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PUBLIC HEARING
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
DELTA SALINITY DRAFT CDO & WQRP HEARING

JOE SERNA, JR., BUILDING
CAL/EPA HEADQUARTERS
1001 I STREET
SACRAMENTO, CALIFORNIA

TUESDAY, OCTOBER 25, 2005
10:00 A.M.

VICKI L. BRITT, RPR

1 APPEARANCES

3 BOARD MEMBERS

4 Ms. Tam Doduc, Chairperson

5 Ms. Jean McCue

6 Ms. Diane Riddle

8 STAFF

9 Barbara Leidigh, Staff Counsel

11 ALSO PRESENT

12 Ms. Cathy Crothers, Senior Staff Counsel, Department of
13 Water Resources14 Ms. Amy L. Aufdemberge, Assistant Regional Solicitor, U.S.
Bureau of Reclamation

15 Ms. Erin K. L. Mahaney, State Water Resources Control Board

16 Mr. Dante John Nomellini, Central Delta Water Agency, et al.

17 Mr. Tim O'Laughlin, San Joaquin River Group Authority

18 Mr. Jon D. Rubin, San Luis & Delta-Mendota Water Authority
19 and Westlands Water District20 Mr. John Herrick, South Delta Water Authority and Lafayette
Ranch21 Mr. Michael Jackson, California Sportfishing Protection
22 Alliance

23 Mr. Clifford W. Shulz, The State Water Contractors

APPEARANCES CONTINUED

Mr. Paul R. Minasian, San Joaquin River Exchange Contractors
Water Authority

Ms. Tina R. Cannon, California Department of Fish and Game

Ms. DeeAnne M. Gillick, San Joaquin County

Ms. Jeanne Bolezzi, Stockton East Water District

Mr. Arthur F. Godwin, Merced Irrigation District and San
Luis Canal Company

INDEX

1	CALLED BY CENTRAL DELTA WATER AGENCY, ET AL.	
2		
3	CHRISTOPHER H. NEUDECK	PAGE
4	Direct Examination by Mr. Nomellini	20
5		
6		
7	KURT SHARP	
8	Direct Examination by Mr. Nomellini	30
9	Cross-Examination by Ms. Crothers	40
10	Cross-Examination by Mr. O'Laughlin	75
11	Cross-Examination by Mr. Rubin	91
12	Cross-Examination by Mr. Shulz	119
13		
14	RUDY MUSSI	
15	Direct Examination by Mr. Nomellini	32
16	Cross-Examination by Mr. O'Laughlin	53
17	Cross-Examination by Mr. Rubin	97
18	Cross-Examination by Mr. Shulz	121
19		
20	THOMAS M. ZUCKERMAN	
21	Direct Examination by Mr. Nomellini	33
22	Cross-Examination by Ms. Crothers	45
23	Cross-Examination by Mr. O'Laughlin	84
24	Cross-Examination by Mr. Rubin	101
25	Cross-Examination by Mr. Shulz	126
26		
27	CALLED BY DEPARTMENT OF WATER RESOURCES	
28	JOHN LETEY	
29	Direct Examination by Ms. Crothers	137
30	Cross-Examination by Mr. Nomellini	167
31	Cross-Examination by Mr. Herrick	168
32	Cross-Examination by Mr. Jackson	175
33	Cross-Examination by Mr. Minasian	178
34	Cross-Examination by Mr. Shulz	183

1 PROCEEDINGS

2 CHAIRPERSON DODUC: At this time, we are ready to
3 resume the hearing regarding Draft Cease and Desist Order
4 Numbers 232.31-16 against the United States Bureau of
5 Reclamation and 262.31-17 against the California Department
6 of Water Resources and to hear evidence regarding four
7 petitions for reconsideration of the Division of Water
8 Rights Chief's July 1, 2005 conditional approval of the
9 April 25, 2005 Water Quality Response Plan submitted by the
10 USBR and the DWR for their use of each other's points of
11 diversion in the southern Sacramento-San Joaquin Delta.

12 At this point, I'd like to ask all those who will
13 be providing testimony today, who were not here yesterday,
14 to take the oath, to please stand up. One person, all
15 right.

16 Do you promise to tell the truth in this
17 proceeding?

18 MR. SHARP: I do.

19 CHAIRPERSON DODUC: Thank you. Yesterday we
20 completed the cross-examination of the Water Rights
21 Prosecution Team. I believe there has been a request made
22 by the team for redirect. Please clarify what you intend to
23 show with redirect.

24 MS. MAHANEY: Erin Mahaney for the Division of
25 Water Rights Enforcement Team. What I would like to clarify

1 is Mr. Lindsay's statements that he made yesterday on
2 cross-exam regarding the barriers and the analysis of the
3 historic easy data. It should be brief, probably about five
4 minutes.

5 CHAIRPERSON DODUC: What do you intend to show
6 with respect to that?

7 MS. MAHANEY: I wanted to clarify, I thought that
8 there was perhaps some confusion in the testimony regarding
9 the barriers as a practical method to achieving the water
10 quality objective and to give Mr. Lindsay an opportunity to
11 clarify the basis for his conclusion there.

12 CHAIRPERSON DODUC: I'm going to deny the request
13 for redirect. I believe he's addressed, to the best of his
14 ability yesterday, regarding his review of documents and his
15 analysis of the situation and the conclusion that he reached
16 regarding the potential threat with respect to violation,
17 potential violation of the EC Standards, so we're not going
18 to proceed with redirect at this time.

19 MS. MAHANEY: May I enter my exhibits into
20 evidence at this time?

21 CHAIRPERSON DODUC: Please, go ahead.

22 MS. MAHANEY: I'd like to offer the enforcement
23 exhibit Water Right one through Water Right eight and Water
24 Right eleven and through Water Right eighteen into evidence.

25 CHAIRPERSON DODUC: Any objections to that?

1 MR. O'LAUGHLIN: Yes. Tim O'Laughlin representing
2 the San Joaquin River Group Authority. We object to the
3 submittal of 18 and 19. Eighteen and nineteen are not
4 relevant evidence in the hearing. Basically what that
5 evidence is is evidence of EC at a time at Brandt Bridge,
6 when, in fact, the standard for 0.7 was not in place.

7 There is no logical extrapolation from 0.7 in the
8 years previous to 2005 to correlate that the bureau would
9 operate or DWR would operate in a fashion to meet that.

10 Not only that, the witness testified that he did
11 not call DWR or the United States Bureau of Reclamation to
12 confirm or deny that they would be, in fact, operating in
13 any different fashion. So, that evidence is not relevant to
14 the issue before us as to whether or not "A" there has been
15 a violation, that's not relevant to that; or "B" that
16 there's a threat of violation.

17 Because you can't hold somebody responsible for
18 past actions to say that they would or would not have met a
19 standard that was not in existence at that time based on
20 water quality and flow standards at that time.

21 The other important point here is that the
22 hydrology and the water quality in those years is entirely
23 different than the hydrology and water quality that we're
24 currently looking at. But, once again, the witness failed
25 to make any investigation as to current hydrology in the

1 basins or current water quality in the basin. So, given
2 that, this evidence should be stricken as irrelevant to the
3 proceeding. It is not evidence that the Board should rely
4 upon; especially given the fact that they've held him out as
5 an expert witness.

6 It seems to us that an expert witness, who is
7 going to make an investigation into the fact as to whether
8 or not there was a potential for a violation of the
9 standard, would have called the bureau, called DWR, seen
10 what their operations were.

11 He also would have inquired as to what the
12 hydrology in the basin was because the basin hydrology
13 determines what amount of flows are available to the
14 capacity of the river, as well as what water quality is or
15 isn't like. He did none of that work. He doesn't know
16 where the water is coming from; he doesn't know how much
17 water is in the system; he doesn't know anything about
18 Grasslands-Bypass Project, NPDES, WDRs or anything else.

19 So, to rely on him as an expert witness -- well,
20 I've got two points on that: (a) We move to strike his
21 entire testimony as well because he has not held himself out
22 as an expert in regards to the San Joaquin River and the
23 hydrology and water quality as to what is needed to confirm
24 or deny that a potential violation may occur in the future.

25 All he did was to take at face value two letters

1 that say they may have problems meeting the standards this
2 year. He didn't understand or try to understand the basis
3 for why that letter was written, and if he had, he would
4 have understood coming off three years of dry years, water
5 levels in the reservoirs were low; water in the river was
6 low; water quality was degraded and higher and tougher to
7 meet.

8 So, given for those facts, we move to deny the
9 submittal of items 18 and 19, and we move to strike his
10 testimony as to not being an expert in the field of which he
11 professes to be.

12 CHAIRPERSON DODUC: Thank you. Next.

13 MR. RUBIN: Jon Rubin representing San Luis and
14 Delta-Mendota Water Authority and Westlands Water District.
15 I support the objection raised by Mr. O'Laughlin, and remind
16 the Board that the issue before the Board today is whether
17 the Board should exercise its discretion in response to the
18 Enforcement Team's perceived threatened violation of the
19 permit terms and conditions response within the permits held
20 by the United States Bureau of Reclamation and DWR that
21 address South Delta salinity issues.

22 And because that is the issue before the Board, I
23 think there's two relevant questions. The first is whether
24 there's a threatened violation; and the second is whether
25 their draft of cease and desist order will help insure

1 compliance with the 00.7AC, which became in effective April
2 1, 2005.

3 I agree with Mr. O'Laughlin that Exhibits WR-18
4 and WR-19 are not relevant. I would expand that argument
5 and apply it to all of the exhibits WR-9 through WR-19 for
6 the same bases. I don't believe they address the issue of
7 whether the Bureau of Reclamation or DWR present a
8 threatened violation of the 00.7 objective which started to
9 apply in April, 2005.

10 CHAIRPERSON DODUC: Thank you.

11 MR. NOMEILLINI: Dante John Nomellini for Central
12 Delta Water Agency, et al. I oppose the motion to strike
13 and I guess the motion to exclude those two exhibits. It's
14 quite obvious that the Enforcement Division has their
15 process whereby they can evaluate what it is that they
16 received in terms of evidence of an anticipatory breach.
17 That evidence is what they use; that evidence is what they
18 cited; and, therefore, it supports the position of the
19 Enforcement Division as to what their moving forward with.

20 As to the question of whether or not the Board
21 chooses to follow through on their recommendation, that's
22 something else. But it is relevant evidence, and it does
23 support their position.

24 All of us probably have our own view of what those
25 letters indicated. My personal view is that the water

1 project operators intended to send the signal that they were
2 going to play games with the water quality standards, and
3 that it is an appropriate response for the State Board to
4 look at the question of what type of an action should be
5 taken in anticipation of that game.

6 So, I think it's clearly relevant. The weight you
7 want to give it is your choice, but I my think the motion to
8 strike is improper and the motion to exclude is improper as
9 well.

10 CHAIRPERSON DODUC: Thank you.

11 MR. HERRICK: Thank you, Madam Chairman. John
12 Herrick for the South Delta Water Agency. I too oppose the
13 motion to strike and agree that the exhibits should be
14 allowed. It is a question of weight. The objections we
15 heard deal with discounting the evidence. Their comments
16 that it's irrelevant are clearly incorrect.

17 The Board will find out later whether or not the
18 DWR and the state are going to operate any differently,
19 which would lead you to give weight to whether or not
20 previous water quality levels are an indication of future
21 water quality levels. So, that will come out later in the
22 hearing.

23 But we do agree the information should be put
24 forward in the record. And, more importantly, if somebody
25 wanted to challenge the witness' expert status, they were

1 supposed to do that at the beginning of the hearing, and
2 they could have voir dired the witness and found out if he
3 had any qualifications or not.

4 CHAIRPERSON DODUC: Thank you. Mr. Jackson.

5 MR. JACKSON: Michael Jackson for the California
6 Sportfishing Protection Alliance. I too agree that the
7 evidence is relevant, and how much weight it should be given
8 is up to the Hearing Officer.

9 I would also like to point out that there's more
10 than one thing going on here, which is, that there are four
11 petitions to reconsider the joint point of the diversion
12 operation in the Delta. This is historical evidence that
13 indicates what conditions are prior to use of the joint
14 point. And those conditions are relevant in terms of past
15 operation before the joint point. So that you can determine
16 whether or not the plan of operation that has been put
17 forward by DWR and the USBR has any hope of accomplishing
18 what they intended to do without causing grave damage to the
19 Delta estuary and to the rights of farmers inside the Delta.
20 And so on those grounds, I believe that it is also relevant
21 information.

22 The question of expert testimony, just to make a
23 motion that somebody is not an expert without any voir dire,
24 without any supporting evidence, seems to me to be untimely
25 and should be rejected out of hand.

1 CHAIRPERSON DODUC: Thank you. Mr. Shulz.

2 MR. SHULZ: Clifford Shulz for the State Water
3 Contractors. I'm here to support the motion to strike, in
4 particular, Exhibits 18 and 19. Exhibit 18 is very
5 troublesome in that it is an exhibit of when water quality
6 exceeded 0.7 at a time when the projects were operating to
7 meet 1.0. And it, therefore, doesn't show anything about
8 what the water quality would have been had they been
9 operating to 0.7.

10 And there is a point at which things go beyond the
11 weight of the testimony issue. I can put in testimony that
12 the moon is made of green cheese, and somebody would say
13 that that's irrelevant, and I could say that it's the
14 weight, but it's not.

15 What we have in this particular exhibit, Exhibit
16 18, is something that is just a history of the fact that
17 they met the water quality objective during those times
18 because the water quality objective was 1.0. And how that
19 shows anything about the threat that once they reoperate to
20 meet 0.7 that they can't meet 0.7 escapes me, and to me that
21 rises to the level of relevancy rather than weight.

22 On Exhibit 19, Exhibit 19 is the one that is
23 designed to show that there is an issue with the cease and
24 desist order with respect to the data collection, with the
25 monitoring. And it contains four or five years of data when

1 those weren't compliance stations and when 1641 wasn't even
2 in existence. So, we have a problem with that one from the
3 standpoint of, and all the big numbers, and those times when
4 it wasn't a compliance station. The numbers are petty darn
5 good for electronic stations out in the Delta in the post
6 D1641 level. So, we think there is irrelevant data in
7 nineteen that needs to be stricken.

8 Mr. Nomellini, in his statement, talked about the
9 letter -- I haven't heard anybody make an objection to the
10 introduction of the DWR letters. We think that those are
11 relevant to the determination of whether or not there's a
12 threat. We don't think they raise to that level, but that's
13 an issue of weight.

14 But what we're talking about here are the data
15 which is used in order to determine a threat, and we think
16 those need to be stricken.

17 CHAIRPERSON DODUC: Thank you. I find the
18 evidence to be relevant, therefore, the motion to strike is
19 denied. The witness' testimony and all the exhibits will be
20 entered into the record.

21 With that, we're onto the Central Delta Water
22 Agency, et al.

23 MR. NOMELELLINI: Madam Chair, my name is Dante John
24 Nomellini. I'm the an attorney for the Central Delta Water
25 Agency and other parties, particularly, R.C. Farms, Inc.,

1 Rudy Mussi, and Kurt Sharp. Before I introduce our panel,
2 I'd like to make a brief opening statement.

3 Our concern is that the proposed cease and desist
4 orders, as presented by the Enforcement Division, are
5 inadequate and inappropriately soft in their approach to
6 secure DWR and the Bureau of Reclamation compliance with the
7 conditions of the water rights permit.

8 The Enforcement unit, in our view, is correctly
9 reading the tea leaves that are coming from the contractors
10 and DWR and the Bureau, that there's going to be a game
11 played in the water field with regard to violation of the
12 Southern Delta Standards; and, of course, the excuses that
13 will be put forth are reasonableness or unreasonableness of
14 making releases and changes in operations.

15 The suggestion is in those letters, and also it
16 arose in the D1641 hearings before, that it would be an
17 unreasonable use of water to restore the flow of the San
18 Joaquin River, yet nobody has laid out what it is in terms
19 of operation and what it is in terms of release of the water
20 would be required, that one could then examine to determine
21 the reasonableness of that action.

22 In that position put forth by the project
23 operators, they gloss over completely the fact that the
24 projects are diverting water to the west side of the San
25 Joaquin Valley, where no drainage solution has been

1 implemented as of yet, and one was required clearly in the
2 San Luis Act of 1960, which means that over 40 years of
3 deliveries, increasing deliveries of water to the west side
4 of the valley are continuing, and those are particularly
5 relevant because they aggravate the salinity in the San
6 Joaquin River, which is really the issue being discussed
7 here with the Southern Delta Standards.

8 They're really going to end up arguing that the
9 State Board is trying to make the water quality in the San
10 Joaquin River too good. It's hard to imagine that that
11 position can be sold, but that is the one that is the root
12 of what we're debating today.

13 Now, the proposed Cease and Desist Order by the
14 Enforcement Division is focused on completion of the
15 barriers, the permanent barriers. And our thought is that
16 the focus ought to be on compliance with the standards. How
17 it's complied with is something else.

18 The focus on the barrier involves the timing of
19 when the barriers were to be constructed. D1641 set up the
20 date for the completion of the barriers. We believe it's
21 inappropriate in an enforcement proceeding to change that
22 date; that date is part of D1641. In effect, what you're
23 doing is changing D1641. But the focus of the effort, in
24 our opinion, ought to be to achieve enforcement of the
25 standards.

1 Now, we have proposed, and our testimony will show
2 our proposal, to focus in with the Cease and Desist Order
3 first on demanding that by December 31, 2005, that a plan be
4 submitted by the project operators to show how they're going
5 to comply with the 0.7 standards for the South Delta
6 stations.

7 If they don't do that by that date, then we would
8 suggest that the Cease and Desist Order provide a mechanism
9 to stop the exportation of water that will result in
10 delivery of water to the west side of the San Joaquin Valley
11 that contributes directly or indirectly drainage to the
12 river, which aggravates the salinity in the river. That
13 would be a rational relationship in terms of enforcement
14 remedy and incentive.

