzak, K-e-n-n-e-t-h,
13 Konzak, K-o-n-z-a-k.

14 THE CLERK: Thank you.

15 THE COURT: Go ahead, Counsel.

16 MR. ROSE: Thank you, Your Honor.

17 TESTIMONY OF

18 KENNETH KONZAK, witness called on behalf of the People:

19 DIRECT EXAMINATION

20 By JEFFREY ROSE, Assistant Chief Deputy District Attorney:

21 Q. Mr. Konzak, by whom are you employed?

22 A. I am employed by the California State Department of
23 Justice, Bureau of Forensic Services, DNA laboratory.

24 Q. And I take it that is a public agency?

25 A. Yes, sir.

26 Q. And what is your job at that agency?

27 A. I am the laboratory director and manager for the
28 CAL-DNA Database, CODIS State Administrator and State

1 Representative for CODIS.

2 MR. ROSE: By the way, Your Honor, I have a list of
3 terms that the court reporter it might assist.

4 THE COURT: Yes. If you would give them to her.

5 MR. ROSE: The witness beat me to it, Your Honor.
6 We can give the extra copy to the court clerk.

7 Q. (By Mr. Rose) What are the general
8 responsibilities, duties, that the -- of the Department of
9 Justice, Bureau of Forensic Science or Services?

10 A. The Bureau provides forensic analysis and support to
11 courts of law and the counties and the people, about two
12 thirds of the land mass and about one-third of the
13 population in general criminalistics and blood alcohol and
14 so on.

15 we also provide the missing persons program and the
16 DNA database which is -- serves the entire State.

17 Q. And are you the primary forensic laboratory for all
18 of the counties that do not have their own laboratory
19 resources?

20 A. That's correct.

21 Q. Okay. So we might be somewhat unique in Sacramento
22 because we have our own laboratory that does our forensic
23 testing, but the counties like, say, Placer County, they
24 use your services?

25 A. They use the Bureau's services, yes.

26 Q. Okay. Now, I would like to quickly go through your
27 educational background, and could you tell me -- give me an
28 idea about what your educational background has been?

1 A. I have a bachelors in biochemistry from Washington
2 State University and a masters in molecular biology from
3 the University of Wisconsin at Madison.

4 Subsequently, because this was many years ago, when
5 I got back into DNA, I spent some -- couple of years
6 working with Dr. George Sensabaugh in UC Berkeley taking
7 some graduate level courses in biochemistry, genetics, and
8 things like that.

9 Q. Okay. And have you -- what is your specific
10 training in the area of DNA?

11 A. Of course, I had background in molecular biology
12 although the initial work I did in molecular biology was
13 back when proteins were molecular biology. So we served it
14 up on swizzle sticks back in '73.

15 I participated in a month-long workshop with the FBI
16 and also attended several weeks of workshop with Cellmark
17 back in the days when we were doing RFLP originally.

18 I have also been involved in all the validation
19 studies on our laboratory and reviewed the bulk of the RFLP
20 case work from our laboratory as well as the validation
21 studies when we were getting into other techniques like DQ
22 alpha and D1S80 and eventually STRs.

23 Q. Okay. RFLP, what does that stand for?

24 A. Restrictions Fragment Length Polymorphism.

25 Q. Is that basically one of the first generation of DNA
26 testing?

27 A. Yes. Alex Jefferies in about 1984 came up with the
28 idea of using these restriction fragments which had

1 variance in them to differentiate samples that might be
2 used in forensic settings. In fact, The Blooding is book
3 that was written -- a popular book that was written about
4 the first case that was involved.

5 Q. Okay. Have you qualified as an expert in the area
6 of forensic DNA analysis on previous occasions?

7 A. Yes, I have.

8 Q. Now, specifically you indicated -- by the way, how
9 many times have you qualified?

10 A. I think four.

11 Q. Okay. And, now, part of your work as the lab
12 director is you also oversee the DNA Data Bank for the
13 State of California?

14 A. That's correct.

15 Q. Okay. What is the DNA Data Bank?

16 A. The DNA Data Bank consists of sets of records
17 essentially a table of records identified by a unique
18 identifier which we have to go to a different database to
19 find the name of the individual in, and then a series of
20 numbers that correspond to certain places on the
21 individuals's DNA, and these particular places have
22 variance or different alleles that we can use to
23 differentiate two people. So this current database has
24 thirteen of these numbers -- sets of numbers, and we can
25 use those to show that a particular profile came from one
26 person as opposed to another.

27 Q. All right. And the present DNA Data Bank that is
28 being used in the State of California is an STR Data Bank,

1 correct?

2 A. Yes. It is developed with a Short Tandem Repeats
3 which are what STRs stand for.

4 Q. Now, prior to the STR Data Bank being implemented,
5 did the State of California did it utilize another type of
6 Data Bank?

7 A. Yes. We were involved with a national group, the
8 Technical Working Group on DNA Analysis Methods or TWGDAM,
9 and as part of that we developed the concept of a
10 nationwide data base which we called the Combined DNA Index
11 System -- I shouldn't say "we". That was the FBI's idea,
12 so they could come up with a catchy acronym CODIS, and that
13 concept required that we all agree on particular
14 technologies, the way that technology was implemented, and
15 the particular places on the DNA that we would look so that
16 we could all compare our numbers to each other.

17 So we would identify what are called core loci, and
18 the core loci for the Restriction Fragment Length
19 Polymorphisms were the initial DNA Data Bank standards that
20 were set.

21 Q. So we initially had a RFLP Data Bank that was used
22 not only in California but by the FBI, and I take it other
23 states implemented the RFLP Data Bank?

24 A. Yes. I couldn't say exactly. There were thirteen
25 in the national database when it first began. Probably
26 twenty-six or about half the states probably had some level
27 of RFLP analysis at one point.

28 Q. When was that implemented approximately?

1 A. The national database?

2 Q. The RFLP Data Bank?

3 A. We started doing RFLP typing for the database in
4 1991 and 1992.

5 Q. Okay. Now, were there certain problems or
6 difficulties --

7 A. Limitations might be a --

8 Q. Right. Limitations with the RFLP Data Bank?

9 A. The RFLP analysis requires significantly more DNA
10 than the more modern techniques that we use as well the
11 quality of the --

12 THE COURT: You mean the sample?

13 THE WITNESS: The sample size, yes. Just a rough
14 example, when we used to do conventional serology, we might
15 want something about the size of a quarter or something
16 like that to be really sure we get results.

17 with RFLP we could go down to maybe a dime or
18 something like that. When we go into the PCR techniques or
19 the polymerase chain reaction we are actually amplifying or
20 xeroxing pieces of DNA. Obviously we can go much smaller
21 and you can literally type things the size of a pinhead.

22 THE COURT: RFLP is also less accurate, it degrades,
23 as I understand it.

24 THE WITNESS: The word "accurate" is maybe not a
25 good term, but --

26 THE COURT: Less capable of determining.

27 THE WITNESS: Yes. Because you needed larger
28 fragments. You needed something between a thousand and ten

1 thousand base pairs, fairly long pieces; whereas, now we
2 can work with pieces that are a hundred, hundred and fifty
3 base pairs long. So there is at least a factor of ten or a
4 hundred depending on the size of fragments that might have
5 been in the individual's profile.

6 Q. (By Mr. Rose) So degraded samples were not
7 necessarily suitable for RFLP testing?

8 A. That's correct.

9 Q. Was there another limitation in the amount of time
10 that it just took to generate a profile in RFLP?

11 A. It would take on the order of six to eight weeks to
12 get profiles with the RFLP, and we did set up assembly line
13 processes as we have now for the STRs, but it also required
14 many more steps, fairly easy, but they all had to be done
15 right, and so you had to train a lot of people, and it took
16 relatively longer to train people to be good at RFLP.
17 Although it's very robust, a very easy system to use, but
18 it did take longer to train people and to get the system up
19 and running for significant numbers of samples.

20 Q. Okay. So at some time were you involved with a
21 working group to look at other DNA typing procedures or
22 methods to move from RFLP to another standard?

23 A. Not me personally except in a general sense, but the
24 laboratory was a participant in a study -- a number of
25 studies, but the most important was a CODIS consortium
26 group of about fourteen labs, as I recall, that looked at a
27 number of different multiplexes, that is to say, kits or
28 means of looking at multiple places on the DNA or loci at

1 one time.

2 Q. And when was that work being done?

3 A. We were looking at that in 1995 through about 1997.

4 It was -- by November of 1997 we had again decided on a set
5 of core loci as a community.

6 Q. You are talking about as a scientific forensic
7 community?

8 A. Yes.

9 Q. And what DNA typing methodology was decided upon?

10 A. Well, of course, we wanted to move into the
11 polymerase chain reaction techniques because of our ability
12 to look at smaller fragments and to automate the system so
13 that we could rapidly type more samples.

14 The most suitable procedure or techniques that came
15 out were those that involved short tandem repeats. They
16 had a number of variance but not an excessive number. They
17 could be typed in very small fragments between a hundred to
18 a hundred and fifty base pairs and so on, and they could be
19 multiplexed so we could type a large number of them,
20 generally six to nine loci, on a single analysis.

21 Q. Okay. And did the Department of Justice, for the
22 purpose of their Data Bank, make a determination, a final
23 determination, as to -- to move away from RFLP to another
24 system?

25 A. Well, we initiated the STR analysis again around
26 that time frame, in November of 1997, and then the database
27 was not really -- the staff weren't really trained until
28 the beginning of 1998 by the time we had a significant

1 group of people who were trained, and so -- actually,
2 almost 1999, as I recall.

3 THE COURT: For the STR?

4 THE WITNESS: For the STR. Because we were
5 retraining our staff that qualified in RFLP over into the
6 STRs, and we also initially started out with a single
7 column instrument which would take forty-eight hours to run
8 a plate of ninety-six samples, and we had switched at the
9 end of 1998 to a technique that would run those same
10 samples in about two and-a-half hours. So obviously we
11 could exponentially increase the number of samples we could
12 analyze.

13 Q. (By Mr. Rose) Approximately do you know when you
14 made this move over -- say the end of 1997 during 1998 when
15 you made this move from RFLP Data Bank to the STR Data
16 Bank, do you know approximately how many samples were in
17 the RFLP Data Bank?

18 A. Around forty thousand.

19 Q. So you had successfully typed forty thousand
20 individuals, and they were now in the RFLP Data Bank at
21 that time?

22 A. Correct.

23 Q. Do you know approximately what the backlog was of
24 the cases waiting to be typed, profiled?

25 A. At the same time that we had made the switch or
26 about the same time we made the switch we expanded the Data
27 Bank from just sexual registrants and sexual assault type
28 crimes to include all violent offenses. So there was a

1 terrific increase in the number of submissions. So we had
2 on the order of about a hundred thousand samples that
3 needed to be analyzed, a hundred and twenty thousand, and
4 we projected that we would have a two hundred thousand
5 sample backlog by the -- by July of 2001. So we sought to
6 expand the laboratory, I think, about twenty-eight people
7 to -- in order to meet that challenge in two years.

8 Q. When you say -- initially, first of all, where were
9 these sample coming from?

10 A. Well, they come from the jails and prisons after
11 someone has been convicted of a crime or felony, generally.

12 Q. This is a convicted offender Data Bank, correct?

13 A. Yes.

14 Q. And these are individuals that pursuant to the laws
15 of the State of California allow for the obtaining of
16 samples from these individuals and ultimate for their
17 profiling into a Data Bank, correct?

18 A. Correct.

19 Q. Now, you say when you moved over from RFLP to the
20 STRs, it was obviously necessary to retest all of those
21 samples that you had -- you already had a RFLP profile on,
22 correct?

23 A. Yes. The RFLP fragments don't bear any relation
24 because they are actually different places on the DNA than
25 the places we are looking at with the STRs.

26 Q. And are they included in this one hundred and twenty
27 thousand backlog, or did they make it up to a hundred and
28 sixty thousand?

1 A. That was about the backlog, one hundred twenty
2 thousand total.

3 Q. Okay. So you started in 1998, you started to make
4 this transition, and what -- when did you complete -- when
5 did you complete the transition mode to the point where you
6 were no longer adding any RFLP profiles, and you were doing
7 all STR profiling for the Data Bank?

8 A. Well, as a Data Bank we essentially by the end of
9 1999 we weren't doing anymore RFLP.

10 Q. 1999?

11 A. With the exception we still had capability because
12 some of the crime labs in the field were still doing RFLP
13 or they had old cases that they were finding that they
14 wanted to search the database maybe even from another
15 state, and they would provide those RFLP profiles, and if
16 we knew they were interested in a particular individual
17 that we had not analyzed, we would try to go ahead and
18 analyze the other individuals and bring them into the
19 database.