15 Now, if, on the other hand, a plan is submitted by
16 that time, they continue to operate, if there is a failure,
17 then, again, they have to cease the exportation of water
18 that will result in those deliveries until compliance is
19 attained and until we say 30 days thereafter. The objective
20 of that is to set up an incentive for compliance.

21 And we would point out that what is happening here
22 is that when the projects are operating in violation of
23 standard, in June and July, they're pumping about
24 20,000-acre feet a day. And if you put a value on that
25 exportation of water of only a hundred dollars, that's \$2

1 million a day. If we follow past precedent of the Board,
2 when they dealt with agricultural converters, they doubled
3 that; that would be \$4 million a day penalty.

4 If they're selling the water back to the
5 environmental water account for \$400.00, you'd end up with
6 much higher numbers. The idea being that there should be
7 this incentive.

8 We have recommended the disincentive of the
9 curtailment of export. But if you were going to pick dollar
10 numbers, it would be in the range of \$2 to \$8 million a day
11 would be the appropriate penalty.

12 MR. RUBIN: Madam Chair, I need to object. I
13 understand that this is an opening statement. It appears
14 Mr. Nomellini is attempting to testify, and I think a lot of
15 the statements are irrelevant and exceed the expertise he
16 has indicated the witnesses have.

17 CHAIRPERSON DODUC: If you could wrap up and
18 proceed to your witnesses.

19 MR. NOME LLINI: In terms of the involvement of the
20 Department of Water Resources, we've seen the revised cease
21 and desist order eliminate Vernalis as the requirement for
22 the state water project.

23 Now, I would point out that the two projects are
24 operating in coordination and have been for years. So, the
25 workings of the water resources in operation of the state

1 water project are important elements of the operation of the
2 bureau.

3 The bureau would not be able to maintain
4 deliveries to the west side of the valley without utilizing
5 the state project costs.

6 Additionally is the backstop agreement that was
7 made with regard to D1641. And in that D1641, there is a
8 reference that has a foot note in there that talks about
9 DWR's responsibility to backstop the bureau's compliance on
10 the San Joaquin River except during the vamp period, which
11 is April 15 to May 15. But during the other part of the
12 year, they're obligated to do that. And that's at page 19,
13 footnote 26.

14 In any event, what we asked the Board to do -- the
15 Board, of course, has the authority. Congress has made it
16 crystal clear that the Federal Water Project, and that's the
17 primary wrong doer on the San Joaquin River, has to meet
18 State Water Resources Control Board Standards.

19 They confirmed that, confirmed that in the
20 coordinated operating agreement legislation in 1986. They
21 confirmed it in the CVPIA legislation, and more recently in
22 HR2828, they provided that the Secretary Interior has to
23 develop a plan to meet the standards.

24 So, if your Board holds their feet to the fire, we
25 can achieve a restoration at a reasonable level, already

1 determined by your Board, and set forth with the water
2 quality standards for the San Joaquin River, and we'd ask
3 that you do that.

4 I'd now like to go to my panel and testimony. The
5 first witness I'll call is Christopher Neudeck.

6

7 DIRECT EXAMINATION

8 Q. BY MR. NOMELLINI: Mr. Neudeck, is Central Delta
9 Water Agency Exhibit 3 a correct statement of your
10 qualifications?

11 A. Yes, it is.

12 Q. And is Central Delta Water Agency Exhibit 2 a
13 correct copy of your testimony?

14 A. Yes, it is.

15 Q. And the statements therein are true and correct?

16 A. Correct.

17 Q. Could you please briefly summarize your testimony
18 in Central Water Agency Exhibit 2?

19 A. Certainly. My work as a civil engineer has
20 included the preparation of property descriptions in land
21 title work. In particular, I review deeds, chain of titles
22 for R.C. Farms, parcels described in Central Delta Water
23 Agency Exhibit 4.

24 The subject of R.C. Farms parcels are presently
25 contiguous to the San Joaquin River and are part of the

1 smallest track held under one time when chain of title
2 leading to the present owner, which again is R.C. Farms.

3 R.C. Farms is contiguous to the San Joaquin River
4 and within the water shed of the San Joaquin River and
5 Sacramento River, including their tributaries, and that
6 concludes my summary.

7 Q. Mr. Neudeck, the purpose of your testimony is to
8 bring forward to the Board those documents and your analysis
9 with regard to the riparian status of R.C. Farms, Inc.
10 property; is that correct?

11 A. That's correct.

12 Q. And you did the same with regard to the chain of
13 title of Alexander Hildebrand, which is Central Delta Water
14 Agency 6; is that correct?

15 A. That is correct.

16 Q. And is your conclusion with regard to the
17 Alexander Hildebrand chain of title, which is Central Delta
18 Water Agency 6, and the plot map, Central Delta Water Agency
19 7, the same that it is the riparian parcel?

20 A. Yes, it is.

21 CHAIRPERSON DODUC: Mr. Rubin.

22 MR. RUBIN: With those answers provided, I move or
23 I object to the testimony and the exhibits as irrelevant to
24 the proceeding.

25 MR. NOMEILLINI: The relevance, Madam Chairman, is

1 simply to establish the status of our parties and who it is
2 that we are. Two of our parties, R.C. Farms, Inc. is ours;
3 South Delta Water Agency, those are the principals who have
4 riparian parcels in the Delta, therefore, have water rights
5 status as opposed to the other parties.

6 MR. RUBIN: Madam Chair, the status of the rights
7 that are held, if any, of the representatives that are
8 identified in the Central Delta Water Agency Exhibit 2 are
9 not relevant as to whether the draft cease and desist order
10 should be issued.

11 CHAIRPERSON DODUC: Mr. O'Laughlin.

12 MR. O'LAUGHLIN: Well, I better do it now rather
13 than later because last time I when I made this objection,
14 Mr. Neudeck is not an expert, and if we're going to go
15 through this, I'd like to voir dire him. Because in a
16 previous State Water Resources Control Board hearing on the
17 ACL, they found that Mr. Neudeck did not provide testimony
18 of an expert opinion. So, I think I'd like to voir dire
19 him.

20 I also join in the objection, whether or not these
21 people owned property within Central Delta or South Delta is
22 irrelevant to these proceedings as outlined by the Chair
23 yesterday. So, if we're going to stick to the ground rules
24 that were laid down yesterday, then none of the witnesses
25 that are presently in this panel have anything relevant to

1 say about whether or not there is a threatened or a
2 potential violation, and what, if anything, goes to that
3 issue.

4 Now, I did bring up a point yesterday -- and just
5 bear with me one second -- I don't disagree with
6 Mr. Nomellini if he's going to show a threatened violation
7 would result in significant harm to his farmers, that that
8 is, I believe that is relevant evidence. You said yesterday
9 and the prosecution team said yesterday that they did not
10 want to hear any evidence regarding harm in the Delta
11 because they felt that that was not relevant.

12 I firmly disagree with that, because if you're
13 asking for injunctive relief, the burden is on the party
14 moving for the injunctive relief to show harm or irreparable
15 harm. So, we think it's entirely relevant.

16 But I think that before we go forward with this
17 panel, the next panel, and there's several other panels,
18 that we should make it very clear as to what the ground rule
19 is in regards to this issue. Thank you.

20 CHAIRPERSON DODUC: Mr. Jackson.

21 MR. JACKSON: Yes, Madam Chairman. I'd like to
22 point out that there are a number of issues being tried here
23 at once by the choice of the State Board in order to set up
24 a functional hearing. And they include conditional
25 approval, four petitions for reconsideration of conditional

1 approval of the April 25, 2005, Water Quality Response Plan
2 submitted by USBR and DWR for their use of each other's
3 point of diversion in the southern Sacramento/San Joaquin
4 Delta.

5 In regard to whether or not those plans are
6 adequate, it's going to be important as your subject of
7 hearing in your revised notice of public hearing indicates
8 that both matters will involve the enforcement of an
9 existing requirement to meet the 0.7 electrical conductivity
10 objective at certain South Delta compliance stations between
11 April 1 and August 13. Those are agricultural standards.
12 They have effect, for instance, in my case on fisheries and
13 on other environmental parameters.

14 But these are precisely the farmers who are
15 establishing their right to be projected by those
16 agricultural standards, and it is relevant information
17 because they have the expertise to tell you whether or not
18 they would be protected by the operations plan or joint
19 point submitted.

20 They have petition for reconsideration of that
21 order because of the effect. And, consequently, this
22 evidence is relevant, not only on the cease and desist, but
23 on the four petitions for reconsideration.

24 CHAIRPERSON DODUC: Ms. Mahaney.

25 MS. MAHANEY: Erin Mahaney for the Division of

1 Water Rights Prosecutorial Team. I'd like to speak to issue
2 to the relevance of harm. As we've previously indicated,
3 this issue is irrelevant to the issuance of a cease and
4 desist order for a threatened violation.

5 The issue of harm comes in it later if an action
6 is taken for violation of the cease and desist order. It is
7 not germane to whether or not a cease and desist order
8 should be issued in the first instance.

9 MR. HERRICK: Thank you, Madam Chairman. John
10 Herrick for the South Delta Water Agency again. I'd just
11 like to clarify, this is ground that's been plowed many
12 times before. And, in fact, D1641 itself questions whether
13 Central Delta and South Delta should be appearing as parties
14 because they did not show or approve water rights of any of
15 their constituents.

16 This is in response to not only the people
17 objecting to this, but your own staff's previous positions
18 in various water rights proceedings questioning whether or
19 not we should be here because we don't represent anybody.
20 So, it's certainly relevant to this proceeding.

21 Secondly, as Mr. Jackson stated, this has to do
22 with not only showing what's going on with regards to the
23 cease and desist order, but the response plan for water
24 quality. And, again, it's very clear that an argument will
25 be made against us that says, well, if you didn't show that

1 any of your members are actually legal water users in the
2 Delta, then what's there to complain about for the response
3 plan to protect legal users of Delta. So, I don't think
4 there's any issue here.

5 The issue that is yet to be resolved, Madam
6 Chairman -- I don't know if you want to take this up now
7 is -- are we going to allow evidence of potential harm
8 resulting from any cease and desist order, and I don't think
9 the parties have gotten to that point. Whether that's the
10 next issue we'll argue about before we proceed, that's up to
11 the Chair. Thank you.

12 CHAIRPERSON DODUC: Ms. Crothers.

13 MS. CROTHERS: Good morning. My name is Cathy
14 Crothers, attorney for the Department of the Water
15 Resources. I am also only here to comment because it has
16 been brought up -- and if you'd rather have comments on this
17 later -- is to the question of the information on harm that
18 the parties have proposed in their testimony that was
19 submitted.

20 I disagree strongly with what the Enforcement Team
21 has characterized here as what's relevant to the adoption of
22 the CDO as proposed.

23 DWR has great familiarity with our water rights
24 term. What I don't think Enforcement Team can fully
25 comprehend or appreciate, from what I heard yesterday, in

1 that our water rights term that implements the Southern
2 Delta objective is quite complicated. And the way it's
3 implemented through that D1641 condition has not been fully
4 developed.

5 And part of the condition for the water rights is
6 a determination by the Executive Director of the Board that
7 she will make a recommendation to you, and in her
8 recommendation, she will make a recommendation as to whether
9 or not enforcement is appropriate or that conditions are
10 outside the control of the permantee, the Department here.

11 To make that kind of recommendation and to fully
12 implement that term and condition of the water rights, you
13 need to know what type of enforcement factors will begin to
14 play. And I believe one of those would be under Section
15 1055, I think it is, in the Water Rights Provision, that the
16 Board should consider things such as days in exceedance, the
17 degree of harm from the exceedance, and some other factors.

18 Although I might not agree with the actual
19 testimony presented by the South Delta and Central Delta
20 Water Agencies, I do believe that you should hear and give
21 weight to the evidence of information on the degree of harm.
22 Thank you.

23 MS. DEEANNE GILLICK: DeeAnne Gillick representing
24 the County of San Joaquin. As you're receiving comments on
25 harm and relevance, I just wanted to add, it's the county's

1 position the harm that may or may not be caused, it's
2 extremely relevant to this proceeding.

3 As there's no threat anticipated or ability to
4 have any harm, what is THE need for a cease and desist order
5 in the first place? So, we just want to express that
6 opinion.

7 CHAIRPERSON DODUC: Mr. Shulz.

8 MR. SHULZ: Two quick points: We believe also
9 that the harm issue is relevant. I think and I hope -- I'm
10 sure the Board does understand -- that this will be advice
11 you'll be receiving as what you can consider, not from the
12 Prosecution Team. They're just another party here.

13 Because the Prosecution Team has essentially taken
14 a position that the Board has no discretion. But that there
15 is an exceedance, it's a knee jerk, and you issue a C&D.
16 The statute doesn't say that. The statute used the word
17 "may." So, you take a look at the total circumstances
18 surrounding the exceedance and the violations to decide
19 whether they warrant a cease and desist order.

20 So, we believe that the harm again, as Cathy
21 Crothers said, we may disagree with the substance of their
22 testimony, but we defend to death their right to put it in.

23 The other point I just wanted to make was with
24 respect to the objection of the testimony that was just
25 given with respect to the location of the properties here

1 involved. I thought the witness very carefully stopped and
2 said all that he did was determine that in a continuous
3 chain of title, those properties were adjacent to the San
4 Joaquin River.

5 It was Mr. Nomellini who then added the riparian
6 status, at which point, his factual testimony became a
7 conclusion of law with respect to whether or not the fact
8 that they were adjacent to the San Joaquin River meant that
9 riparian rights attached under the California Water Law.

10 I didn't hear the witness testify to that. I
11 didn't hear Mr. Nomellini testify to that, and that should
12 be stricken.

13 CHAIRPERSON DODUC: Mr. Rubin.

14 MR. RUBIN: Just to kind of bring it back. The
15 objection that I raised was to relevance of the testimony
16 that was just provided. I did not raise an objection at
17 this time to testimony that I believe Central Delta
18 submitting in writing, and it will present orally today, on
19 the impacts, perceived impacts of water quality on farming
20 operations within the Delta.

21 Also, I wanted to clarify a statement that
22 Mr. Shulz just made. Yesterday, during cross-examination,
23 the witness for the Enforcement Team recognized,
24 acknowledged that the Board does have discretion of whether
25 or not to issue a cease and desist order. Again, I do

1 believe that harm is relevant to whether the Board should
2 exercise that discretion.

3 MS. MAHANEY: I just wanted to reiterate that,
4 that Mr. Shulz mischaracterized the Prosecution Team's
5 testimony. Our position has been, and it came out on direct
6 and through recross, that the Board does have discretion on
7 determining whether to issue a cease and desist order.

8 CHAIRPERSON DODUC: Thank you so much for that. I
9 appreciate hearing the many thoughts and objections. I am
10 going to accept the evidence, but the objections will be
11 considered in weighing the evidence. And I will also
12 acknowledge the relevance of evidence of harm and will
13 proceed taking testimony from this panel.

14 MR. DANTE JOHN NOMELLINI: Thank you. Madam
15 Chairman, our next witness is Kurt Sharp.

16

17 DIRECT EXAMINATION:

18 Q. BY MR. NOMELLINI: Mr. Sharp, is Central Delta
19 Water Agency Exhibit 9A a correct copy of your testimony?

20 A. It is.

21 Q. And could you please briefly summarize your
22 testimony?

23 A. My testimony states that I am currently a manager
24 and shareholder of R.C. Farms, Inc. We've been farming the
25 property for over 20 years. And it states that as a

1 salinity or the salt comes up in Vernalis and carries down
2 through the San Joaquin River, which is upstream from R.C.
3 Farms and downstream is Turner Cut, as the salt comes up and
4 as the salinity comes up --

5 CHAIRPERSON DODUC: Please hold on.

6 Mr. Nomellini, the exhibit number that we have for Kurt
7 Sharp is Central Delta 8A.

8 MR. NOMELLINI: I was just going to correct that.
9 Thank you very much.

10 Q. BY MR. NOMELLINI: Mr. Sharp, excuse me for giving
11 you the wrong reference. Central Water Agency 8A is a
12 correct copy of your testimony; is that true?

13 A. Yes.

14 Q. Sorry for that. Thank you.

15 A. Basically what I'm stating is, as the salt
16 increases through the San Joaquin River, it increases in my
17 ground water, which seeps underneath the levee system and
18 comes up into our land. We have different soil types, and
19 some of the land has more seepage and some has less. But as
20 the salt increases, it increases in my land, and it affects
21 my crops, and ultimately some of the crops fail and die.

22 MR. NOMELLINI: Thank you very much for that. Our
23 next witness is Rudy Mussi.

24

25 DIRECT EXAMINATION

1 Q. BY MR. NOMELLINI: Mr. Mussi, are Central Delta
2 Water Agency 9A, 9B, and 9C correct copies of your
3 testimony?

4 A. Yes, they are.

5 Q. And the content thereof is true and correct?

6 A. Yes, it is.

7 Q. Could you please summarize your testimony?

8 A. Basically I'm a farmer out in the Delta. I've
9 been growing grapes out there. These exhibits show soil
10 testing that we have done. We have contracted with various
11 firms to do soil testing with soil conductivity, GPS
12 related, so everything correlates to the position in the
13 field. Then we do soil tests on the data that we arrive
14 with.

15 And basically to summarize it, the worse our water
16 quality becomes, the more damage that we incur in our crops.

17 Q. And that varies from spot to spot in the fields
18 because of the soils; is that correct?

19 A. Yes, it does. Different soil types in the Delta,
20 that it's pretty rare that you have a consistent field.

21 Q. And you can see this damage to the crops as you
22 walk through the field?

23 A. Yes, you can see it visually, leaf burn, the size
24 of the plants. And then during the harvest, as we ride on
25 the harvesters, you can see it on the sorting belts by the

1 volume of grapes that come off the belt as you arrive in the
2 spots where the salinity problems are.