20 Q. By the year 1998, 1999 how many different states or
21 national organizations were doing -- had a STR Data Bank?

22 A. Relatively few but I don't have those numbers. It
23 was just starting out really. Certainly the labs that were
24 part of the national system were switching over, the
25 original thirteen, fourteen laboratories. In fact, at that
26 time almost all of the laboratories that were considering
27 DNA were starting up with STRs, but it was a very
28 exponential gross across the entire United States.

1 Many labs that did not attempt to get into RFLP,
2 they might have done some other kinds of PCR, what we used
3 to call dot blot methods like DQ alpha and polymarker.
4 Those labs could fairly quickly transition to doing STR
5 because they had background in PCR analysis.

6 Q. The kit that allows to you do this STR testing when
7 did they become commercially available?

8 A. There were kits available probably as early as 1996,
9 1997, but the kits we ended up using as a standard weren't
10 really available -- in fact, we asked them to modify the
11 kits that were available at the time, in November of 1997.
12 So some of those kits were modified in the early part of
13 1998, and they actually developed some new kits as a
14 result.

15 we basically took loci that two different companies
16 were interested in and made them both modify their
17 procedures so that we would have some opportunity to
18 analyze material from two different sources.

19 Q. That was occurring in late November or, excuse me,
20 November of 1997 through early 1998?

21 A. Yes.

22 Q. Okay.

23 A. As a general time frame. I don't have the exact
24 dates when they released the kits.

25 Q. Now, the -- you have had an opportunity to check the
26 records of the Data Bank to determine whether or not a
27 sample was tested from one Dennis Nelson, correct?

28 A. Yes, I have.

- 1 Q. And you did that at my request?
- 2 A. I did.
- 3 Q. And did -- does it indicate -- do your records
4 indicate when a sample was obtained from Mr. Nelson for
5 Data Bank purposes?
- 6 A. There was a sample collected by Mule Creek State
7 Prison in Ione on the 2nd of May of 1995.
- 8 Q. So that sample was collected while there was still
9 an RFLP Data Bank in existence, correct?
- 10 A. Yes.
- 11 Q. And basically kind of up and running, right?
- 12 A. It was actually even more or less just starting. It
13 was not that developed by 1995.
- 14 Q. All right. But -- and was that sample, Mr. Nelson's
15 sample, ever tested to determine what the RFLP markers
16 were?
- 17 A. I didn't find any records of that. It may have been
18 started in the year 2000 for some other reason, but I don't
19 have any records that we did do any RFLP typing on it.
- 20 Q. Is there any reason why a sample collected in 1995
21 would not have been started basically right away to
22 determine the RFLP profile?
- 23 A. Well, we did try to do sex registrants for the most
24 part because we knew we could not get to all of the samples
25 by RFLP, but along about 1995, 1996 we switched the cards
26 that are submitted with the kits, and we now required that
27 there be a thumb print on the card and on the tubes in the
28 collection. This sample was taken before we switched to

1 that system.

2 when we were looking at your large backlog, we also
3 had to look at another side of the backlog because we had a
4 backlog in the analysis, and we also had a backlog in
5 qualifying the offender. California's somewhat unique,
6 there was only about one or two other states in the United
7 States at the time that required us to confirm that the
8 local agencies had in fact done a proper qualification and
9 the individual was qualified to be in the database.

10 we chose, for the purposes of efficiency and
11 expediency, to look at the ones that had fingerprints
12 because we could confirm their California identification
13 numbers by the fingerprint and then go into the Automated
14 Criminal History System and identify the qualifying
15 offense.

16 Mr. Nelson has a manual record or had a manual
17 record at the time, and, therefore, we wouldn't have been
18 able to find him through that mechanism, and we would not
19 have qualified his sample. So it was not until later that
20 we actually carried out that side of the backlog.

21 Q. Okay. So Mr. Nelson -- there was never an RFLP
22 profile generated for the sample taken from Mr. Nelson,
23 correct?

24 A. Not that I'm aware of.

25 Q. Was there a STR profile generated from the sample
26 obtained from Mr. Nelson?

27 A. We started analyzing a set of samples that included
28 his specimen in September of 2000. The actual profile was

1 put into a database in the beginning of April of 2001, and
2 into the State Searchable Database on the 23rd of April,
3 2001.

4 Q. So the -- they started working on the sample in
5 2000, and it's not until April, about four or five months
6 later depending on when they started, but about four or
7 five months later that the sample actually goes into the
8 database?

9 MR. LYNCH: Objection. Misstates the testimony. I
10 thought he said September 2000.

11 THE COURT: He did say September.

12 THE WITNESS: There is another date that I skipped
13 over because the analysis of the STRs was actually
14 completed in December, but we didn't qualify the sample, is
15 my best understanding of why there would have been
16 additional delay, because we required that every sample --
17 we spent a lot of time, in fact, in that time frame
18 insuring that every specimen that we put into the database
19 was qualified before it went into the State database, and
20 so we had a several month delay there as we were making
21 sure that these records were qualified before they went in.

22 Q. (By Mr. Rose) Okay. Since I was -- actually, I
23 think I misheard you. I thought you -- I missed September
24 and went right to December, but starting -- going back.

25 You started testing or profiling that batch that
26 included Mr. Nelson's sample in September of 2000.

27 A. Yes. End of September.

28 Q. Okay. And then from September to December can you

1 tell me what is going on?

2 A. We set up an assembly line process, but in this
3 early time frame of our processing and hiring people, it
4 took us almost a year to hire a lot of our people just with
5 the State's, you know, efficiently run personnel system,
6 and at that point we also would require about a year's
7 training to really get someone -- certainly six months to
8 get someone to a place where they could do the DNA typing
9 according to the standards.

10 So we had a lot of people that could do the front
11 end of the analysis in terms of the extractions, the robot
12 (ph.), processing but when it got to the point where you'd
13 actually run it through the instrument to get the STR types
14 and you needed to do the data analysis part, we required
15 someone who had the higher level qualifications according
16 to the Technical Working Group and the Scientific Working
17 Group and the FBI Quality Assurance Standards that are in
18 place now, and we did not have as many people at the back
19 end as we did at the front end.

20 So we developed a backlog in terms of the data
21 analysis and also even more so in the technical review
22 because you want somebody that has had five or six months
23 experience to do technical reviews of the other people. So
24 all of those accounted for delays of a number of months in
25 that time frame before we could get a final result.

26 Q. As you said, the profile was finally entered into
27 the Data Bank in April of 2001; is that correct?

28 A. Yes.

1 Q. And I realize you can't tell me the exact numbers,
2 but during that period of time were you still running a
3 backlog?

4 A. Oh, yes. We did complete the analysis of the
5 samples although there was still some backlog in the
6 qualification I was telling you about. We did complete the
7 analysis of two hundred thousand by July of 2001, but we
8 had so many samples coming in that even by the end of that
9 year we had another backlog.

10 Q. So by July of 2001 you have approximately two
11 hundred thousand profiles, STR profiles, in the STR Data
12 Bank?

13 A. Yes. Not all in the Data Bank, as I indicated,
14 because we had to qualify them as well as do the typing.

15 Q. Okay. But those were typed -- you had profiles that
16 had been generated --

17 A. Correct.

18 Q. -- and they were if not in the Data Bank, they were
19 waiting for inclusion to the Data Bank after further
20 confirmation?

21 A. Yes.

22 Q. Okay. And do your records indicate when this sample
23 was submitted from the Sacramento County District
24 Attorney's Office or the District Attorney's Crime Lab?

25 A. In the incident case?

26 Q. Yes.

27 A. We have a fax from the Sacramento County DA's
28 Laboratory on the 20th of May of 2002. It's what we call a

1 Fax Search Request where they have sent us a series of
2 these STR types, and they would ask us then to do what we
3 call a keyboard search where we would actually type those
4 specific numbers or types into the -- as a profile into the
5 search routine.

6 Q. By the way, when Mr. Nelson's profile was entered
7 into the Data Bank, how many loci was a profile -- did a
8 profile consist of?

9 A. Most of the profiles in the -- in our DNA Data Bank
10 were what we call 9 Locus Profiles or the Profiler Plus.
11 We chose -- and we were -- we actually voted against the 13
12 Locus standard originally because we with didn't think we
13 needed that many to start with, and we had this requirement
14 that the Legislature established that we should have these
15 two hundred thousand analyzed.

16 So we chose to analyze all of them with the Profiler
17 Plus first, and, in fact, didn't validate the Cofiler part
18 until May of 2001. So we are only just starting to do the
19 rest of those loci, the other four, basically. There is
20 some overlapping.

21 THE COURT: So you did the nine and then?

22 THE WITNESS: Then we went back. So at the time
23 this search was made, we did make a hit to a 9 Locus
24 profile.

25 Q. (By Mr. Rose) So now you are in the process of
26 going back and looking at those other samples and adding --
27 going to a 13 Locus?

28 A. There was another backlog that developed obviously.

- 1 Q. All right. So Mr. Nelson's 9 Locus profile went in
2 in you said May of 2002; is that correct?
- 3 A. Well, he actually had -- let me see here. They
4 actually submitted a 12 Locus -- what we call a 12 Locus
5 profile plus the Sex Locus Amelogenin.
- 6 Q. That was submitted to you on May 20th, 2002?
- 7 A. That's correct.
- 8 Q. And so at that time sometime around May 2002 you
9 would have run that profile that was given to you by the
10 Sacramento County District Attorney's Crime Lab against
11 your Data Bank?
- 12 A. Yes.
- 13 Q. And was a hit made within your Data Bank?
- 14 A. Yes, there was.
- 15 Q. And what -- was that the terminology you use, a
16 "hit"?
- 17 A. Well, initially it's what we would call a candidate
18 match. Particularly in this case when one of the loci is a
19 3 allele profile, we would then look at the profile more in
20 order to carry on and determine that we would make a call
21 and report that result out.
- 22 Q. Did you get one candidate match?
- 23 A. Yes, we did.
- 24 Q. Okay. And that candidate match against the profile
25 given to you by the crime lab was that the sample of Dennis
26 Nelson?
- 27 A. Yes, it was.
- 28 Q. That was on what date?

1 A. The 20th of May of 2000.
2 Q. That was -- so --
3 A. I apologize. The fax is dated the 17th of May.
4 Q. Okay. So the fax from the Sacramento County
5 District Attorney's Crime Laboratory is dated May 17th,
6 2002; is that correct?
7 A. Yes.
8 Q. And it was entered into your Data Bank on May 20th,
9 2002?
10 A. They made the search on that date, yes.
11 Q. Okay. And on that same date is when you had a
12 candidate match?
13 A. Right. As soon as we did the search we hit someone.
14 Q. All right. And at that time do you do any
15 additional testing or confirmation prior to submitting that
16 information back to or giving a result back to the
17 Sacramento County District Attorney's Crime Lab?
18 A. That's correct. As part of our conservativeness, I
19 guess you could say, and wanting to insure that we don't
20 put out a report where there was any chance we could
21 eliminate that we might have picked the wrong sample
22 somehow; maybe when we originally processed the sample in
23 the laboratory, two samples were switched in sequence, or
24 maybe when they were loaded on to the gel, there was a
25 switching of the samples.
26 So we would go back to the original blood tube that
27 was submitted to the laboratory as well as ones on either
28 side of it and re-analyze those samples just to make doubly

1 sure there was not a mix up in our laboratory or in the
2 processing of that sample. It was only after we get that
3 result that we issue the report.

4 Q. And how long did that process take?

5 A. The report was issued on May 31st of 2002.

6 THE COURT: Sorry? May --

7 THE WITNESS: 31st of 2002. Again, I stand
8 corrected. The date of the report is May 31st in the
9 printing, but since it was technically reviewed on the 3rd
10 of June, obviously it did not leave the laboratory until
11 the 3rd of June.

12 Q. (By Mr. Rose) That is when the submitting
13 laboratory would have been notified on June 3rd, 2002?

14 A. We would probably have notified them that we had a
15 candidate match because we would have asked them some other
16 questions at the time that we made the initial match on the
17 20th, but we would not have given out the name until we did
18 the report.

19 Q. Okay. And so the name -- so even though they would
20 have been told that we had a match, and you wanted to do
21 additional confirmation that confirmed the testing, they
22 wouldn't have gotten name of Dennis Nelson until June 3rd,
23 2002?

24 A. That was our policy at the time, yes.

25 Q. Okay. And at the time that sample was run how many
26 individuals were in the Data Bank?

27 A. According to the report there were one hundred
28 eighty-four thousand individuals in the Data Bank, but I

1 would have to say that that probably is higher than the
2 number of STR profiles that were there because that
3 certainly would include a count of some RFLP profiles that
4 had not been re-analyzed just because I know we didn't have
5 that many STR profiles at that time, but the report shows
6 it was searched against one hundred eighty-four thousand
7 two hundred ninety-three felony profiles and two thousand
8 three hundred and fifty-three case worker profiles.

9 MR. ROSE: May I have a minute, Your Honor?

10 THE COURT: Yes.

11 MR. ROSE: Thank you.

12 THE WITNESS: Oh, you know, I was looking at the
13 wrong year. So one hundred eighty-four would have been
14 consistent with the number of STRs.