3 MR. NOMELLINI: Thank you for that. Our next
4 witness is Thomas M. Zuckerman.

5

6 DIRECT EXAMINATION

7 Q. BY MR. NOMELLINI: Mr. Zuckerman, is Central Delta
8 Water Agency 11 a correct statement of your qualifications?

9 A. Yes, it is.

10 Q. And is Central Delta Water Agency 10 a correct
11 copy of your testimony and content thereof true and correct?

12 A. Yes.

13 Q. Could you please summarize your testimony?

14 A. The testimony that I presented here, without going
15 into great detail, deals with the significance of salinity
16 from the San Joaquin River within the Central Delta Water
17 Agency, and also points out that that same salinity has an
18 enormous impact and a direct impact on the water quality of
19 the water that arrives at the export pumps at Clifton Court
20 Forebay.

21 Of particular note, I'd just like to refer for a
22 moment to Central Delta Water Agency Exhibit No. 12, which
23 hopefully you have in front of you.

24 MR. NOMELLINI: At this point, Madam chairman, our
25 copies of exhibits lost the color, and the black and white

1 copies don't really depict it. I do have colored copies,
2 and I'd like to pass those out and make that Central Delta
3 Water Agency 12A, if I may. I think it's easier to read.

4 CHAIRPERSON DODUC: Thank you. I don't see
5 anybody setting up an objection, so let's go ahead and do
6 that.

7 Q. BY MR. NOMEILLINI: Mr. Zuckerman, you can proceed.
8 Describe to us what Central Delta Water Agency 12A, which is
9 page 4 of the Central Delta Water Agency 12, shows?

10 A. I don't recall exactly when the Department of
11 Water Resources started publishing this data on a weekly
12 basis. But I've been receiving an Email -- I'm on their
13 Email list -- every week I get the type of information which
14 is exhibited on Central Water Delta Agency Exhibit 12A.

15 And some time within the last year, if my
16 recollection serves me correctly, they began supplementing
17 the information that had been on that web site at Email with
18 this fingerprinting capability, which you see exhibited on
19 this particular sheet. This is one of several sheets that I
20 received weekly by Email as part of their report.

21 And what I find about it is, which is particularly
22 helpful to this discussion, is the illustration, during the
23 year when they have been publishing this data, the
24 indication that through about the month of June, the San
25 Joaquin River was almost the only influence upon both

1 salinity and dissolve organic carbon that was arriving at
2 Clifton Court Forebay and hence ended up in the export
3 applied to the state water project, of course, goes to the
4 San Luis Reservoir and gets mixed up with the federal
5 project as well.

6 So, you can see that whatever the -- at least
7 during the time frame that we're talking about, whatever the
8 water quality of San Joaquin River was, was directly and
9 almost totally impacting the quality of the export water up
10 into the month of June.

11 Then, you'll see, as in this particular year, as
12 the flow in the San Joaquin River began to diminish and the
13 Sacramento River end flows began to become more prominent in
14 the Delta, a gradual decrease of the influence of the San
15 Joaquin River water on the water quality at the pumps and a
16 gradual increase, and Sacramento River water and water from
17 the eastern tributaries to the Delta.

18 Q. Mr. Zuckerman, calling your attention to Central
19 Delta Water Agency A1, which is a map, does that correctly
20 show the position of Central Delta Water Agency and the San
21 Joaquin County portion of the Delta?

22 A. I believe it does, yes.

23 MS. RIDDLE: Excuse me, Mr. Zuckerman. Can you
24 answer a question for me? Can you please indicate what each
25 of the abbreviations on this graft represents?

1 THE WITNESS: I'm not sure I can do them all, but
2 I can do the ones that are most relevant to me. Sac., which
3 is the yellow bar in the legend, represents the Sacramento
4 River end flow to the Delta or Sacramento River
5 contributions. SJR, which is the pink, which I was
6 referring to earlier, was the San Joaquin River
7 contributions. East, the green would be the Calaveras,
8 Mokelumne and some minor tributaries which come in from the
9 east side of San Joaquin County actually. Delta would be
10 presumably return flows or something of that nature from
11 either agricultural or municipal treatment plants within the
12 Delta area itself. And I'm not exactly sure what MTZ is
13 other than those constitute my initials, but I don't think
14 that's me, and I really don't know what that is.

15 MS. RIDDLE: Could you find out for us at some
16 point?

17 THE WITNESS: Certainly.

18 MR. RUBIN: Madam Chair, with those responses, I
19 have a question regarding the expertise of Mr. Zuckerman
20 relating to certain elements of his testimony. I could
21 raise those questions as part of my cross-examination or I
22 can raise them now. But I wanted to make you aware of those
23 concerns that I had.

24 CHAIRPERSON DODUC: Thank you. Please do so as
25 part of your cross-examination.

1 Q. BY MR. NOMELLINI: Mr. Zuckerman, calling your
2 attention to Central Delta Water Agency 13, is that simply
3 an extract from the draft program, environmental impact
4 report of the consolidated and informed place of use dated
5 December, 1997?

6 A. That is.

7 Q. And does that show the period of time that waters
8 were delivered outside the permanent place and use of the
9 CVP?

10 A. Yes, it does. And it indicates the acreages of
11 the land to receive water from either directly or
12 indirectly, I presume, from the CVP that were not part of
13 their permitted place of use.

14 Q. Calling your attention to Central Delta Water
15 Agency 14. Are those pages extract from 160-93 of the
16 California Water Plan update prepared by the Department of
17 Water Resources?

18 A. Yes, they are.

19 Q. And do these pages show a value for water salinity
20 degradation?

21 A. Yes, they do. And beginning at the bottom of the
22 first page of that exhibit and continuing on for two pages,
23 they give several different descriptions of how diminution
24 of water quality can have impacts upon different uses,
25 including a description of what the economic impact upon

1 water treatment costs would be of a typical situation,
2 increase in salinity.

3 Q. Calling your attention to the page numbered 131,
4 about the middle of the page, it states, "The current
5 generalized value for this additional salt would be about 80
6 cents per acre foot per milligram, per liter;" is that
7 correct?

8 A. That's right. And I would point out that that was
9 a figure that was influenced by inflation. The basic number
10 that the report was dealing with was a 1989 cost at 68 cents
11 per acre foot, and they were increasing it as of about 1993
12 to show that the influences of inflation. In my opinion, if
13 you extended that study to the current day-to-day, that same
14 cost would exceed a dollar.

15 MR. NOMEILLINI: Thank you for that. That's a
16 summary of our testimony. Our witnesses are available for
17 questioning, cross-examination, and all the other challenges
18 that could be put forth.

19 CHAIRPERSON DODUC: Any questions from the Chair?
20 Perhaps we'll ask you questions later. We'll start with the
21 cross-examination by the Division of Water Rights
22 Prosecution Team.

23 MS. MAHANEY: We have no cross-exam.

24 CHAIRPERSON DODUC: The South Delta Water Agency.

25 MR. HERRICK: John Herrick, South Delta, I have no

1 cross-examination.

2 CHAIRPERSON DODUC: The County of San Joaquin.

3 MS. GILLICK: DeeAnne Gillick, we have no
4 cross-examination for the panel.

5 CHAIRPERSON DODUC: California Sportfishing
6 Protection Alliance.

7 MR. JACKSON: We have no cross-examination for
8 this team.

9 CHAIRPERSON DODUC: Department of Water Resources?

10 MS. CROTHERS: Yes. DWR, we have some questions.
11 If I could, could I have maybe five minutes to talk with
12 some of my engineers who have been listening here?

13 CHAIRPERSON DODUC: Why don't we go ahead and take
14 a ten minutes break actually. We'll resume at 11:20 a.m.

15 (A recess was taken at 11:07 a.m.)

16 (Hearing reconvened at 11:22 a.m.)

17 MS. CROTHERS: Thanks for giving me some time. I
18 do want to comment. This is, I believe, a quite complicated
19 area. And we are fortunate we have several experts in our
20 department that deal with water quality matters and Central
21 Delta.

22 We do publish information on the web site to help
23 inform people about the data that we gather. I have a few
24 questions first for Mr. Sharp. One other question -- kind
25 of housekeeping thing -- in terms of asking the panel

1 questions, I don't mind -- I'll direct my questions to an
2 individual -- but I don't mind if someone else from the
3 panel would also like to respond. I would just like to know
4 if that would be acceptable to the Chair?

5 CHAIRPERSON DODUC: That would be fine.

6

7 CROSS-EXAMINATION

8 Q. BY MS. CROTHERS: Mr. Sharp, you were commenting
9 or testifying about the water that comes from your channels
10 and enters on your property. Could you give me some idea if
11 you have an expertise in this area? Are you a geo-technical
12 engineer?

13 A. Farmer.

14 Q. Well, have you read studies that would indicate to
15 you that this seepage from the channel into your land, it is
16 happening, and there are conveyances of that water under the
17 levees?

18 A. Yes, well, we have what you call seepage ditches;
19 it's to receive the seepage from the main irrigation system.

20 Q. And which direction does the flow go?

21 A. Well, the flow can travel parallel with the levee,
22 and then we receive it with line ditches that bring it into
23 the main drainage systems, which pumps it back into the
24 river.

25 Q. Are you talking about the seepage coming from your

1 land into your drainage ditches?

2 A. The seepage coming from the river.

3 Q. And how does it get to your fields?

4 A. Okay. If we have a clog, if a drain or a pipe is
5 plugged, then the amount of seepage coming through or
6 underneath the levee will fill the ditches.

7 Q. I'm sorry. I didn't understand. Is that coming
8 from your land or the channels, the adjacent channels?

9 A. It's coming from the adjacent channels. We abut
10 up to the river. If I have a piece of property, and I'm not
11 top irrigating or running any pumps, we don't need pumps; we
12 have syphons. I can plug my line ditches with a Board and
13 fill the ditches full of water and ultimately run the water
14 on top of the ground. I can flood the property.

15 Q. And then the water drains back into your drainage
16 ditches?

17 A. After I release the boards.

18 Q. Does that mean then that the channel water is
19 seeping into your crop land?

20 A. That is correct.

21 Q. From those ditches?

22 A. From the river and the syphon.

23 Q. Do you irrigate with the water from the channel or
24 your seepage ditches?

25 A. I irrigate with the water from the channels. Some

1 of the property I don't irrigate at all, because there's
2 enough seepage from the river to provide my crops.

3 Q. Can you tell me the depth of your water table?

4 A. It varies. The upper piece of property, which
5 is -- I call it the upper; it's the lower piece -- we
6 actually top irrigate, and it's probably, I would say it's 4
7 feet. And then I have property right near the river that
8 the water table is 2 feet.

9 Q. Do you know whether you have what some people
10 might call a "water logging problems"?

11 A. We might have some water logging problem, but we
12 resolve the problem with French drains.

13 Q. Can you explain what that is?

14 A. A French drain is a tile drain. You dig down --
15 we dig down about approximately three, three and a half
16 feet. Once we get into the water, then we fill it with a
17 tile gravel, and then we put a pipe in to receive the water
18 and drain it into the line ditches.

19 Q. Is that throughout your fields?

20 A. That's throughout the fields that parallel the San
21 Joaquin River, down the street from the San Joaquin River on
22 the main channel.

23 Q. Would you say that's the area where you're seeing
24 your depth water levels approximately 2 feet?

25 A. Correct.

1 Q. In your testimony, you have submitted Exhibit B,
2 some lab reports from Precision Agri-Lab?

3 A. Yes.

4 Q. In these lab reports, are these the lab reports
5 that you're using to base the problems of crop damage?

6 A. We pull the lab reports just to check the pH and
7 the amount of salt in the land. Both of these vary, mostly
8 the salt, depending on the climatic, how much rain fall and
9 flooding. We try to flood in the off months, depending on
10 what our crops are, to drive the salt down mostly in
11 November and December.

12 Q. Does this report tell you -- is there somewhere on
13 this report that indicates the actual EC for soils known as
14 the Soil Extract EC?

15 A. No.

16 Q. Does this report show you the EC that the crop
17 responds to?

18 A. No.

19 Q. So, how can you tell from this report that the
20 irrigation water quality, which is related to EC, is causing
21 the crop damage?

22 A. Well, the ground has natural salts within itself.
23 I mean, these soils vary. So, I mean, it's common sense
24 that if we compound the problem with salt intrusion or salt
25 water, I mean it's only going to make any salt problem

1 worse.

2 Q. And you base this on your common sense?

3 A. I base it on my crops.

4 Q. So, have you been able to relate this specific
5 location of your crop damage to the irrigation or water
6 quality that's applied?

7 A. Can you say that again?

8 Q. Have you been able to specifically identify the
9 locations where you have your crop damage to the value of
10 the EC in your applied water?

11 A. Not directly. I mean, lots of times after we
12 irrigate or pull the water off, if the salt is naturally in
13 the ground, you can actually drive the salt upward.

14 Q. How do you measure that?

15 A. Well, you don't. You can't measure it. You can
16 see it on top of the ground. We haven't gone out and
17 measured it. You can see it on top of the ground.

18 Q. Do you believe that a change in your water
19 irrigation quality would change that problem?

20 A. It would certainly help.

21 Q. Do you believe the crop harm is related to the
22 excess water?

23 A. You plant the crops that are most acceptable or
24 respond most positively to your conditions. So, I wouldn't
25 go out and plant a crop that would be especially sensitive

1 to water if I knew I had a water logging problem.

2 MS. CROTHERS: This is really a question for any
3 of the farmers that have given testimony today. This is
4 related to the irrigation water quality, well, actually,
5 maybe this is more for -- I think Mr. Zuckerman, this is
6 related to the chart that was handed out, is it Exhibit 12A,
7 page 4, 12A.

8

9 CROSS-EXAMINATION

10 Q. BY MS. CROTHERS: So, Mr. Zuckerman, you've
11 presented this testimony as part of your exhibits. Can you
12 read on this chart for us the EC that is indicated at
13 Clifton Court Forebay in 2005, well, let's say the month
14 when you begin irrigating, is that in April?

15 A. Not necessarily.

16 Q. Well, give me a month then that you would be using
17 the water in 2005?

18 A. Bear in mind, I don't make my living in farming
19 like these other gentlemen. If you wanted to give me a date
20 on the chart, I can tell you what the EC was.

21 Q. Okay, April 29.

22 A. April 29, 2005, the EC is about 250 microsemens
23 per centimeter, I think, is the measurement that was related
24 to the San Joaquin River water, and the total is about 300.

25 Q. Thank you. That's how I would read it also. It's

1 about 300 microsemens actually, and that would relate to
2 like 700 microsemens in terms of the water quality objective
3 that began in April, 2005.

4 So, that 300 then is approximately about half of
5 what the water quality objective is for that month. So,
6 Mr. Zuckerman, would you say that the water quality in 2005
7 was quite good?

8 A. It was quite good in the San Joaquin River, yes.

9 MS. CROTHERS: So, this question then is for
10 Mr. Sharp and Mr. Mussi.

11 Q. BY MS. CROTHERS: Can you tell me, did you note
12 crop damage from this season?

13 A. In my case, it's hard to distinguish it on a
14 permanent ground because salinity problems tend to come out
15 so visually. I grow grapes; I grow walnuts. I'm not going
16 to see a response in one year.

17 Q. So, did you see any crop damage this year?

18 A. Well, yes, I do have crop -- if you can look at my
19 examples that I've provided with the soil testing, the parts
20 that are dark are where I have crop damage in my fields.

21 The remedy form doesn't occur in one year or two
22 years. It's a compounded problem. So, just because I have
23 better water quality for one year or for a portion of a year
24 doesn't mean that my problem goes away.

25 Q. So, even meeting an objective of having water

1 quality at 300 microsemens, or 3EC approximately, does not
2 mean you won't have crop damage?

3 A. Well, it does and it doesn't, because at one
4 specific time, I may have that water quality. But if in the
5 prior years I had worse water quality, no, it doesn't. It
6 may help the problem a little, not compound it, but it
7 doesn't remedy it in one year.

8 MS. CROTHERS: Thank you.

9 MR. ZUCKERMAN: May I just interject something
10 here? The purpose of offering this particular testimony was
11 not to indicate that there was a problem being created this
12 year. It was to indicate the influence that the San Joaquin
13 River had in this year upon the water quality being exported
14 at Clifton Court Forebay.

15 Q. BY MS. CROTHERS: Thank you, Mr. Zuckerman. Thank
16 you for that clarification. I was actually going to ask you
17 that question, what was the purpose of this exhibit? I just
18 thought I would use it to kind of demonstrate water quality
19 this year, which I happen to know is quite good.

20 Also, though, regarding the use of the chart, the
21 Volumetric and Constituent Fingerprints that DWR puts on its
22 web site, do you know the amount of water that the state
23 water project exports to the west side of San Joaquin
24 Valley?

25 A. In rough numbers, I do, yes.

1 Q. Can you tell me what those are?

2 A. You're talking about the state water project?

3 Q. Yes.

4 A. Well, you can't really separate it because the
5 state and the federal project intermingle their operation.
6 You just have to look at the total deliveries to the west
7 side of San Joaquin Valley. And it's anybody's guess at
8 this point, because of the way they intermingle their
9 operations, how much of it is actually sourced from the
10 state water project versus the federal water project.

11 What I can say is that that the water quality
12 that's being exported by both projects is quite similar
13 because of proximity of their two export locations.

14 Q. Mr. Zuckerman, you're making some assumptions
15 about the operation of the state water project and the
16 Central Valley project, and I would like to know the basis
17 of that, because I believe that's an incorrect assumption,
18 what you just concluded, and I don't think you can make that
19 assumption.

20 The state water project operates and exports water
21 under specific water rights, and we cannot just pump water
22 for the CVP over to the west side without a transfer of
23 water. And the state water project does not have any place
24 of use on the west side except for one minor location.

25 So, how do you conclude that we intermingle and

1 you have to include both projects as to deliveries to the
2 west side, which are CVP place of use?

3 CHAIRPERSON DODUC: Mr. Jackson.

4 MR. JACKSON: I want to object. The question
5 simply wasn't a question; it was testimony. I would very
6 much like to cross-examine on all of the things that have
7 just been said, and I hope that a real witness will be put
8 forward to say those things because they were all wrong.

9 CHAIRPERSON DODUC: Please move on to your next
10 question.

11 MS. CROTHERS: I just want to see if I could I get
12 a better foundation for Mr. Zuckerman's statement. Isn't it
13 appropriate, Madam Chair, that I ask him for the basis for a
14 statement that he's putting forth as true as testimony?

15 CHAIRPERSON DODUC: All right. Basis of the
16 statement, but that's it.

17 THE WITNESS: Well, are you looking for my
18 qualifications or just the basis of my statement?

19 Q. BY MS. CROTHERS: Yes, from where you get that
20 information to make that conclusion?

21 A. Well, as you well know, I've been involved as a
22 close observer of this process since 1967. With the
23 exception of Mr. Shulz and Mr. Nomellini, I think the rest
24 of you must have come along somewhere in the meantime. We
25 all took the same law school course on water law in about

1 1965.

2 And as you know, I'm a member of the Bay Delta
3 Public Advisory Committee. I sit on seven or eight of the
4 subcommittees at the public level and am constantly involved
5 in these issues since 1967. And I pride myself on trying to
6 keep current on what's going on with both projects.

7 Now, I'm aware of the fact that under certain
8 circumstances, there's a joint plan of diversion, the
9 capability of the two projects, where they use each other's
10 pumping facilities. Typically it's more of the bureau using
11 the state's pumping capacity, but they have that capability,
12 and they have a common reservoir on the west side of the San
13 Joaquin Valley called San Luis, and they intermingle their
14 water supplies in that reservoir. And as far as I know,
15 other than an accounting system, they have no way of keeping
16 the water supply separate.

17 From that point, they deliver water to various
18 customers of the projects, but you don't know whether
19 they're delivering water that had its origin from the state
20 pumping capability or from the federal pumping capability.

21 Q. I'd like to talk again about the graft that you've
22 testified to. And I know you were just giving it for the
23 purpose of showing the mix of the water quality. I'd like
24 to point out this is a fingerprint in Clifton Court Forebay.

25 Mr. Zuckerman, do you know whether the example at

1 Clifton Court Forebay Fingerprinting or EC Proportions would
2 apply to the areas where your properties are located?

3 A. I didn't say that it did.

4 Q. Well, I just want to know if you knew whether it
5 would or not?

6 A. Well, when you're talking about my properties,
7 what are you talking about? Property that I personally own
8 in the Delta or Central Delta Water Agency, South Delta
9 Water Agency, what are you referring to?

10 Q. Well, I guess I was really looking at the
11 properties that Mr. Neudeck identified as part of the
12 testimony here.

13 A. I have no ownership interest in that.

14 Q. It's a little hard. I don't know if I can ask the
15 other witnesses because they may not have familiarity with
16 the chart.

17 Well, I would note on the chart that in the San
18 Joaquin River that you're pointing to, can you identify the
19 period of time where that San Joaquin River water is
20 predominantly showing up at -- the months where the San
21 Joaquin River water is showing up at the Clifton Court
22 Forebay?

23 A. Well, this particular chart covers the period from
24 April 1, 2005 to September 30, 2005. From the onset of the
25 chart on April 1, 2005, until June -- I would say about

1 June 24 or so -- the predominant fingerprint on the Clifton
2 Court's supply is from the San Joaquin River.

3 Q. So, would you say the water quality during that
4 period was fairly good?

5 A. Well, it depends on your point of reference. If
6 we were irrigating with this water in the Central Delta, we
7 wouldn't think it was very good, no. If you're looking at
8 it in terms of a historical, a recent historical experience
9 on the San Joaquin River, I would say it's probably better
10 than recent historical experience on the average. But water
11 of this quality has been known to cause severe salt problems
12 in the areas they that I'm most familiar with in the Central
13 Delta.

14 Q. Would you say that this chart probably varies
15 between water year types?

16 A. No, this only covers the period April 1 to
17 September 30.

18 Q. So, this is fairly specific to each water year
19 type?

20 A. Not only each water year, but each weekly report
21 reports a different situation.

22 MS. CROTHERS: Thank you. That is all the
23 questions I have. Thank you.

24 CHAIRPERSON DODUC: Thank you. San Joaquin River
25 Group Authority.

1 MR. NOMELLINI: Madam Chair, we've been informed
2 MTZ on the chart stands for "Martinez" or see water
3 intrusion component that would be described in the
4 fingerprint.

5 CHAIRPERSON DODUC: That would be chart 12A.

6 MR. NOMELLINI: We got it by hearsay, but we
7 wanted to pass it on.

8 CHAIRPERSON DODUC: Mr. O'Laughlin.

9 MR. O'LAUGHLIN: Thank you. Tim O'Laughlin, San
10 Joaquin River Group Authority. My first line of questions
11 are for Mr. Mussi.
12

13 CROSS-EXAMINATION:

14 Q. BY MR. O'LAUGHLIN: Mr. Mussi, do you remember me
15 taking your depositions in previous litigation matters?

16 A. Yes, I do.

17 Q. Isn't it true that you previously testified that
18 you never tested soils on your property before you purchased
19 it in 1984?

20 A. No, I didn't test it because I didn't have
21 possession of it.

22 Q. So, your property, you did not know what the
23 condition of the soils on your property were prior to 1984;
24 is that correct?

25 A. Well --

1 Q. Is that correct?

2 A. No.

3 Q. How did you know then what the conditions of the
4 soils were prior to 1984 if you never tested them?

5 A. All right, because I farm in the Delta. We own a
6 piece of property that is adjacent to it. Most of the
7 Delta's property and the locations have similar
8 compositions, so I farm the property right next to it, so I
9 was pretty familiar with it.

10 Q. Well, I thought you testified that the soil
11 conditions in the Delta varied greatly. So, how would you
12 know that a property next door to this would have the same
13 soil composition as the one you were farming on?

14 A. The soils in the Delta vary within each field.
15 But that compensation, you might have streaks of different
16 soil types in one field, but usually those streaks run into
17 the neighboring fields or whatever. Basically, what you
18 have on one side you've got on other side, not always true.
19 But at the same time, when I travel the roads, I not only
20 look left, I also look right.

21 Q. Isn't it true when you previously testified when
22 you purchased your property in 1984, you did not know
23 whether or not it had a problem regarding salt buildup in
24 the soils?

25 A. Well, you could probably say that about all the

1 soils depending on which particular spot you're looking in
2 the field.

3 Q. Well, let me read back to your deposition
4 testimony that you took under penalty of perjury.

5 "QUESTION: When you bought the property in 1984, did the
6 property have a built up of salts in the soils at that
7 time?" "ANSWER: You know, that's difficult to answer, the
8 question of the answer. Just because we haven't done the
9 intensive testings of the soils prior to that, because we
10 purchased the property from another farmer or from the bank
11 and there was a crop of the asparagus on it, so basically
12 what I had is what I dealt with. But since we planted
13 grapes into it, and it's high value crop, we've done a lot
14 more monitoring and testing."

15 So, in fact, you didn't know what the salt buildup
16 in the soil was, correct?

17 MR. HERRICK: Objection, that misstates what he
18 just read. It's mischaracterizes the testimony. The
19 statement from the deposition speaks for itself.

20 CHAIRPERSON DODUC: Mr. Jackson, do you want to
21 add to that?

22 MR. JACKSON: Same objection. I mean the
23 deposition speaks for itself. If he wants to put it into
24 evidence, that's fine. But to misquote it doesn't seem
25 right.

1 CHAIRPERSON DODUC: Where are you going with this?
2 Obviously, Mr. O'Laughlin, you've established a foundation,
3 and the witness has answered the question regarding his
4 nontesting, his determination of the problem on his
5 property, and you've now just, I assume, read a statement
6 into the record.

7 MR. O'LAUGHLIN: Right. I'm done.

8 CHAIRPERSON DODUC: Thank you.

9 Q. BY MR. O'LAUGHLIN: When did you start doing
10 intensive testing on the soils on this property?

11 A. Intensive, what do you mean by intensive?

12 Q. When did you start monitoring for salt buildups in
13 the soils on your property?

14 A. We pull soil samples fairly regularly on all the
15 different soils.

16 Q. From 1984 to 1994, how many soil samples did you
17 pull on that property?

18 A. You know, I can't recall when the asparagus was
19 taken out, but usually right after we pull the crop out and
20 we go to plant another crop, we'll pull a soil sample. If
21 it's a yearly crop, if I'm going back with the same crop,
22 usually that soil sample will be good for two years.

23 If I'm going to a different crop which has a
24 different nutrient or other different problems that I may
25 have, I'll pull another soil sample, so it depends. Usually

1 I'll use a soil sample for two or three years if I'm not
2 varying the crop considerably.

3 Q. So, where are the soil samples that you took from
4 1984 through 1994?

5 A. Probably in the trash can. They wouldn't be of
6 any good to me now.

7 Q. Well, let's talk about water quality conditions
8 from 1987 to 1992 where you farmed your property. Do you
9 what the EC in the water was outside your property where you
10 take water from the San Joaquin River and divert it on your
11 property during that time period?

12 A. Well, I get my water through Woods Irrigation
13 District, which their direct diversion is from the Middle
14 River. But they used to, Woods Irrigation itself used to do
15 water sampling, and the EC's tended to be between, I mean
16 the TDS tended to be between 450 and 550.

17 Q. And that's 450 through 550 in the years 1997
18 through 1992?

19 A. You know, I can't tell you which particular year,
20 but that's been the general quality of the water.

21 Q. Do you know whether or not there's any correlation
22 between water quality at Vernalis and water quality where
23 you divert?

24 A. You know, I'm not a water expert; I'm just a
25 farmer. And I can just tell you what water quality I have

1 is coming on to my field.

2 Q. What is the water quality coming onto your fields?

3 A. Depends on the month; depends on the year. It
4 varies from month to year.

5 Q. Do you take water quality graft samples of water
6 coming on to your fields in any year?

7 A. What do you mean by water quality graft samples?

8 Q. In other words, when you get ready to irrigate, do
9 you take a sample of water and have it tested for EC?

10 A. No, I carry out a meter with me, and that has the
11 capability of either giving me TDS or ECs.

12 Q. And do you record that?

13 A. No, I don't.

14 Q. And is there any evidence or testimony from you as
15 to the quality of the water that you present in your
16 testimony today where I could find the quality of water that
17 you applied to your fields?

18 A. You know, that I don't know.

19 Q. Is there a reason why you didn't supply this body
20 with the quality of water that you're applying to your
21 fields if you don't know what the EC is?

22 A. I didn't know I was asked to.

23 Q. And did your attorney tell you to include that or
24 exclude that from your declaration?

25 A. No, he didn't.

1 Q. Well, just so we're clear, if Mr. Zuckerman keeps
2 shaking his head; he's not the person testifying. The
3 person testifying is you; is that correct?

4 A. Correct.

5 CHAIRPERSON DODUC: Let's move on.

6 Q. BY MR. O'LAUGHLIN: Mr. Mussi, who drafted your
7 declaration?

8 A. It's my words, if that's what you're asking me.

9 Q. And this is the same one that you did previously
10 in other proceedings in Central Delta Water Agency versus
11 USA?

12 A. You know, I don't know what you mean previously.
13 I don't know what documents you're referring to. If you
14 want to present me with something, maybe I can distinguish
15 the two.

16 CHAIRPERSON DODUC: What is the relevance here,
17 Mr. O'Laughlin?

18 MR. O'LAUGHLIN: Of what?

19 CHAIRPERSON DODUC: In terms of asking him about
20 his testimony today and his testimony before?

21 MR. O'LAUGHLIN: Well, because he didn't draft his
22 testimony.

23 CHAIRPERSON DODUC: You don't know that.

24 MR. O'LAUGHLIN: Well, that's why I get to ask the
25 questions, so we can find out whether or not he did or not.

1 Because there's another witness on this panel that will
2 testify that he did, in fact, did not write this
3 declaration.

4 CHAIRPERSON DODUC: Let's move on.

5 MR. NOMELLINI: Our office drafted all the
6 testimony after we interviewed the witnesses, so there need
7 not be a lot of time spent on that. We tried to foot him
8 this testimony, the testimony of the witnesses, but our
9 office actually drafted it.

10 CHAIRPERSON DODUC: Thank you.

11 Q. BY MR. O'LAUGHLIN: Can you tell me, based in
12 1990, what crop you grew?

13 A. Back in 1990, I couldn't tell you right now, no.
14 I farm about 4,000 acres. I'm involved in another 2500
15 acres, so it's about 6500 acres. The fields tend to be
16 anywhere between 40 to 60 acres, so what specific field, I
17 couldn't tell you, no.

18 Q. Well, on this specific property that you've
19 testified at and regarding about, do you know what crop you
20 grew in that year?

21 A. 1990, I can't tell you. I can give you a general
22 term. After we took out the asparagus, we probably planted
23 a grain crop. I know we grew garbanzo beans on that field.
24 I know we grew onion seed for seed.

25 Q. Do you know what year you grew garbanzo beans?

1 A. No, I don't. Like I said, I farm numerous fields.
2 I can just give you generalities, but I can't give you a
3 specific year.

4 Q. What impact to your garbanzo beans were caused by
5 the poor quality of water that you received for irrigation,
6 if any?

7 A. What was that question, please?

8 Q. Yes. What impact to your garbanzo beans occurred
9 from the poor water quality that you received?

10 A. Do you mean, did I suffer a loss? Is that what
11 you're asking?

12 Q. Yes.

13 A. Sure. There was some spots where the crops
14 yielded better than the other spots.

15 Q. Is there any reason why in your testimony that you
16 presented here today that you have not presented any
17 evidence of diminution in either yields to your crops or
18 actual monitoring numbers in regards to the decline of your
19 crop values?

20 A. Is there a reason while I haven't presented it?

21 Q. Yes.

22 A. Just because, number one, there's not a monetary
23 settlement that I'm after here. I don't think I'm going to
24 be gaining by presenting it. And, also, I didn't know I
25 needed to present it.

1 Q. Do you know on a ballpark how much, let's take for
2 this year, did you suffer water damage to your crops --
3 well, let's go first. What crop did you have grown on this
4 property this year?

5 A. Grapes.

6 Q. Did you suffer any damage to your grapes this year
7 in the water quality --

8 MR. NOMEILLINI: That's been asked and answered.

9 MR. O'LAUGHLIN: I asked this year; she asked
10 generally.

11 THE WITNESS: I'm sorry. What was that question
12 again?

13 Q. BY MR. O'LAUGHLIN: Did you have any impacts to
14 your grapes due to the water quality that you received this
15 year?

16 MR. NOMEILLINI: I think that was asked and
17 answered.

18 CHAIRPERSON DODUC: The previous parties went
19 through a list of questions regarding the water quality this
20 year and the impact or nonimpact this year.

21 MR. O'LAUGHLIN: You can sustain or overrule. I'm
22 just waiting.

23 CHAIRPERSON DODUC: I'm sustaining the objection.

24 Q. BY MR. O'LAUGHLIN: What kind of grapes do you
25 grow?

1 A. Chardonnay.

2 Q. What kind of variety?

3 A. Chardonnay.

4 Q. On your Chardonnay, what is the average depth, you
5 believe, of the roots systems for those grapes?

6 A. About 2 to 3feet.

7 Q. And no further than that?

8 A. You know, it can extend beyond that. I think I've
9 got a water table of about 5 to 6 feet depending on the
10 month and the year, depending on whether my neighbor is
11 irrigating or not.

12 But if you asked about the general proximity of
13 it, it would be there. Some of it should be shallower, but
14 we do do mechanical incorporations, so the shallow roots
15 would not be there.

16 Q. Do you know if there's any correlation between
17 water quality at Brandt Bridge and where you take water out?

18 A. You know, I'm not a water expert. I just know the
19 water quality by my fields.

20 Q. Do you know what the basis of Woods Irrigation's
21 Company right to divert from Middle River is?

22 A. They've got, I guess, riparian Rights in pre-1914
23 appropriative rights.

24 Q. Do you know if in the summers of, in the year
25 1992, in June, July, or August, if riparian water was

1 present for Woods Irrigation District to divert?

2 MR. HERRICK: John Herrick, South Delta Water
3 Agency. Objection. Mr. O'Laughlin is asking for a legal
4 conclusion by the witness. We've gone through this all
5 before about whether or not the Delta relies upon solely the
6 San Joaquin River water for any of its rights, and this is
7 not a topic of this discussion.

8 MR. NOMELLINI: I would object. It's beyond the
9 scope of the direct.

10 MR. O'LAUGHLIN: I'd like to be heard on the
11 objection before you rule.

12 THE WITNESS: In order to save some time, I'm not
13 a water expert, so, I wouldn't know the answer anyway.

14 MR. O'LAUGHLIN: I'd like to get that answer on
15 the record. I don't know if that's the answer. He doesn't
16 know. I'm perfectly fine with that.

17 CHAIRPERSON DODUC: He doesn't know, but more
18 importantly, the issue of water rights is not within the
19 scope of this hearing. We're focussing on water quality and
20 water quality response plan, so let's move on, please.

21 MR. O'LAUGHLIN: Just so the record is clear, I'm
22 going to note an exception in the record for appeal, they
23 are absolutely at issue here. Because if you have no right
24 to divert water, you have no right to a certain water
25 quality to divert.

1 So, if it's the summer of 1992 and no riparian
2 water is present for you to use your riparian right, I don't
3 care if the water is 500 EC or 1000 Ec, you don't have the
4 right to take it, so it can't impact you.

5 So, it is a fundamental issue that you first have
6 to have the right to take the water before you have the
7 right to a water quality. And if you don't have the right
8 to take it, then the reasonable and beneficial use is not
9 protected.

10 CHAIRPERSON DODUC: Mr. Shulz.

11 MR. SHULZ: Based on your ruling, I think a motion
12 to strike some testimony from the CDW(a)(8), in the first
13 two paragraphs R.C. Farms testifies it is the owner of
14 riparian land. And in the second paragraph it states, "As
15 the owner of riparian land, R.C. Farms is entitled to divert
16 waters from the San Joaquin River for reasonable and
17 beneficial use." So, it is in his direct testimony.