15 Q. (By Mr. Rose) I take it the documents you are
16 looking at span a number of years in the lab?

17 A. Yes.

18 MR. ROSE: Your Honor, I have nothing further at
19 this time.

20 THE COURT: Cross-examine.

21 MR. LYNCH: Thank you Your Honor.

22 CROSS-EXAMINATION

23 By DAVID LYNCH, Counsel on behalf of the Defense:

24 Q. Mr. Konzak, I will take you back in time a bit, I
25 guess, span your career maybe. You started off with your
26 expertise in analyzing proteins and body fluids that way?

27 A. Yes. I initially did forensic serology for the
28 Montana State Crime Lab.

1 Q. what do forensic serology tell you about body tissue
2 or body fluid?

3 A. well, of course, we could identify the nature of the
4 body fluid as whether it's semen or saliva at least in
5 general terms.

6 we initially could only do what would be called
7 secretor typing. You probably remember from that far back
8 at least in high school if nothing else.

9 THE COURT: I do.

10 THE WITNESS: And there were very common types
11 because, you know, obviously a large part of the population
12 is Type O. So on the order of about thirty-six percent of
13 the population would have the Type O secretion, and the
14 other problem we had with forensic serology was if you were
15 looking at a secretor type, you couldn't differentiate
16 between a mixture as to which component came from a male
17 and which came from a female.

18 when we went into the DNA technology, that was the
19 big jump. we were able to separate the sperm because they
20 are a little tougher from the epithelial cells which might
21 be from the female, and then we could come up with two
22 different types, but at the time we were doing conventional
23 serology, we'd only get this mixture. So if, for instance,
24 the victim was a Type A-B, you wouldn't really be able to
25 say anything about the secretor status of the offender.

26 Q. (By Mr. Lynch) And you say back when this began.
27 Are we talking back in the 1970s?

28 A. Yes.

1 Q. So in 1976 they had forensic serology, secretor
2 typing, that kind of thing?

3 A. Well, we also had isozymes. These are protein
4 markers that also have different characters of
5 polymorphisms that are distributed across the population,
6 and so we can separate and differentiate people based on
7 those.

8 In terms of semen there were only a couple of those
9 isozymes that were very useful. One of those was
10 phosphoglucomutase, and later there were techniques that
11 would separate out different, additional characters.

12 We started out with like three different isozymes
13 you could tell apart, and then we did a more refined means,
14 what they called isoelectric focusing, that would allow you
15 to differentiate more characters, but, again, we are still
16 at a relatively small number of characters, and even in the
17 most exotic typing that we did in those days where we had a
18 blood stain, and we could get more markers, we did
19 something called the blood stain analysis system, and that
20 system was designed to come up with frequency of about a
21 half a percent of the population was the nature of the
22 typing at that time, but as far as semen goes we were
23 dealing with something of maybe about fourteen percent of
24 the population, something like that.

25 Q. Okay. So you're spanning a lot of years here. So
26 I'm just going to try and track it down and pick 1976 as
27 our starting point.

28 In 1976 you could use the forensic serology typing

1 to test sperm and semen, correct?
2 A. Yes.
3 Q. Okay. And you could do blood typing from sperm and
4 semen, correct?
5 A. The ABO typing, secretor status, yeah.
6 Q. You could do the secretor status from that, correct?
7 A. Yes.
8 Q. And you could do these isozymes; is that correct?
9 A. They were certainly available. I don't know when
10 Sacramento, for instance, started using them. I wasn't
11 working down here.
12 Q. I am just talking generally?
13 A. In general they did exist, yeah. The English were
14 doing it first.
15 Q. Okay. So with that technology you are indicating
16 that with sperm, the best kind of differentiation you could
17 get would be fourteen percent of the population?
18 A. That would be the common type. Of course, if you
19 had an A-B secretor and you knew that the victim was, for
20 instance, a Type O, so you knew the A-B had to come from
21 the other source, that is about four percent of the
22 population that is an A-B secretor, and then if you had one
23 of the rarer types of PGM subtypes, then you might
24 conceivably be down in the percents or half percent or
25 something like that, but, again, you don't have a very big
26 range there that you are dealing with.
27 Q. So you can -- because you obviously don't know
28 unless and until you do that testing, you can only give us

1 a range from somewhere from half a percent through fourteen
2 percent?

3 A. That ballpark, yeah.

4 Q. As time went on did the number of forensic serology
5 tests increase so that you could get more discrimination
6 from these forensic serology tests?

7 A. Most of them were in existence although I mentioned
8 that the isoelectric focusing came on after 1976 about --
9 after that time frame.

10 Q. When did that come on?

11 A. I don't remember exactly, frankly. I'm a little
12 fuzzy back that far.

13 Q. Still --

14 A. I'm probably closer to the 1980s, I would say, when
15 it became common use.

16 Q. You talked about needing more substrate samples to
17 start with. You talked about in terms of a quarter. That
18 is sort of a typical description of the size of blood stain
19 you would need, correct?

20 A. Yeah. That would be using the blood stain analysis
21 system I mentioned.

22 Q. Okay. But you could -- that is sort of a two
23 dimensional description of how much DNA you needed. A swab
24 that was soaked in blood, a Q-Tip, for example, would have
25 enough for forensic serology testing, correct?

26 A. In most cases.

27 Q. Okay. And the same obviously if that was a swab
28 that had semen or sperm on it. That would be enough in

1 most cases, correct?

2 A. That depends more in terms of the condition of the
3 sperm. If it was taken from the vaginal vault, it depended
4 on how long after the intercourse had occurred you would
5 wait before that sample was collected. If it was more than
6 three days, for instance, you were very unlikely to get any
7 PGM subtype, but you might still get some ABO type
8 secretion.

9 Q. Assuming that we don't have a lengthy delay such as
10 seventy-two hours or more, a swab, a Q-Tip type swab, with
11 sperm and semen would be enough to do the forensic serology
12 testing?

13 A. Another caveat would be how much semen was on the
14 swab itself, of course, because if you take the swab of the
15 vaginal vault, the entire swab may contain, you know,
16 vaginal fluid; and, you know, another swab that you might
17 have taken might have had more semen on it than the first
18 swab. So it's always dependent on how much sperm basically
19 or semen is present on the sample.

20 Q. But you can't say that having a swab is going to be
21 insufficient, per se?

22 A. Not without doing the analysis.

23 Q. Okay.

24 THE COURT: What percent of the population were
25 non-secretors?

26 THE WITNESS: Well, you caught me here a little bit.
27 I think it's about twenty percent of the population, as I
28 recall. So basically if you were a Type O, you are about

1 forty percent of the population. You multiply that by
2 twenty percent to get to thirty-six percent, thereabouts.

3 Q. (By Mr. Lynch) And presumably it's not just the
4 individual type that provides the discrimination. It's the
5 fact you can, like DNA, multiply these instances and
6 provide a smaller fraction of the population?

7 A. Yeah.

8 Q. That is how you get down to half a percent?

9 A. Which actually points out to me that my mathematics
10 there would indicate it was ten percent because, obviously,
11 ten percent times forty would give you thirty-six.

12 Q. Okay.

13 A. Or nine percent.

14 Q. You talking about calculations --

15 THE COURT: The point I was making though is whether
16 you're a secretor or a non-secretor, when you have a
17 sample, the end result, you couldn't really identify a
18 particular person. You can just say if the person -- if it
19 was used just to exclude. If a person was a non-secretor
20 and you found a secretor sample, you knew it was not that
21 person because he or she was a non-secretor.

22 THE WITNESS: well, that was a very complicated
23 situation because most of your victims, of course, were
24 secretors. So if you had a non-secretor that contributed
25 to that, you really didn't know.

26 THE COURT: So my point is there was a lot of
27 uncertainty because of --

28 THE WITNESS: Oh, absolutely, Your Honor.

1 Q. (By Mr. Lynch) So is it fair to say though, sir,
2 the fact of a person not being excluded by forensic
3 serology was often introduced in court as corroborative
4 evidence that the person was in fact the person responsible
5 for providing that blood or semen sample, correct?

6 A. That they couldn't be excluded was, of course, the
7 sort of thing I testified to back then.

8 Q. Okay.

9 THE COURT: That was the whole point of the
10 testimony.

11 THE WITNESS: Yes, sir.

12 Q. (By Mr. Lynch) You testified that that was
13 reasonably strong evidence that the person is consistent
14 with being the donor?

15 A. Actually, we didn't testify that it was reasonably
16 strong evidence. We didn't start using those types of
17 terms until we got into the DNA.

18 Q. Speaking of DNA, we will start with RFLP, seeing's
19 how that was the first kind of testing. You talked about
20 that idea being put forward in 1984; is that correct?

21 A. With Dr. Jefferies, yes.

22 Q. When was the first successful forensic RFLP testing
23 performed -- not talking about the presentation in court
24 but the testing?

25 A. 1984.

26 Q. Okay.

27 A. Doctor Jefferies used it at the request of the
28 English Police.

1 Q. That was the famous case where they went around the
2 local countryside getting voluntary samples until they
3 found the match?

4 A. The Bleeding, as I mentioned, yes.

5 Q. At that point in time what was the discriminating
6 power of RFLP?

7 A. Well, initially -- that would be a very hard
8 question to answer because he used a technique that we
9 never did implement in the United States. It was called a
10 multi-locus probing, and they did some interesting types of
11 statistics where they would look at a profile, and they
12 would count the number of bands, and they would say, well,
13 what is the likelihood that you would see this, you know,
14 band in this place without actually associating it with a
15 specific Gene or Locus on the DNA. So we never adopted
16 that in the United States as a forensic laboratory
17 community.

18 we waited or we worked on single locus probes, and
19 that is why it took so long to do the RFLP. You could do
20 this multi-locus thing in a matter of weeks, a couple of
21 weeks, but if you were to do these individually, it would
22 take about a week to get each probe off. The first two
23 weeks would be really developing the -- extracting the DNA
24 and developing the membrane. Then you have weeks after
25 that to get each of the probes that you would do off.

26 Q. Okay. So the question is basically what kind of
27 discrimination was being presented by the forensic service,
28 science service, in England at that time as to the

1 significance of a DNA match with RFLP?

2 A. well, '84 would not be a time frame when you really
3 want to talk about it because it was literally just being
4 developed and the English were not even running it, but
5 when you get into like 1988 and 1989, you are talking about
6 a time frame when we were introducing these single locus
7 probes and doing those types of analyses.

8 RFLP certainly was presented as providing profiles
9 that would be in the millions in terms of the population;
10 one in a million that we could contribute or more, but in
11 actuality it was essentially an individualizing technique
12 as well. It was just that we were very conservative in
13 terms of our ability to differentiate the profiles.

14 In our laboratory if we analyzed six different loci,
15 and sometimes when someone would question the statistics,
16 we would actually analyze as many as twelve, and, of
17 course, we never excluded anybody that we had already
18 included with the, you know, four or six loci.

19 Q. But I guess my question is I know the United States
20 did not adopt the multi-locus probe, but back in 1984 when
21 the British were doing it, they were presumably attaching
22 some kind of statistical significance to the matches they
23 were getting, and back in 1984 when they were doing that,
24 what ballpark, what general discrimination value were they
25 getting? were they getting the random match probabilities
26 of one in millions also?

27 A. I don't actually recall the numbers that
28 Dr. Jefferies came up with, but even in 1984 the English

1 Police were not running that. That was only Dr. Jefferies'
2 initial work with it. It was not until at least two or
3 three years later that the Forensic Science Services even
4 looked at it enough to release it, at least in my
5 recollection, but it would certainly be in the tens of
6 thousands or more and could well have been in the millions
7 depending on how they did their calculations.

8 Q. Now, RFLP in the United States when would you say
9 that first came on line, not in Sacramento, not necessarily
10 in your unit, but in terms of a criminal law enforcement
11 agency using RFLP to determine identity or exclude
12 somebody?

13 A. I think the FBI was actually the first public
14 service laboratory to use the standard technique that we
15 use in the Data Bank.

16 Q. I'm talking about any RFLP to identify somebody.

17 A. Well, it was only probably about a year before that,
18 at the most, that, say, Virginia or New York or some of
19 these smaller agencies actually tried some RFLP technology.

20 Q. So the year before that, but we still don't have a
21 year.

22 A. 1988, 1999.

23 Q. Okay. I am sorry. Maybe I caused the ambiguity.
24 Are you saying the year before 1988, 1989?

25 A. No. The year before 1989. So it would be 1988.

26 Q. So in 1988 you are saying that some small state labs
27 in New York and Virginia and the FBI were using RFLP to
28 identify or exclude?

- 1 A. I don't believe the FBI started until 1989.
- 2 Q. Okay. In 1988 there were two state agencies then?
- 3 A. There were several, yes.
- 4 Q. They were getting the -- what you consider to be
5 identifications, distinguishing enough to be virtually
6 identifications?
- 7 A. Not initially because they weren't running enough
8 probes, and they were running different -- they were
9 looking at different loci and doing it differently than we
10 have subsequently did with the restriction enzymes and the
11 particular membranes that -- the electrophoresis we ran and
12 so on. All those things changed somewhat in that time
13 frame, but certainly they were getting numbers in the
14 millions, you know, from their calculations. I don't
15 remember the exact numbers, but, you know, for instance, in
16 Castro and some of those cases in the early days.
- 17 Q. They were getting numbers and random match
18 probabilities of one in millions, and you just improved
19 upon that by doing more loci?
- 20 A. Yes.
- 21 Q. When did -- would it be fair to say then as of 1989
22 RFLP technology was up and running?
- 23 A. It was available in a limited number of labs. We
24 didn't actually start doing case work in California until
25 1992.
- 26 Q. So it took another two or three years before
27 California began doing RFLP testing in criminal cases?
- 28 A. I started working for the State in 1988 doing some

1 developmental work with Dr. Sensabaugh, and we started to
2 form the laboratory, literally buying pencils and The desks
3 and all that in August of 1989, and it took us that time
4 frame until 1992 to do the extensive types of validation
5 that the California Courts would require as well as to
6 train all our people to the appropriate levels and buy the
7 equipment and so on.

8 Q. So really the delay from 1989 to 1992 would be sort
9 of set up time, start up time?

10 A. Yes.

11 Q. Because previous to that there was not an agency in
12 California that was assigned to work on DNA testing?

13 A. Not at a State level, no.

14 Q. What about local labs? Were local labs in
15 California up and running for RFLP before 1992?

16 A. I don't recall exactly when Orange County started,
17 but they did start before us, maybe a year or less. I
18 don't know. I don't recall anyway, but they did sort of
19 lord over us the fact they started first.

20 Q. That could have been 1990 then?

21 A. Oh, no. It would have been 1991, maybe -- at least
22 to my recollection.

23 Q. Any other counties?

24 A. Not that I can recall.

25 Q. Okay. And that was, again, I am going back to the
26 nickle, dime, quarter analogy. At that point in time RFLP
27 needed, in terms of a blood spot on a piece of cloth, about
28 the size of a dime, correct?

1 A. That would be sufficient, yes.
2 Q. Okay.
3 A. To be sure to get a result with that.
4 Q. So, again, a swab with sperm or semen on it, Q-Tip
5 type swab, assuming there is enough on it, would be enough?
6 A. Very much in particular in terms of, you know, DNA
7 typing you are very dependent on the number of cells that
8 have DNA. So just having semen on a swab -- for instance,
9 you can have somebody who was aspermatic, and you would get
10 very little DNA off your swab. So it really depended on
11 the number of sperm that were present on the swab, and you
12 needed something on the order of a thousand sperm probably.
13 Q. How many nanograms are we talking about in terms of
14 DNA would you need for RFLP?
15 A. You know, it's been so long since I did it. You
16 know, I would have to go back and look at the protocol
17 again, but certainly it would have been a hundred times
18 what we do now. So probably -- I guess it was about -- I
19 think we used about five -- you know, two to five
20 nanograms. So it was probably about a hundred, two hundred
21 nanograms, somewhere around there.
22 Q. When did polymarker and DQ alpha become available as
23 test kits? That is a commercial kit, correct?
24 A. They were commercial kits. Let me just see if I
25 can --
26 Q. While you are looking that up, you can confirm that
27 these were PCR based tests in that the DNA was amplified by
28 a method called PCR before it subjected to this commercial

1 kit?

2 A. Yes.

3 Q. So we are talking about the quantities of a pinhead
4 now as necessary to do this kind of testing?

5 A. We generally would look for a little bit more back
6 then just because of the techniques we were using for the
7 extraction, but it was possible to type very small amounts,
8 certainly much smaller than we did with the RFLP, about a
9 hundred times smaller.

10 Q. So you're talking about one to two nanograms would
11 be enough?

12 A. Yes. We were looking for at least a hundred sperm
13 basically.

14 Q. Did you ever find out when DQ alpha became available
15 commercially as a test kit?

16 A. I believe Kerry Mullis about 1984 or 1985 did the
17 original invention of PCR, and, as I recall, Ed Blake was
18 working with the company back then, about 1986, but it was
19 not actually released until about 1991, I think, as a
20 commercial kit.

21 we started doing DQ alpha typing at the same time we
22 did open the laboratory in 1992. We were one of the first
23 laboratories that -- in the United States, actually, to do
24 it -- do it in any kind of quantity as a public service
25 laboratory.

26 Q. This was -- sorry. Were you done?

27 A. Yes.

28 Q. This was a commercial kit. So it's fair to say that

1 the company that put out this product had done the
2 validation before they launched it on the market, correct?

3 A. They did and we did also by 1992.

4 Q. Okay. And so by 1992 not only was the kit
5 available, but you were actively using DQ alpha and
6 polymarker as a DNA testing kit?

7 A. Polymarker did not come along until about 1994.

8 Q. All right. So in 1992 you were using DQ alpha, and
9 what kind of discrimination were you getting with the DQ
10 alpha kit?

11 A. Just the power of discriminate, maybe somewhere on
12 the order of one in twenty, something like that.

13 Q. Not very powerful then?

14 A. No.

15 Q. what if you add in polymarker?

16 A. You get about one to three in four thousand,
17 something like that.

18 Q. So polymarker became available -- excuse me.

19 Polymarker on top of DQ alpha, combined kit, became
20 available when?

21 A. Sometime in 1994 is my recollection.

22 Q. That would get you discrimination in the order of
23 random match probabilities one in several thousands?

24 A. Yes. The DQ alpha is actually one of the loci end.
25 Polymarker is literally named because there is more than
26 one marker, poly being more than one, and DQ alpha was one
27 of the polymarker loci.

28 Q. So would it be fair to say in 1994 you had a pretty

1 discriminating test with polymarker?

2 A. It wasn't -- as I mentioned earlier, it was not
3 suitable for doing a nationwide or even a statewide Data
4 Bank. We did make some attempts to keep track of, you
5 know, profiles from suspects and so on to see if we could
6 match those to other cases, but we were very unsuccessful
7 at making any associations. In fact, I don't think we made
8 any what you would call cold hits that way.

9 You really needed to have a group of subjects that
10 you were concerned about, and you wanted to sample them and
11 then eliminate them or include them.

12 Q. Okay. So as far as you are concerned the DQ alpha
13 polymarker kit was not good for database purposes but fine
14 for one-on-one or one-on-ten kind of comparisons?

15 A. Yes. It was certainly an improvement over the
16 forensic serology that we had prior to that in terms of
17 looking at semen and semen\vaginal mixtures.

18 Q. And when people were testifying about matches with
19 DQ alpha polymarker kits, they were talking in terms of
20 this is strong evidence that the person is the donor of the
21 questioned evidence, correct?

22 A. I don't know what other people were saying, but we
23 certainly did not say that again until we did the RFLP
24 analysis.

25 Q. Okay.

26 A. The terminology actually came from a defense expert
27 who was trying to say that, you know, three loci weren't
28 enough in RFLP, but if you had five or six, he would

1 consider that strong evidence, and so we started using six
2 loci and said it was strong evidence.

3 Q. It wasn't necessarily just because of the loci. We
4 are talking because of the random match probabilities --

5 A. Yes. Because we knew they were highly
6 discriminating systems.

7 Q. STRs, when did the kits for STR testing come out,
8 the first ones?

9 A. STR loci were looked at probably as early as maybe
10 1994 or thereabouts. They used to call them originally
11 ampflps or amplified length polymorphisms, and there were a
12 number of loci that were looked at that we don't use today
13 for a variety of reasons.

14 So there was a lot of developmental work that went
15 on for many years, and there were a lot of systems that the
16 bulk of the community decided not to use, but the -- around
17 this 1996, 1997 time frame we started to see multiplexes
18 that were interesting enough that we had validation studies
19 going through SWGDAM and CODIS to look at whether they
20 would be suitable and which ones would be the most useful
21 for these core loci I talked about.

22 Q. The bluekit was one of the kits --

23 A. Yes.

24 Q. -- that was put out by Applied Biosystems?

25 A. Yes, it was.

26 Q. When did that come out?

27 A. I don't -- you know, I didn't look that up, and I
28 don't recall exactly, but it certainly would have been, you

1 know, the 1996 time frame, maybe 1995.

2 Q. Okay. And that was a multiplex kit?

3 A. It was a three locus kit, yes.

4 Q. Okay. And that could be used in conjunction with
5 other DNA testing, correct?

6 A. Well, of course, when you have to do
7 multi-amplifications; for instance, if you were to use a
8 polymarker kit or you were to try do another length
9 polymorphism we had in 1995, D1S80, each of those was a
10 separate amplification, and you would need the same, you
11 know, half a nanogram or whatever to analyze to get enough
12 material to get the typing result. So each time you would
13 need more DNA. So you had to have relatively more DNA to
14 get into each of these.

15 That was one of these reasons we went to these
16 multiplexes because we wanted to type a small amount of DNA
17 and get six to nine loci at the same time.

18 Q. And that first decent multiplex was Profiler Plus,
19 correct?

20 A. I don't know about decent and by that I don't mean
21 that Profiler Plus is not decent, but there were other
22 multiplexes, Profiler itself, before there was a Profiler
23 Plus, was something we were validating at the time the
24 CODIS group decided they would rather use, you know,
25 Profiler Plus. So we actually completed the validation for
26 the Data Bank at the point, and so we switched over to
27 validating Profiler Plus and eventually Cofiler as the
28 standards that we would use.

- 1 Q. When was Profiler available as a commercial kit?
- 2 A. Well, it certainly would have been in 1997. I don't
3 recall when it was first available, somewhere in that time
4 frame.
- 5 Q. What about Profiler Plus?
- 6 A. It wasn't actually released that I recall until the
7 beginning of 1998 because it was a modification of their
8 original Profiler kit. It was not a hard one for them to
9 do, but it did take time to put together commercially.
- 10 Q. How many loci in Profiler?
- 11 A. Profiler had anyone but three of the loci were very
12 low discrimination power, and so they switched the -- what
13 they call Green 2 in for Green 1. So they switched three
14 other loci that were more discriminating into the mix and
15 therefore came up with Profiler Plus.
- 16 Q. As far as the 1997 Profiler kit was concerned, nine
17 loci would give you one in millions or even more
18 discriminating power, correct?
- 19 A. Yeah. I don't recall the exact numbers. Again, I
20 didn't look that up for the testimony.
- 21 Q. But that is a good estimate for Profiler?
- 22 A. In that range, yes.
- 23 Q. Because Profiler Plus gives you estimates of one in
24 billions or trillions, correct?
- 25 A. It be can be that high, yes.
- 26 Q. Customarily it's in the billions or trillions?
- 27 A. Very likely to be in the billions.
- 28 Q. In the billions?

1 A. In the billions, yes.

2 Q. So you say in November of 1997 was when the

3 Department of Justice of California decided to use the STR

4 multiplex?

5 A. That is when the whole community agreed to it, yes.

6 Q. Okay. Prior to that, though, you did have a RFLP

7 database going; is that correct?

8 A. We had, in fact, I think you mentioned using the

9 blue kit. We actually validated it as well and started to

10 use it in early 1997.

11 Q. But the RFLP database was up and running as of about

12 1991, 1992, correct?

13 A. We had started to profile for it in 1991 and 1992,

14 yes.

15 Q. When did it first become searchable as a database?

16 A. My recollection doesn't go back quite that far as to

17 when we actually started using the CODIS software.

18 Certainly we were able to do a search, but it wouldn't have

19 been the kind of searches we do today because the software

20 didn't exist.

21 I would have to just give you a general sense that

22 it was probably around 1994 before we had a significant,

23 you know, database tool that -- of the same type that we

24 have these days.

25 Q. Okay. So by 1994 you had an RFLP database that you

26 could search, and you indicated you couldn't search it like

27 you search the STR database.

28 What was the limitation on searching? I mean, that

1 is what it was designed to do, right?

2 A. well, all I mean is we developed these higher
3 powered databases in those early years. You know, I was
4 anticipating what the -- TWGDAM at the time, subcommittees,
5 really, unfortunately, I would have to go back and review
6 the history. I don't recall the dates well enough to give
7 you a very good answer in that time frame, but certainly we
8 were looking at database tools in 1992 and 1994.

9 we did have abilities to do things like spreadsheet
10 type comparisons which wouldn't have the same search
11 capabilities, and maybe this is to the gist of your
12 question. With a tool like Excel, for instance, you can do
13 a search where you look to see that everything is an exact
14 match. You have the exact same numbers or within a very
15 narrow range.