18 What he was asking was not within the scope, so,
19 if it's not relevant to cross, it's not relevant to direct
20 testimony.

21 MR. NOMELLINI: That testimony is R.C. Farms, Inc.
22 questions --

23 CHAIRPERSON DODUC: Gentlemen, address it to me,
24 please?

25 MR. O'LAUGHLIN: Well, the problem though is, it

1 is in his testimony. He says in paragraph No. 2 that the
2 property is served from Middle River through Woods
3 Irrigation Company. At the time of patent from the State of
4 California, the property was part of the large parcel of
5 Middle River as well as the San Joaquin River. Farming
6 appears to extend back to the 1800s and appears to have
7 commenced at the time when the certificate of purchase was
8 issued.

9 Well, those are extremely relevant issues,
10 basically what they're trying to establish is that there's a
11 pre-1914 right to divert water. Well --

12 CHAIRPERSON DODUC: Listen, sorry for the
13 interruption, but we're getting way out of hand here.
14 Obviously of interest in this hearing is the water quality
15 and how the crops are affected by water quality. At issue
16 here is not your water rights or whether you have the right
17 to divert from that particular area.

18 So, we're -- I will sustain Mr. Shulz's objection
19 with respect to removing those statements from the record,
20 and let's move on from here.

21 MR. O'LAUGHLIN: Well, this is an interesting
22 quandary for me because having said that, one of the
23 basis -- and your staff counsel knows this well because
24 Mr. Herrick has already gotten up and said it numerous
25 times -- without a showing that they are a water right or a

1 legal user of water or they cannot prove any right to divert
2 water from the Delta, there is no basis for them to claim
3 that they have been impacted by water quality.

4 Because, once again, we have to go to the
5 underlying fundamental right, which is, you have to
6 establish your right first, and once you've established your
7 right, then you have a right to take what water is
8 available. If that water is available and has a water
9 quality that can graze your crops, then you may have an
10 impact.

11 But I don't see how you do one without the other.
12 And as we well know on appeal, this will be a central theme
13 that goes through our part, which is, these people don't have
14 rights to divert water at the times of years when they claim
15 they have a right to divert; and, therefore, they are not
16 entitled to the water quality that they seek to claim.

17 CHAIRPERSON DODUC: We're not going to debate this
18 issue, Mr. O'Laughlin. My interest in this panel is your
19 testimony on the impact to the plot.

20 Q. BY MR. O'LAUGHLIN: What has been the decline in
21 the tonnage from your Chardonnay grapes from 1994 to the
22 present?

23 A. The grapes were planted in 1994, so you start off
24 from zero and you go up. So, I can't give you an answer to
25 that.

1 Q. Well, when would you expect the Chardonnay grapes
2 you planted in 1994 to reach maximum production?

3 A. Probably in your fourth year.

4 Q. So, let's go from year four to the present. What
5 has been the decline in your production due to salt buildup
6 in your soils?

7 A. I can't give you that total, a specific total as
8 opposed to lets say 1000 tons to 500 tons. Because in some
9 areas, I'm probably achieving full production; and in other
10 areas, I'm probably getting 70 percent, or sometimes in
11 other locations, 30 percent of that.

12 Q. And have you made a differentiation in your
13 farming practices between where you get full production and
14 where you get 30 percent production?

15 A. If you're asking me, am I managing that
16 differently?

17 Q. Yes.

18 A. Yes, we contract with a company, and they'll come
19 out and they'll do soil sampling for us, and they correlate
20 it with these maps that I have provided. And they'll give
21 me specific grates for specific areas, and that might
22 include gypsom; that might include lyme. We also do an
23 enfuric water application, where we treat the water as we
24 irrigate.

25 And we also do an irrigation in October to wet the

1 water profile, so when we do receive the rains, we'll get
2 some leeching from that. And we also put on potassium or
3 potash so the plant doesn't take on the salts or the salt
4 ions instead of the potassium.

5 Q. When you started these practices, what year did
6 you start the practices of doing these types of applications
7 to these areas which were showing low productivity?

8 A. I'd probably say probably about 1999.

9 Q. What is the average yield per ton, per acre, from
10 your Chardonnay grapes on average?

11 A. On average, I'd say somewhere in the neighborhood
12 of 7-ton.

13 Q. Per acre?

14 A. Per acre, average acre.

15 Q. Do you know how that compares with the average
16 production in San Joaquin County as a whole?

17 A. Well, if you're comparing me down to Fresno --

18 Q. No, San Joaquin County?

19 A. San Joaquin County, I would think I would be in
20 the ballpark.

21 Q. Do you have any comparison with that in any other
22 areas within California to show that you are on the low end
23 of the scale as far as production?

24 A. No, if you compare me to the north coast, I would
25 be on the high end. If you compare me to Brantwood, I would

1 be high. If you compare me down to Fresno, where they're
2 doing basically tonnage as opposed to quality, I would be on
3 the low end. But I'm also paid more for my grapes.

4 Q. And you're paid more for your grapes because you
5 try to manage your grapes for quality for wine production;
6 is that correct?

7 A. Yes.

8 Q. Do you do anything to stress your Chardonnay
9 grapes during a season for production?

10 A. No, I don't.

11 Q. Are there practices that are employed throughout
12 the state where less water is applied to Chardonnay grapes
13 in order to stress the plants and hopefully get higher sugar
14 productions?

15 A. Yes, some of that, what is referred to as "deficit
16 irrigations;" it's done in different areas. But because of
17 the water tables that we have, it's a little harder to
18 achieve, but, no, we do not do deficit irrigation.

19 Q. How else do you control quality of grapes in your
20 fields? Do you do prepruning, and do you go through and
21 thin your crops during the season?

22 A. By prepruning, we do prune the vineyard. We also
23 pull leaves, so that way there we have a better sun
24 exposure.

25 Q. Do you go through and thin the fruit crop out

1 prior to setting the crop?

2 A. No, we don't.

3 Q. So, year in and year out, what's been the widest
4 variations that you've seen in your production of Chardonnay
5 grapes?

6 A. You mean average of the whole field or certain
7 spots?

8 Q. Either way you'd like to tell me. I don't know
9 which one you have in mind.

10 A. You know, I don't know where you're leading me to,
11 but average, it depends; a low of, I would say, probably
12 4-ton to a high of 9-ton.

13 Q. Now, when that low of 4-ton occurred, do you know
14 what year that occurred in?

15 A. No, I don't. I can't recall.

16 Q. Would that be since -- let's see you planted the
17 crop in 1994, and you said full production would occur
18 hopefully within four years, so that would be about 1998,
19 1999, correct?

20 A. Right.

21 Q. So, since 1998, 1999, you've had a year in which
22 4-ton has occurred on your property; is that correct?

23 A. Yes. Well, okay. Let me give some information.
24 One planting was done in '94; one was in '95; one was done
25 in '96. I think I've got those dates. I may be a year off.

1 But the reason we had -- if that's what you're getting at,
2 why did I have a low year? We had a late frost.

3 Q. So, I can't contribute the decline in production
4 from a maximum of nine, an average of seven, down to a low
5 of four, attributable to salinity.

6 Is there a year that you can point us to since
7 1998, where you believe salinity has had the greatest impact
8 on your production of grapes, that you could show some type
9 of correlation between water quality that you were receiving
10 either that year or years previous in your grape production
11 that year?

12 A. If you're saying can I pinpoint one year or
13 whatever, my answer would be no. But I would say every year
14 has an effect on my yields just because of the variability
15 in the fields. Also, climatic conditions, when you pull a
16 9-ton crop off of a Chardonnay field, your following year
17 you tend to have a lighter crop.

18 So, you know, there's a lot of availability in
19 your yields. But the affects of the salinity is obvious
20 because the problems that I have are constantly in the same
21 spots, or they tend to expand beyond that. And you'll
22 notice it with leaf burning, the growth of the vines are
23 less, and I also noticed it on the harvesting belts.

24 Q. Well, what I'm confused about though is, if you've
25 had the same problems in the same areas and you've been

1 employing a soils expert to help you with these problems by
2 applications of gypsum and potash and various other things,
3 why wouldn't your production in those areas go up if those
4 things were being done to ameliorate or mitigate for the
5 salt buildup in the soil?

6 A. Well, you know, I think I've been able to manage
7 the problem. If I had better water quality, I could manage
8 it even better. You know, I could probably correct some of
9 the problems. It's just basically a compounding of soil, of
10 salts being either added to the soils or salts that are tied
11 up in the soils or salts that are being pushed up by a water
12 table.

13 So, it's -- am I making progress? No and yes.
14 I'm able to manage that problem. Is it costing me more
15 money? Yes. Do I see the problem getting worse? Some
16 years yes, and I see the spots expanding.

17 Q. Do you remember in your previous deposition, you
18 testified, "It seems like I'm holding my own and maybe
19 improving it somewhat just because I'm getting some of the
20 ratios into a more reasonable ratio where I would want to
21 have it in calcium and magnesium ratios." Do you remember
22 that testimony?

23 A. Do I specifically remember the testimony? No.
24 But it would be something that I probably would have said
25 about calcium/magnesium ratios, yes.

1 MR. O'LAUGHLIN: I don't know how much longer. I
2 have an hour. I have more time that I'm going to go
3 through. I don't know if you want me to keep going and take
4 a late lunch or just break now.

5 CHAIRPERSON DODUC: How much more time?

6 MR. O'LAUGHLIN: I believe I'm entitled to another
7 half hour.

8 CHAIRPERSON DODUC: Then we will break for lunch
9 and resume at one o'clock. Thank you.

10 (The luncheon recess was taken at 12:16 p.m.)

11 (Hearing reconvened at 1:05 p.m.)

12 CHAIRPERSON DODUC: We're ready to resume with the
13 cross-examination by San Joaquin River Authority Group.

14 MS. CROTHERS: Excuse me, Madam Chair, could I
15 take care of one housekeeping matter before we go any
16 further?

17 CHAIRPERSON DODUC: We'll take care of
18 housekeeping matters at the end.

19 MS. CROTHERS: Well, I meant to do it this morning
20 because it's kind of a matter of how my witness gets
21 prepared for today. Because it's regarding the time frame
22 we're going to have for presenting our witnesses. And I
23 have a witness that is unavailable November 7. And I needed
24 to know if we're going to have opportunity to put him on at
25 another time after November 7 or he if has to be scheduled

1 today. Otherwise, we won't have an opportunity, and the day
2 is getting by here, so I'd like to know as soon as possible.

3 CHAIRPERSON DODUC: At this time, the only other
4 day we have scheduled is November 7. Let's see how today
5 proceeds, and if not, we'll squeeze your witness in today.

6

7 CROSS-EXAMINATION

8 Q. BY MR. O'LAUGHLIN: Mr. Sharp, Tim O'Laughlin, the
9 San Joaquin River Group Authority. Do you remember me
10 taking your deposition in a previous matter?

11 A. Yes.

12 Q. I have some questions about your acreage. On page
13 one of your submission, you state that in 2004, 100 acres
14 was planted to asparagus; is that correct?

15 A. Correct.

16 Q. When we took your deposition previously, you
17 testified that you were going to plow out all of about
18 30-acres of asparagus since it wasn't growing. Did you do
19 that in 2003?

20 A. I plowed out some in 2003.

21 Q. How many acres of asparagus did you plow out in
22 2003?

23 A. I don't have an exact numbers; it's all
24 approximations. I split fields in half and took out weaker
25 portions.

1 Q. Even though you'd seen a decline in your asparagus
2 yields due to your ER, your water quality?

3 A. I never replanted any asparagus after I've taken
4 it out.

5 Q. So, you moved a hundred acres of asparagus to
6 another field and then planted it?

7 A. I'm confused by the --

8 Q. Well, R.C. Farms has about 240-acres, correct?

9 A. Correct.

10 Q. And at one time, roughly a hundred acres of that
11 was planted to asparagus, correct, back in 2003?

12 A. Yes, back in 2003, there could have been actually,
13 maybe 120 planted.

14 Q. Now, you testified in 2003 that you were going to
15 take the asparagus out because they weren't growing, do you
16 remember that?

17 A. Yes, I testified to taking some of it out.

18 Q. Correct. So, now you've replanted asparagus and
19 you're back up to a hundred acres. Is that on a different
20 hundred acres than the original 120-acres on which you had
21 the asparagus in 2003?

22 A. I think we're interpreting my numbers and the
23 amount of acreage I've had in there. Because once the
24 asparagus is taken out, I've never replanted anymore.

25 Q. At R.C. Farms, have you replanted asparagus at

1 R.C. Farms since you took out the original acreage?

2 A. No.

3 Q. When is the peak irrigation for alfalfa?

4 A. Peak irrigation, April through October.

5 Q. When is the peak irrigation for asparagus?

6 A. Flooding in November, December.

7 Q. What is the EC as required under the 1995 water
8 quality control plan for the time period in which you're
9 flooding your asparagus?

10 A. In what year?

11 Q. Any year?

12 A. Well, I thought it just changed it to 0.7 this
13 year.

14 Q. So, that's 0.7 during the winter months. You
15 would expect to see 0.7 when you're irrigating your
16 asparagus; is that correct?

17 A. I wouldn't know what to expect.

18 Q. You state on page three of your submittal that
19 winter flooding is, quote, unquote, a customary practice
20 which I believe is tended to facilitate leeching of the
21 salts. Did you write that, Mr. Sharp?

22 A. You're referring to the winter months?

23 Q. Yes.

24 A. Correct.

25 Q. Now, if it rains a lot, do you have to winter

1 flood?

2 A. Yes.

3 Q. And why do you winter flood if it also rains a
4 lot?

5 A. Well, we winter flood to drive down salts, and we
6 also winter flood if you have asparagus to maintain enough
7 moisture to carry through the season.

8 Q. Now, if you're winter flooding and you're applying
9 water quality of 1.0, how are you driving down salts on your
10 field?

11 A. With pressure.

12 Q. Now, how many inches of flood irrigation do you
13 apply to your asparagus?

14 CHAIRPERSON DODUC: Mr. Herrick.

15 MR. HERRICK: Madam Chair, I want to object or
16 clarify the question asked, "How can you drive down salts
17 when you apply 1.0?" There's no foundation or question to
18 determine the quality of the water that's applied during the
19 timeframe when the standards well upstream of Mr. Sharp are
20 the 1.0. I think that needs to be clarified so the record
21 is not incomplete.

22 CHAIRPERSON DODUC: Thank you.

23 MR. O'LAUGHLIN: He can do it when he asks his
24 questions. I'm not going to do it with mine.

25 Q. BY MR. O'LAUGHLIN: Can you respond to the

1 question that I just asked you, please, how many inches of
2 flood irrigation do you apply to your fields?

3 A. Approximately anywhere from 24 to 30 inches.

4 Q. How much rain fall occurred on your farm in the
5 year 2004/2005, this past year?

6 A. I don't know that.

7 Q. You state in page four of your submittal,
8 "Typically higher salinity in the San Joaquin River at
9 Vernalis are sick, particularly at Brant Bridge, the entire
10 salinities at R.C. Farms irrigation water." On what facts
11 do you base this statement?

12 A. I would say the facts of the experts.

13 Q. So, that's not your own independent statement; is
14 that correct?

15 A. It's an assumption that I've made through
16 listening to other people talk and reading.

17 Q. Well, let's go through this a little bit. Isn't
18 it true that you previously testified that you do not
19 measure the salinity of water that you divert and apply at
20 R.C. Farms?

21 A. We do not measure it.

22 Q. So, isn't it true that you testified that the
23 water quality at R.C. Farms could actually be improving and
24 you wouldn't even know it?

25 A. I guess, yes.

1 Q. Isn't it true that you also testified that
2 salinity at R.C. Farms would not be higher than salinity at
3 Vernalis under certain conditions?

4 A. I testified that, is that what you're saying?

5 Q. Yes.

6 A. Today?

7 Q. Today or any day?

8 A. No.

9 Q. Isn't it true that --

10 CHAIRPERSON DODUC: It's been established that
11 this witness is not a water quality expert. He's here as a
12 farmer in his capacity to discuss impacts that, his
13 observations, experiences he's had with respect to crops
14 that he's grown.

15 This is an area that we've gone through before in
16 questioning other witnesses who do not have the water
17 quality expertise to which your questions are determined to
18 bring out; particularly where he would acknowledge he is not
19 a water quality expert.

20 MR. O'LAUGHLIN: Well, I don't really care if he's
21 a water quality expert or not, since he wasn't offered as
22 one. He put a declaration into the record, and I'm entitled
23 to find out what is the basis for his either assumptions,
24 presumptions, or beliefs, and point out, in fact, he doesn't
25 know what he's talking about.

1 So, I mean if he wants to withdraw his
2 declaration, I'm happy, and I'll move on to the next
3 witness. But he put in here specifically, "Typically higher
4 salinity in the San Joaquin River, particularly at Brandt
5 Bridge, means higher salinity at" --

6 CHAIRPERSON DODUC: He's answered your question by
7 saying that he based his observations, his testimony on the
8 experts, on the information he's received from various
9 experts.

10 MR. O'LAUGHLIN: And I'm going to find out what
11 other things he's based it upon.

12 CHAIRPERSON DODUC: Mr. Herrick.

13 MR. HERRICK: I don't mean to delay the
14 proceedings. I apologize, Madam Chairman. Typically, if
15 you're going to grill somebody and see if their prior
16 testimony is different than that, you give them a copy of it
17 to look at. You don't ask them questions and say ah-huh,
18 didn't you say something different earlier?

19 So, I think the witnesses should be treated with a
20 little more respect, so that if there is some potential
21 conflict in testimony, they get to look at the testimony
22 that's being presented so they can answer the question
23 honestly.

24 CHAIRPERSON DODUC: Perhaps this can be cut short
25 by asking the witness once again to state the basis upon

1 which you are presenting your comments and testimony with
2 respect to water quality?