16 RFLP was a technique where you had to assume a
17 certain amount of variability in the molecular weight of
18 the fragments that you saw. If you ran it a series of
19 times, you might see, you know, a two and-a-half percent
20 variations in the molecular weight size. So you had to
21 account for that when you did the searches so that you
22 would not exclude something that would otherwise
23 potentially match.

24 Q. Okay. But the RFLP technology accommodated for that
25 by having what were called match windows, correct?

26 A. Yes. But you had to develop those and put those
27 into a database tool in order to use that.

28 Q. I am assuming though when you were entering profiles

1 in your database, your RFLP database, that you were putting
2 in information that would allow you to compare things that
3 were within the match window if not exact?

4 A. Actually, the way the data was entered into the
5 database is we had imaging programs that would extrapolate
6 the size of the fragments that you saw on your
7 autoradiographs against a ladder of known molecular weight
8 sizes, and it would actually put a single number into the
9 database just like we do now. It was a longer number, four
10 or five digits potentially, because, you know, as we
11 mentioned earlier it could have ten thousand, twenty
12 thousand base pair fragment. So that number, say, nineteen
13 thousand four hundred and thirty-seven, would go into the
14 database, and then when you developed a query tool or
15 database search routine, that is when you would include the
16 ranges within that search tool would know that you allowed
17 certain ranges to exist when you made the match.

18 Q. Okay. And presumably you were setting up the CODIS
19 RFLP database in order to do searches, correct?

20 A. Yes.

21 Q. So there was a tool that could do searches, correct?

22 A. Again, I don't recall exactly when the CODIS
23 software was released. It certainly was in the early days
24 of, you know, our coming on line in 1992, 1994 time frame.

25 Q. Okay. So definitely by 1995 you would have been
26 able to do searches?

27 A. Oh, yes. Certainly in 1994 I think even.

28 THE COURT: Counsel, let me stop you there. We'll

1 take our afternoon recess. Take a recess for twenty
2 minutes by the courtroom clock.

3 MR. LYNCH: Okay. Thank you, Your Honor.

4 (Recess taken)

5 THE COURT: Back on the record. Both counsel and
6 the defendant are present.

7 Mr. Lynch, if you would like to continue your
8 examination of the witness.

9 MR. LYNCH: Thank you, Your Honor.

10 Q. (By Mr. Lynch) Mr. Konzak, I'm not quite sure
11 looking at my notes whether it was 1997 or 1999 that you
12 said that Profiler and the Profiler Plus kits were
13 available?

14 A. The Profiler kits, we were certainly looking at them
15 in 1997, validating them, and Profiler Plus I believe came
16 out in early 1998.

17 Q. So it was available in 1997. You weren't just
18 necessarily using it at that time?

19 A. We were validating it, the Profiler kit, before we
20 switched our focus to the Profiler Plus kit.

21 Q. Your testimony I believe was that it was in late
22 1998 to early 1999 when you actually got the database
23 started; is that correct?

24 A. The STR database, yes.

25 Q. And that database was in fact using Profiler Plus
26 then?

27 A. Yes.

28 Q. When we talk about late 1998 early 1999, are we

1 talking about a searchable database here, or are we still
2 talking about just getting started?

3 A. No. By that time, even in the end of 1997, we
4 already had databases to store the STR data. It was the
5 same database we were using for RFLP, just a slight
6 modification.

7 Q. When was first database search possible with STR
8 information?

9 A. I am sure we did at least some -- I shouldn't say
10 that. We didn't do STR typing in cases until later than
11 that. I don't know that we got any profiles from any other
12 labs to search. I would actually have to look at when the
13 national database started up. I can't recall off the top
14 of my head.

15 Q. So you don't know when your first -- your STR
16 database first became searchable?

17 A. I would say early 1998, as far as when somebody
18 would give us a profile, and we would search it against the
19 database. Part of the problem was we had a database before
20 we had people doing STRs on cases to submit to searches.

21 Q. You talked about a backlog that was beginning about
22 the time that you were creating the database. Even when
23 you first started, did you have a backlog?

24 A. Yes. Because we had on the order of nearly a
25 hundred thousand specimens because we had forty that we had
26 analyzed by RFLP, and then we had more that we had received
27 that were generally violent offenders, and we had
28 originally focused the RFLP work because we had limited

1 resources and personnel and time on, generally speaking,
2 the sex offenders, and then we had to look at these other
3 violent offenders that we had also subsequently started to
4 have submitted to us as the law changed.

5 Q. Okay. When did you start receiving violent
6 offenders in addition to sex offenders?

7 A. Let me refresh my memory on this.

8 Q. First, tell me when the law changed, and then let me
9 know when you started actually receiving those?

10 A. Would have been in 1998.

11 Q. Both of those things?

12 A. Yeah.

13 Q. Okay.

14 A. We received them very quickly after it passed.

15 Q. Okay. Prior to that you had only been testing sex
16 offenders, correct?

17 A. Yes.

18 Q. And you could have chosen to prioritize and still go
19 through that backlog and enter the sex offenders, first,
20 correct?

21 A. I am not sure I understand your question.

22 Q. Well, when you started getting violent offenders in
23 addition to sex offenders, one of your decisions could have
24 been to prioritize sex offenders, and then work your way
25 through the violent offenders once you were done with the
26 sex offenders?

27 A. Well, that is essentially what our initial strategy
28 was from the standpoint of RFLP. When we switched to the

1 STRs, we pretty much just analyzed samples as a group. We
2 didn't differentiate at that time.

3 Q. What was the cause for discontinuing a priority for
4 sex offenders as far as sampling and sending it to the
5 database?

6 A. It was mostly an efficiency aspect because trying to
7 separate out or prioritize them was more complicated. When
8 you have, you know, an assembly line process, it's much
9 easier to take first in, first out kind of thing. As we
10 received them, we would process them or at least as we --
11 in that sequence that we received them in, it was easier to
12 process them in order, more or less, rather than pulling
13 something out from another box and combining different
14 samples from different submissions.

15 Q. But qualifying offense information was information
16 that was provided with each sample. So at least it was
17 feasible to sort them into two piles, as it were, sexual
18 offenses and non-sexual offenses?

19 A. It would have probably taken us twice as long.

20 Q. You think the whole process would have taken twice
21 as long because you have to do a prescreen for sexual and
22 non-sexual?

23 A. Because of the time it would take because we would
24 not have just prescreened. We would have also tried to
25 confirm the qualifying offense at the time. So it would
26 have taken us a considerable amount of period of time to do
27 that, and so we decided not to do that approach.

28 Q. I understand it would take some time to do the

1 sampling, but say you can do twenty thousand samples in a
2 month, and that is just a hypothetical. You could choose
3 to do just them as they come in and do twenty thousand.

4 Are you telling me if you chose to do only sex
5 offenders, you wouldn't still be able to do twenty thousand
6 samples?

7 A. No, we wouldn't have.

8 Q. How much of your resources would have been required
9 to do that initial prescreen? As the sample comes in the
10 person who is opening the UPS box or whatever could look at
11 the qualifying offense and put it into one of two channels,
12 fast track or slow track?

13 I don't understand why that would impact the number
14 of samples you could have entered into the database?

15 A. Well, maybe it was the system that we designed, but
16 that wasn't the way that we designed the approach. We
17 would have had to pull them out later on in the process.

18 For one thing, our backlog was already there. So we
19 were not working on something that came in today. We were
20 working on things that came in a year or two years earlier.
21 So we would have had to select those samples from different
22 boxes in order to get them -- you know, a rack of
23 eighty-four samples, which is the group we sent them in,
24 and we weren't really interested in running the ones that
25 just arrived. We were interested in going back, to some
26 extent, to the backlog. We didn't go all the way back to
27 the original submissions but to the place where we could
28 easily qualify offenders, we went back that far.

1 Q. You were going and taking boxes out of storage and
2 basically trying to run them through the system, correct?

3 A. They were already stored in groups of eighty-four.

4 Q. Okay. So one extra step in taking that box out and
5 sorting it into we are going to test these right away and
6 we are going to put these back in storage would have been
7 an option, correct, or take the sex offenders out and put
8 the --

9 A. It would have been option. We chose not to take
10 that.

11 Q. I understand that. I am just not quite sure I
12 understand why that would have any significant impact on
13 the number of samples you could input annually. I mean, a
14 my nor impact, but not a major?

15 A. I just have to disagree because we found by
16 experience that it took considerably longer for us to
17 process them if we tried to do what we call pull lists
18 where we would identify sets of samples that we wanted to
19 try to analyze. It took us considerably longer to set up
20 the runs and to get those samples run to make sure we
21 didn't miss a sample in the set and so on.

22 Some of the samples at the time, for instance, were
23 in different tube sizes. So there were lots of different
24 factors that entered into it that complicated the process.
25 So it would have taken us considerably more time to do it
26 had we not just processed them as groups.

27 Q. Well, I am assuming one of the steps after you take
28 the box out of storage is to have somebody look and check

1 that the offense is in fact a qualifying offense, correct?

2 A. That is a longer process than you might think
3 because that is a very complicated rules and you can't
4 just, you know, train somebody in an afternoon or something
5 to pick up on that. We had a relatively small group of
6 people. We had four or five people, you know, that would
7 look at qualifying offenses and that were familiar with
8 those as we have talked before.

9 Q. Okay. But somebody was already doing that.
10 Somebody was already trained and somebody was looking at
11 qualifying offenses; checking that it was not a misdemeanor
12 as opposed to a felony. Checking that it was a qualifying
13 felony as opposed to a non-qualifying felony, correct?

14 A. We were primarily looking at ones that basically had
15 been analyzed as much as possible, but, yes. We were
16 looking at these.

17 Q. Okay. So presumably that person could very easily
18 have been asked to flag and set aside the ones that
19 although they were qualifying offenses, were not sexual
20 offenses?

21 A. We could have done it that way.

22 Q. And you think that that would have had an impact
23 significant enough to change the amount of samples you
24 would through put by more than five percent?

25 A. Yes.

26 Q. I mean, how many percent do you think it would have
27 an impact?

28 A. It would be very hard to say without doing it, but

1 it certainly would have affected us at least twenty, thirty
2 percent, yeah.

3 Q. Even though that is only one small step in the whole
4 scheme of things?

5 A. The process is more complicated than you make it.

6 Q. One of the things you mentioned before was that when
7 you had these databases up and running, that if a lab
8 called you, I think you referred to them -- strike that.

9 You indicated that if a lab told you that they were
10 interested in a particular individual, you could put that
11 person to the top of the list essentially; correct?

12 A. Yes. We did that, and we have done that all along.

13 Q. Okay. And both for the RFLP and STR databases?

14 A. A little bit lesser extent. We didn't have as many
15 requests in the RFLP days as we do now, but, yes.

16 Q. So, hypothetically, if somebody said we want you to
17 run a search. I don't know if John Smith from down the
18 street is in this database yet. Could you make sure he is
19 in there before you run the search. You could pull that
20 sample, get that person analyzed and in the database before
21 you ran the search?

22 A. Well, not necessarily before we ran the initial
23 search because they might have a profile already before we
24 finished ours, but we would certainly prioritize and sample
25 if they asked us to.

26 Q. And putting that to the top of the list would mean
27 that would get to the database within a matter of weeks or
28 a couple of months as opposed to potentially years and

1 years?

2 A. At that point in time, yes.

3 Q. Are you caught up right now?

4 A. No.

5 Q. The same thing could happen right now then. You
6 could -- a lab could request somebody moves to the top of
7 the list?

8 A. Yes.

9 Q. You said something I didn't quite understand, and
10 maybe it does not have any relevance to this proceeding,
11 but you said you were asked to modify the kits -- no. You
12 asked the manufacturers to modify the kits in November of
13 1997 or early 1998. What was that about?

14 A. I think we were talking about the fact that there
15 were three different triplexes that were part of Profiler
16 kit, and we asked them to remove one of those multiplexes
17 and substitute another one so that we would get one kit
18 that had a higher discrimination power --

19 Q. You basically --

20 A. -- than the Profiler Plus.

21 When I say "we", I meant as a community rather than
22 me personally or the DNA laboratory in particular. The
23 other examples were loci that were at that time owned by
24 Promega that were parts of their Powerplex kit that we
25 asked ABI to add to what became Cofiler, and, conversely,
26 things that were part of the group of loci that ABI had, we
27 asked Promega to put into what became Powerplex 2 or
28 Powerplex 1.2. I don't remember their nomenclature

1 exactly.

2 Q. Basically that was just a request for them to
3 produce cofiling in essence?

4 A. In terms of ABI as well as the Profiler Plus.

5 Q. So that request was partially behind the change from
6 Profiler to Profiler Plus?

7 A. Yes.

8 Q. Now, you indicated that Mr. Nelson's blood was
9 provided to you from a blood draw from May 2nd of 1995 at
10 Mule Creek. Do you have any record when the Department of
11 Justice received that sample?

12 A. May 3rd.

13 Q. of 1995?

14 A. That's correct.

15 Q. And the RFLP database at that point in time was up
16 and running in the sense that it was a database that had
17 thousands of samples in it, and you could do searches,
18 correct?

19 A. Yes.

20 Q. You have no record of whether or not RFLP testing
21 was done or whether Mr. Nelson's blood profile --

22 A. I don't believe it was. I don't have any records
23 showing that we did run RFLP on his specimen.

24 Q. Can you say for certain that he wasn't put in the
25 RFLP database?

26 A. It's not listed in the database that we track -- the
27 preparation of the racks, near as I can tell, it would not
28 have been processed for RFLP.

1 Q. So you are confident but not certain that it wasn't
2 in the database?

3 A. Basically. Well, I didn't check to look to see if
4 it could have been in the database, but we looked to see if
5 it had been started basically, and we didn't see any record
6 of that.

7 Q. That was pre-backlog days, right, back in 1995?

8 A. We always had a backlog.

9 Q. Not a huge one?

10 A. It was a question of how huge it was. It was -- it
11 appeared larger in the RFLP at least because it took us
12 longer to analyze a sample. So a smaller number of samples
13 would be a larger backlog in terms of when we could get
14 them done.

15 Q. Do you have any indication whether it was because of
16 that backlog that Mr. Nelson's sample was not RFLP tested
17 and put in the database then?

18 A. I am certain it was because of the backlog.

19 Q. You don't know -- strike that.

20 was there any way of prioritizing which of the
21 samples were coming in in May of 1995 as to who would get
22 to the top of the list.

23 A. As I said, we did make some attempts earlier on to
24 do pull lists where we would try to take samples that were
25 from more serious sex offenses and so on because we were
26 more likely to have profiles from sexual assault type
27 crimes because the semen typing by RFLP was the most, you
28 know, effective tool we had for those types of crimes, but

1 at that time I think we had already come to the conclusion
2 that we had such a backlog that we were not necessarily
3 taking samples that came in at that point in time and
4 prioritizing them just because of their qualifying offense.

5 Q. Is it fair to say when you were prioritizing by
6 qualifying offense, a felony would be higher up the list
7 than a misdemeanor?

8 A. We didn't ever -- at that point in time misdemeanors
9 didn't qualify.

10 Q. Okay. A rape would be more serious and higher up
11 the list than a simple sexual battery?

12 A. Something of that nature, but, you know, obviously
13 it was not something we advertised a lot about what crime
14 is more serious than another. It gets into a lot of
15 emotional issues.

16 Q. Okay. But for purposes of this hearing it would be
17 reasonable to say that a rape would be --

18 A. Well, a rape\homicide, for instance, might be
19 something we put up higher than -- I don't know what the
20 charge would be, a felony Peeping Tom, or whatever.

21 At that point in time also we had a program going
22 called the Sexual Habitual Offender Program, and we had
23 worked with them or shop, and we worked with them to
24 analyze cases that they were interested in, and also they
25 had ranked certain offenders. So we actually tried to
26 identify people in the Bay Area, because that is where
27 program started as a pilot. We were looking to make, you
28 know, a hit as quickly as possible. So we would have a

1 smaller population from their identified individuals who
2 committed larger amounts of crime than other individuals in
3 the population there, and we would try to run them as well
4 as cases from the same area, but, of course, Mr. Nelson did
5 not fall into that group.

6 Q. Now, with the STR database you indicated there was
7 some confusion over the date. You started working on
8 entering profiles in September of 2000; is that correct?

9 A. I am not sure -- in the terms of Mr. Nelson's
10 sample?

11 Q. I understood the testimony to be relating to the STR
12 database in general.

13 A. No. Of course, we were validating different systems
14 back in 1997. So we actually were typing samples. We just
15 had a small volume that we were doing in the end of 1997.
16 We started a higher volume in to 1998 and 1999. I think in
17 the fall of 1999 was when we started up -- let me check my
18 note on that.

19 Q. That's all right because you were doing your first
20 database searches in early 1998?

21 A. Yeah.

22 Q. So it was the September 2000 date relates to when
23 Mr. Nelson's sample was pulled from the freezer, as it
24 were?

25 A. That's correct.

26 Q. And start down the process?

27 A. Refrigerator, actually, but, yes.

28 Q. And the explanation for the time from May 3rd, 1995

1 to September 2000 was basically the backlog?

2 A. Yes.

3 Q. Okay. And, obviously, if you had increased funding
4 and had more machines and more staff and better training,
5 that backlog would have had less effect in terms of how
6 long it would have taken to get to Mr. Nelson, correct?

7 A. Yes. And as I indicated there were two backlogs.
8 There was a backlog in terms of the scientific analysis or
9 typing and a backlog in terms of the qualifications of the
10 offenders, and both of those backlogs required different
11 skills and different people to do them, and we didn't have
12 enough resources in either case to get through all of the
13 backlog until we got funding in 1999 to complete the two
14 hundred thousand by July of 2001.

15 Q. And I believe that was legislative-created funding
16 in order to reduce the backlog, correct?

17 A. It was a budget change proposal, yeah.

18 Q. And presumably common sense tells us if you had that
19 funding five years earlier, you would have been further
20 along in the game as far as Mr. Nelson and all of the
21 others in the backlog?

22 A. Well, actually, because the STRs weren't around, you
23 know, in 1995 --

24 Q. Okay.

25 A. -- you know, we wouldn't have been farther along
26 until you know STRs came on the scene, but if we had
27 resources at the beginning of the STR revolution, so to
28 speak, then we would have been farther along, yes.

1 Q. Okay.

2 A. One of the natures of Government is you have to have
3 a little bit of a crisis before they will fund you.

4 THE COURT: It is also fair to say, in fairness to
5 the Government, they didn't understand the significance of
6 the change in the scientific community.

7 THE WITNESS: No. We had to make our case.

8 THE COURT: Right.

9 THE WITNESS: And, obviously, we were able to make
10 that by the time we got it. We weren't making very many
11 hits in the early years with the RFLP that you can see if
12 you look at our hit statistics that there is a big jump in
13 those statistics along about the year 2001. We have
14 twenty-three hits prior to 2001, and in 2001 we make
15 ninety-one or, excuse me, fifty-one and a hundred and
16 forty-eight in 2002. So, you know, when we get STR on
17 line, things really start to jump.

18 THE COURT: And then you can go back to the
19 Legislature and justify --

20 THE WITNESS: Right.

21 THE COURT: All right.

22 Q. (By Mr. Lynch) You talked, I believe, in direct
23 examination that it was, quote, your best understanding of
24 the delay that it was due to the backlog. Is it fair to
25 say you can't be sure particularly whether there were other
26 factors that caused Mr. Nelson's sample to be so delayed?

27 A. His sample was not differentiated from any other
28 except for the factors I mentioned, that I can tell from

1 the records; that he had a manual criminal history record.
2 I didn't have a fingerprint on him. It was taken prior to
3 when we, you know, collected fingerprints.

4 It didn't need analyze by RFLP so it wouldn't have
5 already been sort of identified in the processing for
6 re-analysis. So there -- other than being in the general
7 backlog, we had no -- not differentiated it from any other
8 sample that was in the backlog.

9 Q. Okay. You talked about not having a fingerprint.
10 Does that mean it was set aside and put into a different
11 track, as it were, to those that you did have fingerprints
12 on?

13 A. I don't know that set aside is a good word except
14 that we were able to more quickly qualify samples that had
15 fingerprints because we could confirm the criminal
16 identification index number, and with that number we could
17 check the automated criminal history.

18 That would not have been possible in terms of
19 Mr. Nelson's sample at that time.

20 Q. So in the course of screening these, the fact that
21 there was not a fingerprint would have meant that it was
22 put on hold, as it were, put aside, until it could be got
23 to while the other ones that did have fingerprints could
24 proceed straight ahead?

25 A. They went faster. We had a smaller group of people
26 that were looking at these that needed manual reviews, and
27 so since they took a lot longer to process, relatively few
28 of them would be done compared to those that could be

1 examined in an automated way.

2 Q. Okay. And presumably that is the case of allocation
3 of resources that there could have been more effort or
4 manpower put into the fingerprint-less cases and a few
5 taken away from fingerprints in order to even up that speed
6 of entry?

7 A. You would have had to essentially stop doing the
8 automated, in other words, have like one person, you know,
9 in twelve people, or something like that. The ratio would
10 have to be extremely high from the manual to the automated
11 in order to make them equal in terms of processing.

12 So it was to the advantage of the State of
13 California and its people to get more offenders into the
14 database quicker. So we would choose to find the more
15 automated approaches and push those rather than more manual
16 approaches.

17 Q. Would it be fair to say the bottom line was your
18 goal in terms of efficiency to get as many samples in the
19 database as quickly as possible rather than prioritizing
20 particular types of cases or making shorter
21 fingerprint-less cases got in as fast as the others?

22 A. That would be correct.

23 Q. Do your records reflect when Mr. Nelson's Cofiler
24 testing was done? Initially you said that he was put into
25 the database as of April 2001 with regard to Profiler Plus,
26 but as far as Cofiler is concerned, when was that testing
27 done?

28 A. It would have been started in May of 2002, but I

1 don't have the records of completion of that analysis here.

2 Q. Do you have an estimate of when it would have been
3 entered into the database?

4 A. Sometime in 2002.

5 Q. All right. May of 2002 or --

6 A. Probably within three or four months.

7 Q. Could it have been entered into the database as of
8 May 2002?

9 A. That was when it was started. So it would certainly
10 not have been immediately in May. It was towards the end
11 of May that it was started.

12 Q. Even if there had been some request by the lab that
13 he be moved to the top of the list and expedited?

14 A. If there was such a request, I don't have any
15 information about that.

16 we did, generally speaking, try to run the Cofiler
17 on the samples that we hit relatively quickly. So it could
18 have been done faster than I indicated, but I could be
19 certain that it would have been done within three or four
20 months.

21 Q. Okay. And you can also be certain that it wouldn't
22 have been done within the month of May?

23 A. Very unlikely.

24 Q. When you talked about -- when you get a match, you
25 check the flanking samples, samples on either side, to make
26 sure there has been no mix up. Is that based on experience
27 that there have been mix ups with flanking samples or just
28 caution?

- 1 A. No. It's a precaution. We have done it from the
2 beginning.
- 3 Q. Okay. I will show you some Court exhibits, 2, 3,
4 and 4, and see if you recognize those, and we can go
5 through those briefly.
- 6 A. The one that is not marked is 2.
- 7 Q. Tell us whether you recognize Court Exhibit 2.
- 8 A. Court Exhibit 2 is a copy of the fax search request
9 that was provided to us on the 17th of May of 2002 by the
10 Sacramento County Crime Laboratory.
- 11 Q. With regard to this case?
- 12 A. Yes.
- 13 Q. Okay. And what is Court Exhibit 3?
- 14 A. Court Exhibit 3 is what is called the State Match
15 Result Report which is the results that you get back from
16 CODIS or the printed report.
- 17 Q. Now, is that the report that was generated as of the
18 date of the search, May 20th --
- 19 A. Yes.
- 20 Q. -- 2002? And what would be Court Exhibit 4?
- 21 A. Court Exhibit 4 is a copy of the laboratory report
22 of the match to Dennis Nelson.
- 23 Q. Okay. And does Court Exhibit 3 reflect the fact
24 that ten loci -- excuse me, twelve loci were requested to
25 be searched against, the target profile was 12 loci
26 plus the Amelogenin?
- 27 A. Yes.
- 28 Q. Does it reflect how many loci were considered to be

1 matches or potential matches?
2 A. Yes.
3 Q. How many?
4 A. Well, there would have been nine matching loci
5 except for the Amelogenin. It uses the term ten locus
6 candidates, but then that is based on adding the
7 Amelogenin. Then it lists the specific associations made.
8 Q. So at this point in time there were only nine loci
9 because the Cofiler testing had not been done yet?
10 A. That's correct.
11 Q. You said that when you got a match, you would have
12 notified that there was a candidate match but not give out
13 the name right away; is that right?
14 A. That is our typical policy, yes.
15 Q. Would that be done by fax or by personal telephone
16 call?
17 A. Mostly by call.
18 Q. Okay. Is there any record of such a call in this
19 case?
20 A. I don't have any of that with me, no.
21 Q. Do you know if such a record exists?
22 A. I don't.
23 Q. Okay. What kind of questions would the lab, the
24 Department of Justice lab, have for the lab analyst?
25 A. For instance, in this case at the D13 locus they had
26 circled the 13 allele in a 3 allele pattern. We would take
27 that to mean that that was a required allele; that that was
28 foreign to the victim and must be present in the profile

1 that came from the perpetrator given this particular
2 profile.

3 We would have confirmed that with them because in
4 this particular case the match was made to an individual
5 who was a 13 homozygote.

6 Q. Back in your testimony you mentioned earlier that
7 RFLP was not as good with degraded samples as maybe the STR
8 testing. Is it fair to say that until you have tested with
9 RFLP, you wouldn't be able to tell one way or another how
10 degraded a sample was with respect to RFLP testing?