3 THE WITNESS: I'm basing it on other experts
4 information and on my own personal experience with my
5 yields.

6 CHAIRPERSON DODUC: Thank you.

7 Q. BY MR. O'LAUGHLIN: Have you done or aware of any
8 studies or reports showing a correlation between the
9 salinity at Brandt Bridge and the salinity at R.C. Farms?

10 A. Not any direct correlation on my ranch.

11 Q. Are you aware of what expert or have you relied
12 upon anything for the opinion set forth in your declaration?

13 A. My attorney.

14 Q. So, basically your attorney has told you all this
15 stuff, and then basically you've redacted into a
16 declaration, which you believe is true and correct; is that
17 correct?

18 A. He's offered me information to believe so.

19 MR. O'LAUGHLIN: Well, Madam Chair, this presents
20 an interesting question. If the foundation for his opinion
21 is the only thing that his attorney also told him, he has no
22 percipient ability to testify at the hearings, and in his
23 testimony should be stricken as such. There's no foundation
24 for it. All that he's said is that my attorney told me this
25 stuff is true, and I believed him.

1 THE WITNESS: I didn't tell you that he told me it
2 was true. I told you he offered me the information; whether
3 I believe it is true or not is my belief.

4 CHAIRPERSON DODUC: Your objection is noted, and
5 we'll weigh it in considering the evidence.

6 MR. O'LAUGHLIN: Well, Madam Chair, this gets to
7 another issue that we keep getting to in this hearing, and
8 in previous hearings, we've made submittals to the State
9 Water Resources Control Board about this, if the State Water
10 Resources Control Board, as the finder of fact, has to be
11 the gatekeeper for evidence that does or doesn't come into
12 the record. And I know that it's very easy to say that
13 we'll give it the weight it's due and whether or not we let
14 it in or not.

15 The problem is, when these matters go up on
16 appeal -- and you can ask Ms. Leidigh this -- when these
17 matters go up on appeal, if all of this stuff is in the
18 record, there is a probable foundation to draw conclusions
19 and opinions.

20 This type of testimony should not be in the record
21 at all because there is no weight that should be given to
22 this testimony, and it should be excluded from the get go.

23 CHAIRPERSON DODUC: Thank you your that comment.
24 The evidence is in the record.

25 CROSS-EXAMINATION

1 Q. BY MR. O'LAUGHLIN: Mr. Zuckerman, how long were
2 you the attorney for Central Delta Water Agency?

3 A. Up until the first part of this year.

4 Q. And you no longer are the attorney of record for
5 Central Delta Water Agency; is that correct?

6 A. That's correct.

7 Q. Are you still a lobbyist for Central Delta Water
8 Agency?

9 A. Yes.

10 Q. I'm confused as an attorney and a lobbyist. How
11 do you leave your zealous pursuits of your clients' goals
12 and aspirations at the door and testify in an unbiased
13 fashion?

14 THE WITNESS: Is this a question I have to answer?

15 CHAIRPERSON DODUC: You could just say you're not
16 biased.

17 THE WITNESS: I find the question ambiguous.

18 CHAIRPERSON DODUC: I think you made your point.
19 Please move on.

20 Q. BY MR. O'LAUGHLIN: I'm looking at the exhibit
21 that you offered the other day with the nice colored dots on
22 it and everything, I think it's 12A. Do you have that in
23 front of you?

24 A. I do.

25 Q. Looking at this, it shows the time period of --

1 starting on April 1 through the middle of June, it appears
2 that a large volume of Fingerprint at Clifton Court Forebay
3 comes from the San Joaquin River, do you see that?

4 A. I've already testified to this.

5 Q. During that time period, do you know what the
6 exports were for the 31 day period between April 15 and
7 May 15?

8 A. Well, that's during the period when the vamp is in
9 effect, I think, so it would have been whatever maximum
10 amount the two projects were allowed to export under vamp
11 conditions, which would be a lot less than they were after
12 vamp was over.

13 Q. But my specific question is, do you know the
14 volumetric amount of water that was exported during that
15 time period?

16 A. I can certainly provide it.

17 Q. Do you know, as you sit here today, what the
18 volumetric amount is?

19 A. Of course not.

20 Q. Do you know what the flows of the lower San
21 Joaquin River at Vernalis were between April 15 to May 15 of
22 this year?

23 A. My recollection is that they were around between
24 7,000 and 8,000 cubic feet per second, something of that
25 magnitude.

1 Q. Do you have -- I'm assuming the purpose of the
2 chart is to show that a large quantity of San Joaquin River
3 water is being exported to the west side and therefore
4 causing a salt build up; is that correct?

5 A. The purpose of -- my pointing this out in this
6 chart is that a large percentage of the constituents that
7 were exported from the state water project, or in this
8 specific time period, had their origin in the San Joaquin
9 River.

10 Q. Have you done an analysis to compare, based on
11 this fingerprinting that was done, with the total volume of
12 water being exported from Clifton Court Forebay?

13 A. You mean have I looked to compare the flows in San
14 Joaquin River versus the exports?

15 Q. No, more importantly, since the point of this
16 charge is to show the constituents, it seems to me one would
17 need to identify the total volume of water being exported.
18 Let's say the pumps weren't on hypothetically --

19 A. I can help you. The total volume of water being
20 exported during the vamp period was less than the flow of
21 the San Joaquin River.

22 Q. Comparing the amount of water transported from the
23 Sacramento River basin as compared to the San Joaquin River
24 basis, do you have a volumetric breakdown on exports?

25 A. I can interpret from this chart that up until

1 sometime in June, virtually the entire volume of the water
2 that was being exported had its origin from the San Joaquin
3 River.

4 Q. But as a total volume of comparing the time period
5 from April 1, 2005 to roughly, it looks like July 1 of 2005,
6 and comparing July 1, 2005 to the time period November 30,
7 2005, do you have a total volumes for each of those two time
8 periods? Because it seems to me, one would be comparing
9 Sacramento River diversions vis-a-vis San Joaquin River
10 diversions?

11 A. The people that prepared this chart were
12 attempting to show what the origin of the water was that was
13 being exported, and I think the chart speaks for itself.

14 THE WITNESS: There's a good deal of text that
15 accompanies these reports. I don't have the full report
16 here today. It not only includes the explanation of what
17 they're doing, but has a data base that goes along with it
18 that might be helpful.

19 MR. NOMELLINI: The full text is in the exhibit.

20 CHAIRPERSON DODUC: Thank you for clarification.

21 THE WITNESS: There is some explanation in the
22 text as to what the preparedness of the chart is doing.

23 Q. BY MR. O'LAUGHLIN: Just a couple of more
24 questions. Earlier, you were looking at the second
25 component, which is the Modeled EC Fingerprint in Clifton

1 Court Forebay, and you testified that the water quality that
2 was being seen there this year was not very good -- and I
3 want to make sure I'm right about this -- not very good in
4 comparison to what you see at Central Delta. Is that a fair
5 summation of what you testified to earlier?

6 A. No, it's not.

7 Q. What type of ECs do you normally see in the
8 Central Delta?

9 A. Well, during the period up to sometime in August
10 usually, we have, in all but the driest years, we have a
11 water quality standard in the Central Delta of .45 EC. And
12 the majority of the time, during the spring and the early
13 summer, the water qualities are somewhat better than that.

14 Q. Now, you do have a farm in the Central Delta or
15 own property in Central Delta; is that correct,
16 Mr. Zuckerman?

17 A. I do.

18 Q. And do you remember previously testifying that the
19 water quality at your farming or your piece of property is
20 generally high quality water because it comes mainly from
21 the Sacramento River system?

22 A. At the time that I presented that testimony, that
23 was true.

24 Q. Is there any reason to believe that the water
25 quality that you're receiving now is being impacted due to

1 the San Joaquin River operations?

2 A. Yes, there is.

3 Q. And what is that belief?

4 A. Well, sometime in the interim, the head of Old
5 River Barrier has been installed relatively frequently, and
6 that has the impact of taking water that would otherwise
7 flow from the San Joaquin River to the Old and Middle Rivers
8 down through the historic channel in the San Joaquin River,
9 past Stockton, throughout the Turning Basin, then it flows
10 along the main stem of the San Joaquin River until probably
11 at least Turner Cut. Our ranch is just about opposite, on
12 the San Joaquin River, just about opposite Turner Cut.

13 So, my conclusion is that with the operation of
14 the head of Old River Barrier, when it's in operation, we're
15 getting a great deal more of the San Joaquin River than we
16 had previously.

17 Q. Do you know what months the head of Old River
18 Barrier was installed and operated?

19 A. As I sit here, I don't know specifically. I know
20 this year they had difficulty getting it in because of the
21 high flows in the San Joaquin River, but I believe it's in
22 operation now, with some modifications in it for fish
23 passage.

24 Q. Looking at this chart -- one last question and I'm
25 done. Do you know when the cross channel gates were open in

1 the time period, if they were at all, from April 1, 2005, to
2 September 30, 2005?

3 A. They were closed most of the time, but they're
4 open now. The same chart that I'm talking about has an
5 indication on a week by week basis as to whether the cross
6 channel gates are open or closed. You could easily find
7 that information by reviewing the database.

8 MR. O'LAUGHLIN: Thank you. I have no further
9 questions.

10 CHAIRPERSON DODUC: Thank you. That completes the
11 cross-examination by the parties presenting cases in chief.
12 We'll now go through the other parties. The Bay Institute?
13 Not here. California Department of Fish and Game. Please
14 identify yourself for the court reporter.

15 MS. CANNAN: Tina Cannan, California Department of
16 Fish and Game. We have no questions.

17 CHAIRPERSON DODUC: Contra Costra Water District?
18 Not here. Merced Irrigation District and San Luis Canal
19 Company.

20 MR. GODWIN: Arthur Godwin. We have no questions.

21 CHAIRPERSON DODUC: Northern California Water
22 Association. Not here. San Joaquin River Exchange
23 Contractors Water Authority.

24 MR. MINASIAN: Paul Minasian. No questions.

25 CHAIRPERSON DODUC: San Luis and Delta Water

1 Authority and Westlands Water District. Again, please
2 identify yourself for the court reporter.

3 MR. RUBIN: John Rubin for San Luis and Delta
4 Water Authority and Westlands Water District. Good
5 afternoon, gentlemen.

6 MR. RUBIN: I have several questions, and I'll
7 direct them first to Mr. Sharp, and Mr. Mussi, if I
8 pronounced that correctly.

9

10 CROSS-EXAMINATION

11 Q. BY MR. JON RUBIN: Mr. Sharp, do you test the
12 quality of the water that you are diverting from, I believe
13 it's the San Joaquin River?

14 A. No, we don't test it.

15 Q. Do you test the quality of water after it's used
16 on your fields?

17 A. No.

18 Q. Mr. Mussi, I believe you testified earlier that
19 you do test the quality of water that is diverted onto your
20 fields; is that correct?

21 A. For my grapes, I do, yes.

22 Q. And you said that you test -- if I recall
23 correctly -- you test the water using a hand-held device; is
24 that correct?

25 A. Yes, I do.

1 Q. And during the 2005 year, this past year, the
2 testing showed what level of quality?

3 A. Earlier in the year, I would say that the quality
4 of the water was better than I normally received during that
5 time period.

6 Q. Do you recall the specific ECs?

7 A. I don't want to guess, but it was better.

8 Q. Can you estimate the quality in terms of EC of the
9 water that is diverted? I'm speaking of the last few years.

10 A. I don't use an EC reading, even though the meter
11 is capable of it. I use TDS, just because my prior meters
12 have been TDS, so it give me a reference point. But,
13 normally, it's between 450 to 500, 550.

14 Q. And do you know what that equates to in terms of
15 EC?

16 A. One EC is 640 if I'm correct.

17 Q. And the hand-held device, how long have you been
18 using it to test the water quality?

19 A. This particular device, or what kind of experience
20 do I have with the device?

21 Q. The particular device you used this past year, for
22 example, how long have you been use that device?

23 A. I'd say about two years.

24 Q. And do you calibrate the device?

25 A. Yes, I've got a solution that I purchased from the

1 outlet, and I use that to calibrate the device.

2 Q. And how frequently do you calibrate the device?

3 A. Depending on how often I use it, depending on the
4 time that's lapsed, I'd say maybe monthly.

5 Q. Thank you. Are you aware of the quality of water
6 at Vernalis?

7 A. No.

8 Q. Are you aware of any factors that may affect the
9 quality of water that is diverted onto your property?

10 A. Well, yes, the more water that gets diverted, I
11 have the possibility of salt intrusion, the less water
12 that's released from the San Joaquin, there's a less
13 delusion of the water quality than the Delta. The Delta
14 tends to have a Delta pool. So, the less amount of water
15 that flows through the Delta usually means that I have
16 poorer quality. So, the worse quality that comes into the
17 Delta means that's the worse quality of water I have. So,
18 basic principles, yes.

19 Q. I asked you the question before and you rephrased
20 the question a little bit differently. The quality of water
21 that is brought onto your property and applied to your
22 crops, is that of higher quality or lesser quality than the
23 water that you discharge from your property?

24 A. That varies during the year.

25 Q. During the period of April through August -- let

1 me ask a foundational question I should have asked. Do you
2 discharge water from your property?

3 A. Yes, the water that we irrigate goes into our
4 drainage ditches.

5 Q. And what happens to that water once it gets into
6 your drainage ditches?

7 A. It flows into Woods Irrigation District Company,
8 and, I think, it goes to their main discharge plant.

9 Q. And do you know where that discharge point from
10 Woods Irrigation District is?

11 A. It's on the north side of Roberts Island.

12 Q. And that discharges into the San Joaquin River?

13 A. You know, I don't get down there that often to see
14 if it's San Joaquin, but I'm assuming it's San Joaquin.

15 Q. Do you know what the quality of water is that
16 leaves your property compared to the quality of water that
17 is brought onto your property?

18 A. Depending on the year, earlier in the year, the
19 quality, because of the rain fall and stuff like this, the
20 water leaving the property is usually worse because the
21 salts, because I irrigate in October to fill the soil
22 profile. Then when we get the rains and with the soil
23 amendments, there is some leeching that occurs. So, the
24 quality of the water that leaves my property at that time of
25 the year is usually worse than the irrigation season.

1 Q. So, if I understand you correctly, during the
2 April through August period, the quality of water that
3 enters your property is a higher quality than the water
4 that's discharged?

5 A. Early on -- it gets to be grail. Early on, it
6 might be a little better; but later, the water that goes on
7 tends to be the water that goes off.

8 Q. The same quality?

9 A. More or less, yes.

10 Q. And your basis for that statement is what?

11 A. Just my testing of it, curiosity.

12 Q. So, you do test water that leaves your property?

13 A. Just with the meter. I don't do it on a regular
14 basis, just curiosity. Even the water that I put on, I have
15 to treat it, so I test it.

16 Q. I understand that you test the water that is put
17 onto your property. I did not understand that you test the
18 water as it leaves your property.

19 A. I just do it more for curiosity. There's no
20 standard routine why I do it or why I don't do it.
21 Sometimes if it's a dry year, I'm curious to see if I'm
22 getting any salts moving through the soils surface or what,
23 but there's no specific reason why I do it.

24 Q. And the constituents in your water are not
25 concentrated during the irrigation process?

1 A. Can you restate that? I'm not quite sure what
2 you're asking.

3 Q. Sure. There are constituents in your water supply
4 that exist when you divert the water onto your property; is
5 that correct?

6 A. Yes.

7 Q. And as that water is applied, the question that I
8 have is, do those constituents become more concentrated, and
9 is that higher concentration reflected in the water that
10 discharged from your property?

11 A. The water that I'm discharging is surface water.
12 So, if there's any concentration of salts or anything like
13 that, if that's what you're referring to, I would have to go
14 down into the ground water or the subsurface, and I don't
15 test that water. I don't have a subsurface drainage system
16 there.

17 Q. And your agricultural practices don't seem to
18 leech those salts at any point during the during year out of
19 the soil?

20 A. No, I'm not constantly trying to leech the salts.

21 Q. So, at some point, outside of the April through
22 August period, you claim some level of agricultural practice
23 to remove those salts?

24 A. I do it all during the year because of the water
25 quality. Like I mentioned before, I do applications of

1 lyme; I do applications of sulfur; I do applications. I
2 treat the water with enfuric to lower pH, which allows me to
3 remove the salts more readily.

4 So, I do it in October/November irrigation to wet
5 the soil profiles. So, when I do get a rain fall, hopefully
6 in a wet year, that I do get additional leeching from that.
7 So, I'm constantly employing different methods and testing
8 soils and constantly looking for ways to improve it.

9 MR. RUBIN: Thank you. Mr. Mussi, I have some
10 similar questions for you.

11

12 CROSS-EXAMINATION

13 Q. BY MR. RUBIN: I believe you testified that you do
14 not test the quality of water that enters onto your
15 property?

16 A. That's correct.

17 Q. Do you test the quality of water -- is water
18 discharged from your property?

19 A. Yes.

20 Q. And what is the manner of that discharge?

21 A. It's top irrigated, just drains through pipes.

22 Q. And it's discharged? Is it pumped into the San
23 Joaquin River?

24 A. It's pumped into the Central Delta. We're
25 downstream from the San Joaquin River.

1 Q. And, therefore, it's pumped into -- which water
2 line?

3 A. It will lie between Middle River and San Joaquin
4 River main channel.

5 Q. Turning to your testimony Central Delta Water
6 Agency No. 8. I'd like to focus your attention on page two.
7 You indicate in the second complete paragraph, the first
8 sentence, that the months of special concern for your
9 farming operation is April through August; is that correct?

10 A. Correct.

11 Q. And why is April through August the time period of
12 concern?

13 A. Those are not the winter months when the water
14 quality is supposed to be the best. Those months are when
15 I'm irrigating my corn, most likely my corn or my alfalfa,
16 which are sensitive to salt.

17 Q. Do you know what level of sensitivity corn and
18 alfalfa that have towards salt, and, in particular, towards
19 the EC of the applied water?

20 A. No, I don't have a number.

21 Q. On page 3 of your testimony, which is Central
22 Delta Water Agency 8, on the first complete paragraph, the
23 second sentence reads, "Sample three, which was taken from
24 the field in the northwest portion of the land, shows a high
25 level of sodium." Do you see that statement?