11 A. That is not actually true. You can base to some
12 extent on experience and your familiarity with the
13 condition of the sample make some assessment, but
14 particularly when you start looking at the number of sperm
15 that are present, or the -- if you do an initial
16 extraction, if you do a yield gel, we call them, you would
17 see that the characteristic break down of the DNA, and you
18 would see there was very little high molecular weight DNA,
19 and at that point you would know that you would not get an
20 RFLP result.

21 Q. So you would need to do a yield gel or count the
22 number of sperm in order to know that?

23 A. Not necessarily but those would be factors that
24 would tell you that you would not get a suitable result.

25 Q. Okay. There are no records that -- in this case
26 those yield gels or visual examinations were undertaken
27 with Mr. Nelson's -- excuse me, with the evidence sample in
28 this case that would indicate that that couldn't be done?

1 A. Our involvement in the case is strictly in terms of
2 comparing the numerical results from an analysis. I have
3 no information as to the actual analysis was done in the
4 Sacramento County lab. You will have to address those
5 questions to the analyst in that laboratory.

6 MR. LYNCH: Your Honor, I have a few questions for
7 Mr. Konzak, just very basic foundational questions that
8 Dr. Mueller said I should establish for the Court in order
9 to make sense of his testimony so that he is not testifying
10 on speculation. I think it's about five or six questions
11 on how the CODIS Search Program works.

12 would it be possible for me to do that now so he
13 does not have to come back at a later time?

14 MR. ROSE: Does this also avoid Mr. Weigand coming
15 down?

16 MR. LYNCH: It does.

17 MR. ROSE: I have no. --

18 THE COURT: No objection?

19 MR. ROSE: I have no objection if the witness is
20 prepared to answer those questions. Not that he is
21 hesitant to, but if he has the documentation or whatever
22 that he needs.

23 THE COURT: All right. I will let the witness
24 answer. As we go if there is a point --

25 THE WITNESS: I know Jim was prepared to testify,
26 and I don't know that I have --

27 THE COURT: If you are not --

28 THE WITNESS: -- everything depending on the

1 questions. Presumably I know as much about it, the general
2 terminology or use of the system.

3 THE COURT: All right.

4 MR. LYNCH: The general questions, as I stated, are
5 just for the purposes of Dr. Mueller's testimony with
6 regard to the Prong 1 Kelly motion.

7 THE COURT: All right.

8 Q. (By Mr. Lynch) You do the -- department of Justice
9 does searches through the STR database and reports out
10 matches, correct?

11 A. In a general sense, yes.

12 Q. And there are different ways of doing a search
13 through a database; is that fair to say?

14 A. Yes.

15 Q. And I am interested in how this particular program
16 works on a general level. You are familiar with how it
17 works?

18 A. Yes.

19 Q. Okay. Some of the terminology that is used in terms
20 of matching and results is what is called a match
21 stringency?

22 A. Yes.

23 Q. Do you know what that term means?

24 A. The term "stringency" goes back to actually the RFLP
25 days because we were able to show more specific band
26 pattern if you made the solutions that you were working
27 with more stringent. So it got to be used in terms of how
28 close we matched RFLP profiles. So the terminology came

1 from that, but, obviously, has no direct relationship to
2 the STR profiling per se, but it basically refers to how --
3 in general terms, how closely things match.

4 Q. Okay. So there is a term in the printout from your
5 search program that talks about matched high. That would
6 mean that that was classified as a high match, and what
7 would that mean?

8 A. A high stringency match means that the numbers are
9 exactly the same. So if the individual, in this case say
10 at the FGA locus the profile that we had for Mr. Nelson was
11 an 18, 22. The profile that was submitted to us in the
12 evidence profile was also an 18, 22. So that was an exact
13 numerical match. It was a high stringency match.

14 Q. So, for example, if the target, meaning the
15 information the lab has supplied to you at FGA is 18, 22,
16 if the database sample has both an 18 and a 22, that would
17 be considered high?

18 A. We usually refer to the second specimen as the
19 candidate match.

20 Q. Okay. Candidate match. Okay. If, for example, the
21 candidate was an 18, 18, would that be reported out as a
22 match?

23 A. It would come back as a moderate stringency match
24 based on the criteria that we set in the search program for
25 a search; in other words, one of the alleles matches the
26 allele in the other. The smaller number of alleles has to
27 be completely present in the opposite sample.

28 Q. So because this person, the candidate, is an 18, 18

1 at this locus, in this hypothetical, they would be
2 considered a moderate match because they would be included
3 within a mixture that had an 18, 22 peak?

4 A. That is correct.

5 Q. Now, your computer looks for as many loci as are
6 given in the target profile, correct?

7 A. Yes.

8 Q. And in this case Sacramento lab sent 12 out of 13
9 loci to be searched, correct?

10 A. Yes.

11 Q. And if, for example, there was a 13 locus profile
12 candidate who matched moderate at each and all of those 13
13 loci, it would still spit that information out for you and
14 say that is a potential match, correct?

15 A. It would have spit out the 12 because you gave it
16 12.

17 Q. I am sorry. In the hypothetical 12, yeah. And if
18 the Sacramento lab had provided 13, even if each and every
19 locus was only a moderate match, the computer would still
20 spit it out?

21 A. When you say spit it out, it would be reported as a
22 candidate match which we would then assess as to whether
23 there was in our mind significance to that candidate or
24 not.

25 Q. Okay. Again, the purpose of this questioning is
26 just to talk as much about the computer program as it is
27 about -- it's a not about later on verifying or examining
28 probabilities of matches. So there is no limit then to how

1 many moderates -- how many loci could be moderate. It
2 could be all the loci. It could be one of the loci or
3 none.

4 A. The criteria that we set allow reporting of either
5 high or moderate stringency matches as candidates which
6 would then be examined by the individual doing the search
7 to make an assessment as to whether there is significance
8 to that match that should be reported or not.

9 Q. Okay. And there is another term I believe that
10 shows up in this report, and I think this is standard for
11 your searching, too. The minimum number of loci required
12 to report a match is 7?

13 A. That's correct.

14 Q. What does that mean?

15 A. We found that if we set the number of loci that
16 match at lower than 7, say 6 or 5, we get too many
17 potential candidate matches or adventitious hits; in other
18 words, there may be samples that have only 5 loci in there
19 that are included in the list of the loci that were
20 submitted.

21 So there is nothing there to exclude them, and we
22 get nonsense profiles potentially. So we know that if we
23 submit at least 7, we have at least 7, we are more likely
24 to have a significant match.

25 It does not mean that those loci beyond 7 don't also
26 have to have some level of matching. It will only report
27 things that match at some level.

28 Q. So, for example, if the Sacramento lab submitted a

1 13 locus profile and a sample matched, high matched at 8
2 loci but was a complete mismatch at one other, the machine
3 would not report that candidate?
4 A. I would not see that result.
5 Q. No?
6 A. The way we have it configured. Now, I can do a
7 search that would detect that, but that is not the way we
8 set the search up.
9 Q. Okay. But if there was a match at 7 out of those 12
10 loci, and at the other loci there just wasn't any
11 information on the candidate, for whatever reason, 7 would
12 be enough?
13 A. Yes.
14 Q. Okay.
15 THE COURT: Just to follow up where counsel is
16 headed. You might have more than one candidate. Say you
17 have 7 submitted so you might have multiple candidates.
18 THE WITNESS: That is part of the reason we set the
19 limit that high because we obviously are not getting an
20 advantage out of the system if it tells us there are 25
21 potential people here.
22 THE COURT: All right. Your net is too broad, so to
23 speak.
24 THE WITNESS: Yes.
25 Q. (By Mr. Lynch) with 7 locus -- loci required to
26 call a match have you ever had more than one candidate
27 reported?
28 A. Oh, yes. You have to remember that this is not just

1 a one on one comparison where you are looking at a single
2 source profile to another single source profile. When you
3 start looking at mixtures to mixtures, then you get a lot
4 more possibilities because of these rules that we have of
5 reporting potential or candidate matches that then one has
6 to look at to see if these things, you know, really make
7 any sense.

8 Q. Okay. We will get into that real briefly in just a
9 second, but even if a lab was to provide, unlike Sacramento
10 County, where they have 3 alleles at 1 locus, if they were
11 to provide just basically a single cell sample, 1 allele at
12 some loci, 2 at the others, have you ever had that kind of
13 search done where you get more than one candidate produced?

14 A. We can see that because of the frequencies of the
15 various loci. It's very unlikely at 7 allele, you know, if
16 you have heterozygous profiles. If you have homozygotes at
17 all 7, yes, you could definitely get more than one match.

18 Q. If who? If the target is --

19 A. If the target is homozygous or the candidate is
20 homozygous at the particular alleles that you are of
21 interest.

22 Q. Okay. Now, you are indicating that when you
23 increase that by essentially putting in a third allele at 1
24 locus or a third allele at multiple loci, you are
25 increasing the chance that you would get an adventitious
26 match?

27 A. Adventitious may not be precisely the right word but
28 you would get other candidate matches, yes.

1 Q. You are going to get more candidates because you
2 have broadened the number of possible profiles that would
3 be considered a match?

4 A. Yes.

5 Q. Okay.

6 A. But one can't assume just because you have 2 alleles
7 at a given locus that it is in fact a sole source profile
8 that you are looking at.

9 Q. There could be a mixture even though you are dealing
10 only with 2 alleles at each loci -- locus?

11 A. Yes. Generally not, but it -- by the time you have,
12 you know, 10 or 12 loci, if they are giving you all of the
13 alleles they detected, you would be unlikely to be a
14 mixture that you wouldn't detect, but clearly are very
15 likely they didn't give us all the information they had.
16 They tried to do some interpretation before they gave us
17 that profile.

18 Q. What is the significance in the notation of the 11,
19 12, 13 circled?

20 A. The 13 circle, as I mentioned, would be what we
21 might call an obligate or required allele. That would
22 potentially be the allele they identified that was foreign
23 to the victim, but they couldn't say that it was the only
24 allele the offender might have or the perpetrator might
25 have in that mixture. So they don't want to exclude
26 anybody. So they provide the other 2 alleles that were
27 detected just to make sure that there was not an 11, 13
28 that they might miss or a 12, 13 because if we just put in

- 1 the 13, we might potentially miss somebody.
- 2 Q. Okay. So basically what they are saying is we don't
3 know whether it's an 11, 13 or 12, 13 or 13, 13. It's one
4 of those?
- 5 A. Right.
- 6 Q. And by broadening the category, the number of
7 combinations and permutations which will be considered a
8 moderate or high match, you are increasing the number --
9 the possibility of the number of candidates that might be
10 produced?
- 11 A. Well, that also tells us, for instance, if we have a
12 candidate that comes back that is only an 11, 12 at that
13 locus, we don't have to call them because we know that does
14 not meet their criteria. The computer would spit it out,
15 but we would know that it's not something of interest to
16 them.
- 17 Q. But, for example, if the Sacramento lab were to
18 provide you at that locus -- I forget which it is.
- 19 A. D13.
- 20 Q. D13. That they were looking for a 13, 13, with your
21 computer it would not report a match if the candidate was
22 11, 13 or 12, 13, correct?
- 23 A. It wouldn't report it as a high stringency. It
24 would report it as a moderate stringency.
- 25 Q. Even though there is an allele that is not present
26 in the target?
- 27 A. Yes.
- 28 Q. Okay. I thought when we talked on the phone the

1 other day, you indicated or -- wrong person.

2 THE WITNESS: Part of the problem is that when you
3 are searching this 13, you don't know whether you are going
4 to be searching against just a sole source profile over
5 here, or if it's going to be another mixture that you are
6 looking at, another case profile. So that criteria helps
7 us more to limit the number of potential hits in the
8 database to a mixture than it would necessarily to a sole
9 source profile in a candidate.

10 Q. (By Mr. Lynch) Let me make sure my hypothetical is
11 clear.

12 when I am talking over here at the D13, 13, 13, this
13 is the target. This is what came from the lab. They say
14 we think at this locus the person is 13, 13 and over here
15 is the candidate. I am not sure if that was clear before.

16 Are you saying that if the candidate is an 11, 13,
17 he has an allele that is not present here, that will be
18 reported as a moderate stringency match?

19 A. Moderate stringency refers to the profile with the
20 smallest number of alleles. All of those have to be
21 present in the other locus or in the other profile. So if
22 you reverse that situation is what we looked at before.
23 This is just the opposite but still makes that same level
24 of match.