1 A. Yes.

2 Q. Can you explain to me what you meant by a high
3 level of sodium?

4 A. Well, if you look at sample 3, if you look at
5 sample 3, right here under the nitrates, under NA, it's 6.5
6 sodium.

7 Q. And are you referring to Exhibit B of your
8 testimony?

9 A. Correct.

10 Q. Do you know what Exhibit B means when it indicates
11 in those tables in Exhibit B that sodium levels are at any
12 particular level?

13 A. Do I know what they mean?

14 Q. Yes.

15 A. I know there's high levels from my field man.
16 Well, if you read up above, Western Farm Service Agency is
17 the one that pulled the soil samples for me, and my field
18 man is Don Johnson.

19 Q. Again, what does it mean on Exhibit B that the
20 sodium levels are high for example?

21 A. They're physical, capable properties.

22 Q. Can you tell me what level of salinity or salt is
23 reflected, or sodium for that matter, is reflected in a
24 designation of high?

25 A. Well, 6.5 is high.

1 Q. And 6.5 represents what?

2 A. The salts.

3 Q. And is that MEQ per liter?

4 A. I don't know that. Well, it's right there stated
5 up above.

6 Q. And I don't mean to be argumentative here. I
7 truly don't know how to read these tables, and I'm trying to
8 get an understanding of the --

9 A. I'm not an expert on reading the tables either.
10 You know, I have these people come pull these soil samples
11 for me. And if I need a remedy, then they prescribe a
12 remedy there.

13 Q. So, the statement on page 3 of your testimony,
14 Central Water Delta Water Agency Exhibit 8, which indicates
15 a high level of sodium, is not based on your opinion, but
16 based upon Exhibit B?

17 A. It's based on the soil sample.

18 Q. And those soil samples results are reflected in
19 Exhibit B?

20 A. Correct.

21 Q. And, unfortunately, your expertise is in farming
22 and not in soil sampling for me; and, therefore, I can't
23 have a better sense of how these soil samples were taken and
24 what the results mean in terms of the issues before the
25 Board.

1 MR. NOMELLINI: The witness answered the question
2 as honestly and forthright as he could. If you want to make
3 a statement, I suggest to the Chair he do that as part of
4 his case rather than part of his cross-examination.

5 MR. RUBIN: I'll withdraw my question. Those are
6 the questions I have for Mr. Sharp. I turn to
7 Mr. Zuckerman. Before I start, Mr. Zuckerman, I do have a
8 tremendous respect for you, and I have some questions about
9 your testimony, but please don't take that as an attack on
10 you personally. I hold Mr. Zuckerman in high regard as a
11 skilled attorney.

12

13 CROSS-EXAMINATION

14 Q. BY MR. RUBIN: Mr. Zuckerman, can you please
15 explain the purpose of your testimony?

16 A. Yes, there were really purposes for my testimony.
17 One was to indicate the significance of the San Joaquin
18 River water quality within the Central Delta on the people
19 that are attempting to utilize the water that is influenced
20 by their, to illustrate as well that the people at export
21 water from the Delta should have a tremendous interest in
22 improving water quality in the San Joaquin River, since it
23 has such a big impact upon the water that's actually being
24 exported from the Delta.

25 And the third part of it, which I didn't really

1 get into in my oral statements, which is covered in the
2 testimony itself, is to indicate that the remedies that the
3 enforcement staff is seeking here are sort of general slaps
4 on the wrist, in my opinion, and that there are serious
5 issues here that need to be dealt with, with serious
6 remedies.

7 Q. Thank you. Mr. Zuckerman, are you aware that
8 Dante John Nomellini, I believe Senior, filed with the State
9 Board a notice of intent to appear for the Central Delta
10 Water Agency in an attempt to appear at this hearing?

11 A. Well, I know that I had to spend some time
12 preparing testimony, and I don't know specifically what was
13 in the notice of intent to appear versus the material that I
14 helped prepare, you know, that went in as my testimony.

15 Q. So, you have not seen the notice of intent to
16 appear that was filed by Mr. Nomellini?

17 A. You know, I can't honestly answer that question.
18 I've seen an awful lot of papers. I don't have a
19 recollection, as I sit here now, whether I saw it or not.

20 Q. Mr. Zuckerman, I ask you to turn to Central Delta
21 Water Agency Exhibit 11?

22 A. Yes.

23 Q. Do you have that before you?

24 A. I believe so. That's my qualifications.

25 Q. Yes.

1 A. Yes.

2 Q. In your statement of qualifications, it indicates
3 that you're the founder and director of Matlock, Charles,
4 Rowe & Company; is that correct?

5 A. I was one of the founders, yes.

6 Q. And can you explain to me what that company is.

7 A. It's an investment bank. Do you want more?

8 Q. That's sufficient. Thank you. It also indicates
9 that you are or were the founder of Zuckerman and Harkin; is
10 that correct?

11 A. Yes.

12 Q. And can you explain to me what Zuckerman and
13 Harkin is?

14 A. It isn't anymore. It was a law firm in Stockton
15 that ceased to exist when it merged into San Francisco law
16 firm in about 1985 as I recall.

17 Q. And were you either employed or a shareholder,
18 partner in Zuckerman and Harkin?

19 A. Yes.

20 Q. And did you continue in the status that you held
21 when the firm merged with the San Francisco firm?

22 A. Yes, I was a principal in the San Francisco firm.

23 Q. And during that period, your work was in what
24 area?

25 A. Well, it was principally in a combination of water

1 law work and business law. I did a lot of, a whole lot of
2 work with entrepreneurial businesses.

3 Q. And I believe the last qualification in terms of
4 employment is as a lobbyist; is that correct?

5 A. I'm not sure what lobbying qualifies you to do,
6 but it's one of the things, one of the honors that I hold;
7 I'm a registered lobbyist.

8 Q. Let me ask my question a little bit more
9 specifically. According to the description on Central Delta
10 Water Agency 11, it indicates that -- in conjunction with
11 your testimony today -- it indicates that you acted in some
12 capacity as in the investment banking area and as a lawyer;
13 is that correct?

14 CHAIRPERSON DODUC: Before you answer that,
15 Mr. Rubin, where are you going with this? I'm trying to
16 understand the relevance of this direction?

17 MR. RUBIN: Sure. Mr. Zuckerman has been named as
18 an expert witness in the area of water rights, beneficial
19 use, and reasonableness of use, and I am asking questions to
20 have a better understanding of Mr. Zuckerman's expertise,
21 particularly given the scope of his testimony.

22 CHAIRPERSON DODUC: Let's focus then to his
23 relevant expertise, his expertise that is relevant to issue.

24 MR. RUBIN: I think I am, and I apologize if I'm
25 not. The question that I just asked Mr. Zuckerman, I'm

1 trying to get an understanding of his expertise that's
2 reflected in the one document that we do have, and that's
3 Central Delta Water Agency 11.

4 CHAIRPERSON DODUC: So, let's cut to the chase.
5 Mr. Zuckerman, please, explain your expertise in this area,
6 which I believe you started to do, but go ahead and finish
7 up.

8 THE WITNESS: Well, this is a capsule of 40 years
9 of professional experience and for a lot things that I do
10 that are not covered here. I didn't realize it needed to be
11 an exhaustive list.

12 Q. BY MR. RUBIN: Let me ask some questions then that
13 might be outside of the description here, that would be
14 helpful for me to understand your level of expertise.

15 Mr. Zuckerman, do you have any formal engineering
16 training?

17 A. No.

18 Q. Do you have any formal training on modeling, in
19 the context of computer models used to simulate, for
20 example, hydrodynamics?

21 A. Not formal training. I have some familiarity with
22 modeling.

23 Q. Do you have any formal training or formal
24 experience in -- strike that. Do you have any formal
25 training in operations of water projects?

1 A. Well, it depends upon what you mean by water
2 projects. I have operated water projects before at various
3 times when I was working on the ranch, that sort of thing.

4 Q. And are those water projects that you're speaking
5 of projects within the legally defined Delta?

6 A. Yes.

7 Q. Do you have any formal training on agricultural
8 practices outside of the legally defined Delta?

9 A. I have a lot of experience.

10 Q. Do you have any formal training in the area?

11 A. It depends upon what you mean by agricultural
12 experience. I certainly have formal training when it comes
13 to the business side of agricultural operations, whether
14 they're on the farm, food processing, implement stuff, yes.

15 Q. My question to you, Mr. Zuckerman, I don't believe
16 you answered it, I believe you answered a question you asked
17 of yourself. The question I asked of you is, do you have
18 any formal training some agricultural --

19 MR. NOMELLINI: I object to that. He answered
20 that.

21 CHAIRPERSON DODUC: Mr. Rubin, I don't want to
22 exhaust the universe of questions you can ask Mr. Zuckerman
23 regarding his expertise. Obviously you are heading towards
24 some kind of statement objections with respect to his
25 qualifications, and I'm only interested in his expertise, as

1 relevant to the issues we're addressing here, as relevant to
2 his testimony. So, if you can perhaps get to the point that
3 you're trying to make.

4 MR. RUBIN: Madam Chair, every question I ask
5 relates to testimony, relates to statements in the written
6 testimony submitted by Mr. Zuckerman.

7 THE WITNESS: I think I have sufficient expertise,
8 whether it's in the form of formal training or practical
9 experience, to testify to all the things I have testified to
10 in Exhibit 11 that I have submitted.

11 CHAIRPERSON DODUC: Your concern regarding his
12 expertise will be noted, but let's move on, please.

13 MR. RUBIN: I still have one more question I'd
14 like to ask. It relates directly to testimony that
15 Mr. Zuckerman has presented, and I don't believe he answered
16 the question, and it relates to agricultural practices
17 outside of the Delta.

18 Q. BY MR. RUBIN: Do you have formal training on
19 agricultural practices that are employed outside the Delta?

20 MR. NOMELLINI: Objection. Asked and answered.

21 CHAIRPERSON DODUC: He's already answered
22 question.

23 Q. BY MR. RUBIN: And the answer was yes?

24 A. Yes.

25 Q. And then the question is, what formal training did

1 you receive that provided you with this background on
2 agricultural practices outside of the Delta?

3 A. If you're talking about whether I took a course at
4 the university specifically related to it, the answer would
5 be no.

6 Q. Thank you.

7 A. But the --

8 MR. NOMELLINI: He's entitled to finish his
9 answer.

10 CHAIRPERSON DODUC: Please finish, Mr. Zuckerman.

11 THE WITNESS: I have, I currently have for the
12 last 20 years or so managed a potato operation in the State
13 of Idaho. I've been involved in vegetable operations in
14 four states in the United States and Mexico and Peru. I've
15 traveled extensively all over the world visiting markets
16 where California products are sold and so forth. And I have
17 probably more experience than any ten people have ever
18 gained in university training about agricultural.

19 Q. Thank you for that clarification. It's actually
20 very helpful for me.

21 Mr. Zuckerman, are you familiar -- did you receive
22 any kind of formal training on the agricultural practices
23 within Fresno or Kings County of California?

24 A. I was involved in a potato operation in Kern
25 County for quite a number of years.

1 Q. How about within Kings County or Fresno County?

2 A. I don't know whether those operations spilled
3 over. It packed potatoes and shipped and sold potatoes for
4 many growers in that area for many years.

5 Q. In that capacity, were you involved with the water
6 management for that farming operation?

7 A. Well, I wasn't involved in the farming operation;
8 I was involved in agricultural operation.

9 Q. Excuse me -- water practices for that agricultural
10 operation?

11 A. No, but I've familiarized myself with agricultural
12 irrigation practices all over the State of California, and
13 not too long ago in your presence.

14 Q. I ask you to turn now, Mr. Zuckerman, to page 3,
15 Central Delta Water Agency 10. The first complete paragraph
16 reads, "The problem of increased salt loads and
17 concentration at Vernalis will worsen in the future unless
18 some action is taken because of weight of excretion in the
19 basin exceeds the rate of excretion?"

20 A. Yes.

21 Q. And what is the basis for that conclusion?

22 A. Studies that were done by Gerald Orloff (phonetic)
23 and others under contract with either the South or the
24 Central Delta Water Agency.

25 Q. And do you have those studies available?

1 A. Not today, but they're available to me.

2 Q. And did you review those studies when preparing
3 your testimony?

4 A. This testimony?

5 Q. Yes.

6 A. No.

7 Q. And do you know when those studies were developed?

8 A. Not specifically. But it was probably 10 or 15
9 years ago.

10 Q. And do you know how old the data was that were
11 used in those studies that were done ten or fifteen years
12 ago?

13 A. It was current.

14 Q. In terms of current, means data from what years?

15 A. 1950 and 1989 was the period of the study.

16 Q. But in terms of preparing the testimony that is
17 reflected in Central Delta Water Agency Exhibit 10, you did
18 not review that data to base your conclusion that I read
19 that appears on page 3?

20 A. Not specifically, no.

21 Q. Mr. Zuckerman, this statement reflects -- let me
22 rephrase that. This statement assumes that there are
23 accretions into the San Joaquin River; is that correct?

24 A. Yes.

25 Q. And does it assume a particular location for

1 accretions?

2 A. No. It's a mass balance calculation for the San
3 Joaquin River as a whole.

4 Q. And from this statement, is it appropriate to
5 assume that you believe that the rate of accretion has to
6 decrease?

7 A. I believe if we're going to restore the San
8 Joaquin River, it's going to have to decrease.

9 Q. Are there accretions below Vernalis?

10 A. The accretions below Vernalis --

11 Q. Excuse me -- my question is, are there accretions
12 below Vernalis?

13 A. Based upon what I know about irrigation practices
14 and salt accretions in the Central Delta --

15 Q. Mr. Zuckerman, I apologize for cutting you off.
16 My question just required a yes or no. Are there accretions
17 below Vernalis?

18 A. Probably.

19 Q. Do you say probably because you're not sure if
20 there are?

21 A. It depends on what time of the year you're taking
22 about.

23 Q. During the April through August, are there
24 accretions Vernalis?

25 A. I doubt it.

1 Q. And, therefore, is it safe to assume, since you
2 said probably, outside of the April through August period,
3 there are accretions below Vernalis?

4 A. Yes. There was a series of studies that was
5 conducted by the department back in the 40s and 50s that
6 studied this specifically. And during the irrigation
7 season, when they were studying the salt balances on three
8 islands in the Delta, they found that the quality of the
9 drainage water was actually better than the water in the
10 river during most of the irrigation systems.

11 Q. And you said those studies were done in the 40s
12 and 50s?

13 A. Correct.

14 Q. So, those studies are now at least 50 years old?

15 A. Just getting to it.

16 Q. Would you be surprised to learn that actions have
17 been taken, particularly in the last five years, that reduce
18 the accretions that occur above Vernalis?

19 A. I know of some of them, some of the efforts that
20 were undertaken.

21 Q. So, you would not be surprised?

22 A. But on a mass balance basis, I'd be surprised if
23 the accretions had been, overall had been reduced. I am
24 familiar with some individual efforts that are going on in
25 the San Luis area.

1 Q. Mr. Zuckerman, you would agree that the purpose of
2 this hearing is whether the State Board should adopt cease
3 and desist orders against the United States Bureau of
4 Reclamation and the Department of the Water Resources; is
5 that correct?

6 A. Yes.

7 Q. And the basis for the cease and desist order is an
8 alleged threatened violation of the South Delta standards;
9 is that correct?

10 A. Yes. I wouldn't characterize it in the same
11 language you did. I think the project operators have
12 announced to the world that they anticipate they will be
13 violating these standards in the future.

14 Q. And where did you see a pronouncement that they
15 would violate their permit terms and conditions?

16 A. It was in letters that were sent from the Bureau
17 of Reclamation to the State Board.

18 Q. Are those the letters that were discussed
19 yesterday, which were our exhibits, that the Enforcement
20 Team entered into evidence?

21 A. I wasn't here all day yesterday, so I'm not sure
22 exactly what it was.

23 Q. Mr. Zuckerman, do you believe that reducing
24 pumping at the state and federal facilities that are located
25 in the Delta will help achieve the 00.7 objective that's set

1 in the 1995 Water Quality Control Plan during the April to
2 August period?

3 A. Yes, over some period of time, it would.

4 Q. And what is the basis for that statement?

5 A. That the Bureau of Reclamation, together with the
6 joint operations with the state water project, are importing
7 huge amounts of salt into the San Joaquin Valley, which
8 ultimately reaches the San Joaquin River.

9 Q. Mr. Zuckerman, I believe that response assumes
10 that there are discharges from the west side. What is the
11 basis for that assumption, if you did assume that?

12 A. Water flows down hill.

13 Q. Do you have any scientific information to support
14 your belief, if you do have one, that the water that's
15 pumped from the state water project and the Central Valley
16 Water project in the Delta will -- excuse me -- rephrase
17 that question.

18 You indicated that the sole basis for your
19 conclusion that cutting exports will help achieve the South
20 Delta standards is simply the fact that water moves down
21 hill?

22 MR. NOMELLINI: I object to the phraseology. It
23 misstates the witness.

24 MR. RUBIN: Can the court reporter please read
25 back the question that preceded Mr. Zuckerman's answer that

1 water flows down hill?

2 THE WITNESS: You need to go back and read the
3 question and answer before that.

4 CHAIRPERSON DODUC: We're going to look for it.

5 Q. BY MR. RUBIN: Mr. Zuckerman, have you conducted
6 any scientific investigation as to the contribution of
7 constituents that results from the delivery of water from
8 either the State Water Project or the Federal Central Valley
9 Project?

10 A. Well, actually --

11 Q. Yes, or no?

12 A. Yes.

13 Q. And what independent science, or what scientific
14 investigation have you conducted?

15 A. Central Delta Water Agency some years ago
16 conducted a leeching study on McDonald Island, which I was
17 an active participant in, to monitor the movement of salts
18 in that area. That's the only study of its type that I've
19 been involved in.