25 Q. It would still report a match?

26 A. You would see it as a candidate, yes. But since we
27 knew that that is what they were looking for, we would know
28 that those are not of interest as candidates to them when

1 we look at the profile.
2 Q. But presumably then this is wrong. You were saying
3 this would be a moderate --
4 A. It would only be a moderate, yes.
5 Q. -- match. If 11, 13; 12, 13, we could go down or
6 13, 14, or 10, 14, or 14, 18 -- I mean, excuse me. Let me
7 change that box to 13.
8 So basically an 11, 13, a 12, 13, a 13, 14, a 10,
9 13, a 13, 18, anything with a 13 in, will be reported as a
10 candidate at that locus as long as it has the 13 in it;
11 isn't that true?
12 A. I suppose I should check the records again, but that
13 is my recollection of how moderate works, yes.
14 Q. Okay. Vise-versa, if the target D13 is an 11, 12,
15 13, you went to all three of those, then you will get --
16 you can't possibly get a high stringency match because you
17 have entered three, right? The best you can get is
18 moderate?
19 A. Well, you actually can if you have another mixture
20 that is 11, 12, 13.
21 Q. If you have a mixture in your candidate, you know
22 you have got a problem, though, right?
23 A. No. Because the candidates can come from a case.
24 Q. Okay.
25 A. Or, for that matter, it could be a true tri-allelic
26 pattern. There are rare examples of it, but it does exist,
27 and it would be a kind of thing where it was only one base
28 pair or one repeat part.

1 Q. Okay. We'll exclude the tri-allelic patterns. They
2 are pretty rare, right?
3 A. Relatively rare.
4 Q. What do you mean by relatively rare? How often
5 would you see tri-allelic?
6 A. One percent or less.
7 Q. One percent of the population is tri-allelic?
8 A. Again, I would have to go look at the numbers, but
9 certainly less than one percent.
10 Q. Is that a ballpark, or are we talking .0001 percent?
11 A. Not that low, but I couldn't --
12 Q. Okay. So exclude the tri-allelic, and we will
13 exclude the other cases. Basically you are talking about 2
14 loci for than individual candidate, right? 2 alleles,
15 rather.
16 A. Most candidates would have 1 -- would have 2, but
17 many would have one.
18 Q. 1 or 2. So that would match -- I am just proving
19 the congress of the other. 11, 12, and 11, 11, and 12, 12;
20 11, 13, a 12, 13, a 13, 13, those would all be moderate
21 matches?
22 A. Candidates.
23 Q. Okay. And even -- what about over here, 12, 14?
24 It's got one that is not over here in the target. Would
25 that be a moderate?
26 A. No. Because -- and, in fact, I think I am giving
27 you the wrong information here, too, because -- just stay
28 here. This would match because two are present in the

1 three.

2 THE COURT: When you say "this", we need you to
3 describe what you just circled for the record.

4 THE WITNESS: The moderate candidate match he has
5 listed here as 11, 12. Both the 11 and the 12 are present
6 in the 11, 12, 13. So it would meet the moderate criteria.

7 An 11, 11, would not match because --

8 THE COURT: The 12 and the 13 are not present.

9 THE WITNESS: You know -- I am going to back up
10 here. I think I am incorrect here. So long as the smaller
11 number is present, than the larger number it would be okay.
12 So, yes. All of those would match, but when you get to
13 this situation, they no longer match.

14 THE COURT: This situation is?

15 THE WITNESS: Both of these are not present in
16 there.

17 THE COURT: Describe that.

18 THE WITNESS: When you get to a situation where you
19 are dealing with 1 allele that is not present in the three;
20 in other words, the smaller number of alleles, in this case
21 two, both those two have to be present in the 3 allele
22 present in the other sample.

23 Q. (By Mr. Lynch) That is why I think I was arguing
24 with you on the previous exhibit. The 11, 13 both exist.
25 12, 13, doesn't exist?

26 A. Correct. But it goes both directions.

27 Q. So you are saying that still would be moderate
28 match?

1 A. Right. Because you go to the specimen that has
2 smallest number of alleles. This one has one.

3 Q. Okay.

4 A. So all of the things it's going to match have to
5 have at least that one to be a moderate match.

6 Q. So if the target is a 13, 13, pretty much anything
7 with a 13 in it is going to be a moderate match?

8 A. Yes.

9 Q. Okay.

10 A. I can confirm that with a quick call, but that is my
11 recollection of how that works.

12 MR. LYNCH: Thank you. I don't have any further
13 questions, but let me just check my notes over here.

14 THE WITNESS: One other point I should probably make
15 is that is only at one locus. The reason you don't see
16 more hits like that is because you are looking at a number
17 of loci at the same time. Because these things are
18 relatively uncommon, by the time you start looking at three
19 or four other loci --

20 THE COURT: It becomes even more or less.

21 THE WITNESS: -- you start to lose those that might
22 have a 12, 12 are dropped out by some other locus. You
23 can't do them just one locus at a time. You have to look
24 at the whole profile.

25 Q. (By Mr. Lynch) But the computer does essentially do
26 them one locus at a time, and the computer -- if the match
27 existed, if the candidate existed -- could find a candidate
28 based on the algorithm it's got, that it's a moderate match

1 at all 13 loci?

2 A. Yes.

3 Q. It would follow the same rules. It wouldn't say
4 hang on, this is the third locus I have come across that I
5 get a moderate match. I'm going to have to call a halt to
6 this. It would just keep going.

7 A. No. It includes all moderate matches. If every
8 locus was a moderate match, it would report it, that
9 combination, but it's likely at the third locus where you
10 would be looking to see if there was any match. There may
11 not be any match at all. It might be a low stringency as
12 opposed to a high or medium.

13 Q. But it's fair to say that when you have --

14 THE COURT: You are saying as you -- the more loci
15 you add, the less likelihood that you would have moderate
16 matches, or that they would --

17 THE WITNESS: would be consistent.

18 THE COURT: Right. Okay.

19 Q. (By Mr. Lynch) when you have a target profile that
20 is homogyzous, same allele, 13, 13, in their example, you
21 open up the door for a moderate match at a whole slew of
22 possible combinations and permutations that involve 13,
23 correct?

24 THE COURT: At one allele.

25 THE WITNESS: In the same way that a homozygote as a
26 candidate is more likely to match other targets.

27 Q. (By Mr. Lynch) Okay. whereas if you have a
28 heterozygot as candidate, we didn't go through them all

1 here, but there are only three possibilities that would
2 come back as a match, 18, 22 is one. 18, 18, is the other,
3 and 22, 22 is the last one.

4 A. Yes.

5 Q. The last two being moderate matches. The first one
6 being a high match?

7 A. That's correct.

8 Q. Okay. So by virtue of having a target profile that
9 is homogyzous, you, at least at that locus, increase the
10 possibility of moderate matches?

11 A. That is my recollection of how the tool works, yes.

12 Q. So if you have a target profile that has a lot of
13 homogyzous profiles, then you are going to be doing that
14 phenomenon at a lot of loci?

15 A. You could see more potential matches, yes.

16 MR. LYNCH: That is all the questions I have.

17 THE COURT: People.

18 MR. ROSE: Just two or three real quick ones.

19 REDIRECT EXAMINATION

20 By JEFFREY ROSE, Assistant Chief Deputy District Attorney:

21 Q. And you indicated with this candidate match that you
22 had with Mr. Nelson were there additional candidate
23 matches, or was he the only one?

24 A. He was the only candidate match.

25 Q. Even with this wide broad net that you threw out?

26 A. Yes. In fact, we routinely search all the profiles
27 that we have in the database. This one subsequently
28 uploaded by Sacramento County. So the profile has not hit

1 again.

2 Q. And --

3 THE COURT: The database is it just offenders, or is
4 there non-offenders in the database?

5 THE WITNESS: There are several databases. There is
6 the offender database which has the single source profiles
7 from these people. We have cases where we have worked the
8 case, and we have a potential perpetrators's profile, or we
9 may, in some cases, even have a solved case where we know
10 we don't have him as an offender yet, but we have matched a
11 profile to "X" individual, and we keep that known source
12 profile in the case evidence profile list or forensic
13 profiles, and both of those get searched whenever we do a
14 search of this type.

15 Q. (By Mr. Rose) The fact that obviously when a
16 candidate match is made, a profile is not pulled from the
17 Data Bank, correct?

18 A. No.

19 Q. So therefore that's the reason why even after this
20 hit, it was done with -- you only had Profiler in it, the
21 Profiler Plus, in at the time with Mr. Nelson, you even
22 after the candidate match you continued to analyze this
23 sample to add Cofiler, correct?

24 A. We have done that with all of the offender samples.

25 Q. I think just a couple of things on date. What date
26 did you have for entering Mr. Nelson into the Data Bank?

27 A. 4-23-01. It was entered into a local database on
28 4-9-01, and it was uploaded to the state searchable

1 database on 4-23, which is the first time that it would
2 have been accessible to a keyboard search by Sacramento.

3 Q. Okay. And, lastly, when you were asked about the
4 size of a -- the necessary size if you are going to do RFLP
5 testing, that would certainly depend, whatever size it is,
6 whether it's a Q-Tip or a dime or anything else, you
7 would -- what would be included in that would be the
8 quality of that sample, correct?

9 A. Yes.

10 Q. Whether it was degraded or how badly degraded or
11 anything else, right?

12 A. Yes.

13 Q. You could have a quarter size of highly degraded
14 sample and not be able to get an RFLP analysis completed?

15 A. Absolutely.

16 MR. ROSE: Nothing further. Thank you.

17 THE COURT: It's my understanding it also depends on
18 what the sample is; fingernail, hair, or semen. Some have
19 some DNA or more DNA material than others.

20 THE WITNESS: Actually, the red blood cells don't
21 have any DNA in them. It's the white blood cells that have
22 DNA. It's sort of pound or pound. The semen has more DNA
23 in it because it has nucleated cell in the sperm, but it's
24 only half a genome, too. So if you had the same number of
25 diploid cells, you have more DNA.

26 THE COURT: Go ahead.

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1 THE COURT: And again qualification one was to
2 verify his fingerprint matches the samples you have to
3 double check the samples to make sure that your term
4 candidate profile is in fact the one and wasn't somebody
5 else's --

6 THE WITNESS: That would be true if we had
7 fingerprint on him. We didn't have a fingerprint on him.
8 So what we would do is look to see that the demographic
9 information we got on him, you know, is the race and the
10 date of birth and maybe we have got a driver's license
11 number, whatever was on the card, is that consistent with
12 him, or is there a lot of inconsistencies there.

13 So we look for consistency first. Then we take that
14 number, the CI&I number, that's on there and check the
15 records, and in his case had to go back to a manual file to
16 find the actual conviction to show that that individual was
17 then qualified.

18 The data is transferred back to us from our
19 Sacramento latent print people who actually enter this data
20 on these types of transfer of information, and then that
21 marks this log-in database I mentioned which is checked
22 periodically by our system to see if we have qualifying
23 offenders in there that we have already typed, and when it
24 finds those, it will put those into the database.

25 THE COURT: The qualifying is in fact the sample you
26 have is somebody that you believe it to be.

27 THE WITNESS: That can be.

28 THE COURT: Or I thought you also mentioned in

1 qualification, and correct me if I am wrong, that you
2 retest that sample to make sure it was not somehow a
3 slip-up within your lab.

4 THE WITNESS: Those are two different points in
5 time, Your Honor.

6 THE COURT: Okay.

7 THE WITNESS: At the time we were originally putting
8 the profile in the database we want to know, as best we
9 can, either by a fingerprint or by looking at the
10 information we have, that it's likely to be the person who
11 it's identified to.

12 we also want to see that it a qualifying conviction
13 which is where the term "qualifying" comes from; that it's
14 not a misdemeanor or it's not a second degree burglary in
15 the case right now, in the presence statute.

16 The other part of that is after we have made these
17 candidate matches, and we find somebody we think is a true
18 match, we will re-run that sample as a confirmation run,
19 not a qualification run, but a confirmation run. That is
20 the terminology we use.

21 THE COURT: All right. Anything further?

22 MR. ROSE: No, Your Honor.

23 MR. LYNCH: No, Your Honor.

24 THE COURT: All right. Witness is excused.

25 MR. ROSE: And based on his testimony, my
26 understanding is we can let Mr. Weigand, tell him not to
27 show up.

28 MR. LYNCH: That's fine.

1 THE WITNESS: I will confirm that I am not
2 mis-remembering that because I know you do get the wrong
3 impression, and so I will confirm with Jim that we are on
4 the same sheet.

5 MR. LYNCH: Okay.

6 MR. ROSE: With that proviso we can release him.

7 MR. LYNCH: That's fine.

8 THE COURT: Okay. We are in recess until tomorrow
9 morning. All witnesses are going to be here first thing?

10 MR. ROSE: Yes. Mr. Lynch has a witness first.

11 MR. LYNCH: Yes.

12 MR. ROSE: Then I have two witnesses who will
13 testify tomorrow.

14 THE COURT: All right. Then we'll argue Miranda,
15 Trombetta, and delay --

16 MR. LYNCH: Yes.

17 MR. ROSE: All right.

18 THE COURT: -- tomorrow afternoon.

19 MR. ROSE: Correct.

20 THE COURT: Court is in recess.

21 (Evening recess)

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