20 Q. And McDonald Island is served by the Federal
21 Project?

22 A. It takes its water right out of the Delta.

23 Q. So, the only study that you were a participant in
24 or Central Delta was a participant in, dealt with an island
25 within the Delta?

1 A. Well, there have been more than one such study
2 Central Delta participated in. That's the only one I was
3 personally involved in.

4 Q. And you have not personally been involved in any
5 studies that evaluate the effect of deliveries by the
6 Central Valley Project or the State Water Project of water
7 that's exported or diverted from the Delta to the San
8 Joaquin Valley?

9 A. Could you read that back again?

10 MR. NOMEILLINI: I'd ask the cross-examiner to make
11 a distinction, if he can, whether or not he thinks the Delta
12 is in the San Joaquin Valley.

13 MR. RUBIN: I can re-ask the question.

14 Q. BY MR. RUBIN: According to your testimony,
15 Mr. Zuckerman, is it correct that you have not been involved
16 in any study that evaluates the potential contribution of
17 areas on the west side, as you've defined that in your
18 testimony?

19 A. Well, here is the problem I'm having: Now, what
20 do you mean by involved in? I've been involved in so many
21 different efforts over the years, including efforts that are
22 ongoing at Cal Fed and elsewhere, that are studying these
23 things. Have I been out there with a thermometer, no.
24 But --

25 CHAIRPERSON DODUC: Gentlemen, let's stay calm and

1 let's stay focussed. Mr. Rubin, you're obviously trying to
2 get to a point. Please get to the point and ask
3 Mr. Zuckerman the direct question that you want to get an
4 answer to.

5 Q. BY MR. RUBIN: Mr. Zuckerman, I asked the question
6 earlier about the basis for your belief that reducing
7 exports will improve the ability to meet South Delta
8 standards. And in response to my question, I believe you
9 said the basis for your belief is the fact that water moves
10 down hill.

11 A. No, my answer to that question was, the amount of
12 salts that's being exported by the projects into the west
13 side of the San Joaquin Valley. The answer you're quoting
14 was to your next question, which is, do you have any reason
15 to believe that any of those salts get into the San Joaquin
16 River?

17 Q. Do you have any reason to believe that the salts
18 that you believe exist within the San Joaquin Valley,
19 because of the Central Valley Project and State Water
20 Project exports, would end up in the San Joaquin River,
21 aside from your belief that water travels down hill?

22 A. Well, it's a finding that I quoted in my testimony
23 from the State Board; so, that, to me, among other things,
24 is pretty good authority.

25 Q. But as an expert, aside from quoting documents, do

1 you have any independent basis for your conclusion?

2 A. What do experts do in this field?

3 CHAIRPERSON DODUC: I think we've been here. He's
4 answered the question. Let's move on, please.

5 THE WITNESS: I mean, that's what experts do.

6 CHAIRPERSON DODUC: I've got it, Mr. Zuckerman.

7 MR. RUBIN: I have no further questions.

8 CHAIRPERSON DODUC: Thank you, Mr. Rubin.

9 (A recess was taken at 2:15 p.m.)

10 (Back on the record at 2:25 p.m.)

11 CHAIRPERSON DODUC: We're ready to resume
12 cross-examination of the Central Delta Water Agency by the
13 State Water Contractors. Mr. Shulz.

14 MR. SHULZ: Like everybody else, I'll start my
15 questions off first with the farming interests. And one of
16 the things I'd like to do is get a better understanding of
17 where your properties, respective properties are located.

18 And when I was looking at the Central Delta Water
19 Agency exhibits, I think it's Exhibit 5, there's a couple of
20 pages of five, but I'm particularly looking at the second
21 page that my folder has as Exhibit 5, which is a cross sheet
22 that shows most of Roberts Island.

23

24

25 CROSS-EXAMINATION

1 Q. BY MR. SHULZ: Let me first ask Mr. Sharp:
2 Looking at that map, I see at the extreme north end of
3 Roberts Island, right above section 33, right above the San
4 Joaquin River, there's a very, very faint dotted line. I'm
5 looking at the larger scale map. I'm looking at the next
6 map. I show Exhibit 5 -- that one is marked in yellow -- is
7 that your property?

8 A. Yes.

9 Q. So, you are located basically on the ship channel;
10 is that correct?

11 A. Yes.

12 Q. But in the dredged portion that is used as the
13 ship channel?

14 A. Yes.

15 Q. Is that your source of water?

16 A. Yes.

17 Q. Is that your only source of water?

18 A. Correct.

19 Q. And you are located then substantially downstream
20 of Brandt Bridge?

21 A. Correct.

22 Q. And downstream of Middle River. Is Turner Cut
23 shown on this map or is it off the map?

24 A. I don't see it on this map. It's too old.

25 Q. Too old?

1 MR. NOMELLINI: Yes, the map predated Turner Cut.

2 Q. BY MR. SHULZ: So, where is Turner Cut? If you
3 were trying to shift places on that map, where is Turner
4 Cut? Because I think your testimony said you were slightly
5 upstream of Turner Cut.

6 A. Correct.

7 Q. Is there a way to point out where Turner Cut is
8 located?

9 A. Well, you're travelling towards the west.

10 Q. Are you a mile above it or --

11 A. I'm about a mile and a half above it, upstream of
12 Turner Cut.

13 Q. In terms of your water supply -- Mr. Zuckerman put
14 in the colored document, which we've spent so much time on,
15 and I'll probably spend a little more time on myself -- that
16 shows the characteristics of water, whether it's coming from
17 the Sacramento or San Joaquin River.

18 Have you had anybody do work for you, or do you
19 have knowledge because you've been farming there for a long
20 period of time, how much of the water that you receive at
21 that point in the San Joaquin River is San Joaquin River
22 water as compared to Sacramento River origin water?

23 A. No, I haven't done any studies on it.

24 Q. Do you recognize your water is probably a blend of
25 the two?

1 A. I do recognize that, yes.

2 Q. And, particularly, when the cross channel gate is
3 open, would you expect you get a larger blend of Sacramento
4 River water then when it's closed?

5 A. I wouldn't know that.

6 MR. SHULZ: Then let me switch quickly. I may
7 come back to you, but in the meantime, let me also talk to
8 Mr. Mussi.

9 CROSS-EXAMINATION

10 Q. BY MR. SHULZ: Are you on Roberts Island?

11 A. Yes, I am.

12 Q. So, using this same map, I believe you said your
13 water is coming from Middle River, which is on the far left
14 side. So, could you point out approximately, maybe by
15 section, where your property is located?

16 A. I don't think I'm located on this map.

17 MR. NOMELLINI: It might help if we use the map.

18 THE WITNESS: You know, I'm not familiar with this
19 map. It's an older map.

20 Q. BY MR. SHULZ: Let's see. If I remember right,
21 upper Roberts Island is down below and lower Roberts Island
22 is up above. So, are you on middle Roberts, or are you on
23 upper Roberts?

24 A. No, I'm on middle Roberts. The water source,
25 basically it's on the division almost between middle Roberts

1 and upper Roberts.

2 Q. And, so, Middle River sort of is definitely your
3 source of water?

4 A. Yes, it is.

5 Q. And, in general, at least in my understanding, the
6 water quality in Middle River is usually, substantially
7 better than the water quality in the main stem of the San
8 Joaquin; is that your understanding?

9 A. Most of the time, yes.

10 Q. Because I know Contra Costa Water District wants
11 to move to Middle River because they think it's better
12 quality than Old River; is that right?

13 A. Yes, most of the time.

14 Q. Now, you said your average quality out of the
15 Middle River, in your recollection, is somewhere between 450
16 and 500 TDS; is that right?

17 A. Yes.

18 Q. And you said your '05 quality was better than
19 usual?

20 A. Yes, up to -- don't quote me on the month -- but
21 about July or so, then I think it kind of evened back out.

22 Q. Back to normal?

23 A. Right.

24 Q. So, were you in the neighborhood of maybe 300 or
25 350 this year in your spring time?

1 A. You know, I'm just guessing, and I would have
2 thought it was between 350, maybe 400.

3 Q. All right, fine. Thank you. And do you know
4 whether your water is a mix of Sacramento and San Joaquin
5 River water?

6 A. Just because I'm in the Delta pool, I would assume
7 it's a mix of both, yes.

8 Q. And Middle River is one of the channels that water
9 moves down from the Sacramento River towards the pumps; is
10 that correct?

11 A. Yes, but also the San Joaquin, up on the upper,
12 where the San Joaquin and Middle divide out.

13 Q. Yes, I agree.

14 A. There is some influence.

15 Q. There is some mixing. Do you have any information
16 as to whether there's a, what kind of correlation there is
17 between water quality at Brandt Bridge and water quality at
18 your location?

19 A. No, just personal experience.

20 Q. Now, one of the two of you talked about the
21 sodium, who was that?

22 A. I think we both did.

23 Q. Well, one of them. There's a table in here for
24 one of you that shows a test on some asparagus land. I
25 guess, Mr. Sharp, that would have been you.

1 A. That was mine.

2 Q. And there was some discussion about sodium and the
3 high sodium levels. Let me tell you where I'm coming from
4 on this. Sodium salts are normally, in my understanding --
5 and there is a question here -- but I want to make sure I
6 don't have to ask four or five questions to let you answer
7 the question fairly easily.

8 Sodium salts are usually ocean derived salts;
9 whereas, the salts that are in TDS coming down the San
10 Joaquin River tend to not be sodium based, at least that's
11 my understanding.

12 Do you have an understanding of what the source of
13 the sodium would be as shown in your studies?

14 A. No, I don't.

15 Q. So, you don't know if it's coming from the TDS or
16 the San Joaquin River or possibly the fact there that the
17 Delta was once flooded with ocean water and there's a lot of
18 sodium in the soil?

19 A. Correct, yes.

20 Q. So, we know that you have a high sodium problem,
21 but we really don't know what the source of that problem is;
22 is that a fair statement?

23 A. That's correct.

24 Q. Mr. Zuckerman, you answered some questions with
25 Mr. Rubin with respect to salt accretions below Vernalis.

1 Are you familiar with the new Jerusalem drain?

2 A. In general, yes.

3 Q. And does it drain below Vernalis?

4 A. I believe so.

5 CHAIRPERSON DODUC: Could I interrupt and ask

6 Mr. Zuckerman to speak into the microphone.

7 Q. BY MR. SHULZ: Would it be a source of salt

8 accretions to the Delta below Vernalis?

9 A. Presumably.

10 Q. Are you familiar with the City of Manteca waste
11 discharge?

12 A. I am not.

13 Q. So, you don't know where that discharge is
14 located?

15 A. No, I don't.

16 Q. Are you aware of what the City of Manteca NPDES in
17 terms of its discharge quality is?

18 A. No.

19 Q. So, if that was located between Vernalis and the
20 head of Old River, would you expect that it might add some
21 TDS into the system?

22 A. Well, depends on whether you mean some TDS or
23 whether it was dilute, probably dilutes the San Joaquin
24 River at that point.

25 Q. It would depend upon what the EC of that discharge

1 is allowed to be, right?

2 A. It depends on what their source is.

3 Q. So, we'll just leave it there, because you don't
4 obviously have knowledge of that particular situation.

5 A. I can't agree with you because I don't have the
6 facts.

7 MR. SHULZ: This is a question for anybody on the
8 panel. There's an economic analysis that the South Delta
9 has put in as an Exhibit. Have any of you reviewed that
10 document? Hearing no responses and seeing a lot of shaking
11 of heads, I'm assuming that they have not reviewed the
12 document. I was going to ask whether you guys agreed with
13 its conclusions, but if nobody has reviewed it, then I won't
14 ask the question.

15 CROSS-EXAMINATION

16 Q. BY MR. SHULZ: Mr. Zuckerman, I'm going to turn
17 now to your testimony. Let's start with the good old
18 Volumetric and Constituent Fingerprint document. To the
19 best of your knowledge, does anything similar to this exist
20 for the areas of the Central Delta Water Agency for once
21 your witnesses obtain their water supply?

22 A. This is the first time I've ever seen this type of
23 information presented. I don't pertain -- I mean, I don't
24 know everything that's going on in the world, but this is
25 the only such study that I'm aware of.

1 Q. So, you're not aware of it for other locations in
2 the Delta? So, just based on your long experience and
3 farming on McDonald Island and everywhere else you farmed in
4 the Delta.

5 In the portions of the Central Delta that we seem
6 to be dealing with here today, which are the Roberts Island
7 area, would you expect that a fingerprint for that area
8 would have more Sacramento River water in it because you
9 tend to get a greater mixing of Sacramento and San Joaquin
10 River water in that area?

11 A. This year, I wouldn't know, because the cross
12 channel was -- the gates on the cross channel were closed
13 for most of the irrigation season was my recollection. And
14 the flows from the San Joaquin River were so high, that I
15 don't -- I suspect the pattern would look surprisingly
16 similar to what's depicted this year.

17 Q. Would you expect this year is not a typical year?

18 A. Well, this is the first year that this has been
19 done.

20 Q. I mean in terms of the flow patterns and the
21 mixing that would have occurred in the Central Delta, do you
22 think this is a typical year?

23 A. It's typical of a wet year on the San Joaquin
24 River, yes.

25 Q. In years when we have the more normal year in the

1 San Joaquin, do you see a more mix of the Sacramento and San
2 Joaquin River waters than the Central Delta?

3 A. Absolutely.

4 Q. I'm going to deal for a little while with page
5 four of your testimony, which is when you turned to the
6 point that you said you did not summarize in your testimony,
7 which is, "The cease and desist order fails to establish a
8 meaningful incentive for compliance."

9 Now, I ask you first -- which for anybody else
10 would be objected to as a conclusion of law -- but since
11 you're an attorney and an expert in the Delta water rights,
12 I'll ask it of you.

13 Are you suggesting that the cease and desist order
14 that is proposed in this proceeding should include a remedy
15 for violations that occur?

16 A. Yes.

17 Q. And are you suggesting that that remedy should be
18 the same irrespective of the duration of the violation or
19 the degree of violation? In other words, are you suggesting
20 that this cease and desist should limit the State Boards
21 discretion in fashioning a remedy based on the nature of a
22 particular violation?

23 MS. LEIDIGH: Excuse me, are we talking about
24 Exhibit 10?

25 MR. SHULZ: Yes, we're talking about Exhibit 10,

1 page 4, where he is talking about if the water supply should
2 be cut off for certain periods of time if there's a
3 violation.

4 THE WITNESS: My answer is, I think it's set forth
5 on the next page.

6 MR. SHULZ: And what specifically are you talking
7 about?

8 MR. NOMELLINI: The paragraph that has the three
9 numbered subparagraphs.

10 Q. BY MR. SHULZ: So, is it your position that the --
11 in other words, I would have expected this kind of thing to
12 be argued in a remedy proceeding if it were for a specific
13 violation. But I see you asking for it as a fixed rule, and
14 if there's a violation for one day, that for six months
15 thereafter, you will not, you shall not pump or something of
16 that nature?

17 A. Well, what I'm really saying is that it's
18 disheartening that the State Board historically has been as
19 lax as they have been, in my opinion, in terms of clear
20 violations by the Bureau of Reclamation particularly.

21 And at some point, the Board becomes kind of a
22 paper tiger, unless it lets the world know that it's going
23 to be firm about complying with its water rights conditions.
24 And this occurs to me to be enough, provide enough terror in
25 it that the project operator might pay a lot more attention

1 to making sure they didn't violate the edict of the Board.

2 Q. And what would happen to agricultural between
3 probably San Joaquin County in the north and Merced County
4 in the south, if there was a violation by the Bureau of one
5 of the water quality conditions and water was no longer
6 being delivered to those farms for a period of six months?

7 A. It would hurt.

8 Q. It would kill the crops, wouldn't it?

9 A. Well, not necessarily, depending upon what other
10 sources of water. Most of these districts have more than
11 one straw that they suck on, but it would certainly hurt.

12 Q. And you would also include within this prohibition
13 of deliveries from the CVP those districts that are within
14 San Joaquin County?

15 A. The ones that are receiving water from the Bureau.

16 Q. Like Westside Irrigation District, that would be
17 shut off on its water supply?

18 A. I presume.

19 Q. I want to then come to a suggestion then that if
20 that occurred, that apparently it's also your belief the
21 water should stop being delivered to Kern County. Is that
22 what you position is?

23 A. This doesn't say that. It says the west side of
24 the --

25 Q. Which directly or indirectly contributed. If I

1 thought I had heard your testimony earlier, it was, that the
2 State Water Project operations indirectly contribute?

3 A. What I was referring to there was the water that
4 the State Water Project cooperates with the Bureau in
5 delivering to the areas that actually drain to the San
6 Joaquin River.

7 Q. Tell me how the State Project corroborates in
8 moving Delta-Mendota Canal water to serve as the DNC
9 contractors and the exchange contractors?

10 A. Well, the state pumps water that the Bureau would
11 otherwise have to serve from the Delta-Mendota Canal, and
12 meets some of the Bureau's obligations that allows the
13 Bureau to make greater deliveries to their west side
14 agricultural --

15 Q. Let's not use the word "west side." I want to
16 distinguish between those that are getting direct service
17 from the Delta-Mendota Canal without service from San Luis
18 and the San Luis unit, which takes water out of San Luis
19 Reservoir that is diverted during the wintertime to put into
20 the storage for the CVP.

21 What in terms of those districts along the San
22 Joaquin River between the Delta and San Luis Reservoir, what
23 does the State Water Project do in terms of aiding those
24 deliveries?

25 A. Well, I'm having difficulty with the southern

1 delineation of the San Luis Reservoir. The areas that drain
2 through mud and salt and slough, I'm not sure whether those
3 are north, even with, or south of the San Luis Reservoir.

4 But I am familiar with the fact that even though
5 those people may take the position they're not draining into
6 the San Joaquin River, that the water that gets into those
7 sloughs, whether directly or indirectly from lands that are
8 irrigated by the Bureau contractors are ending up in the San
9 Joaquin River.

10 Q. When was the Delta-Mendota Canal deliveries
11 started?

12 A. Late 40s, I believe.

13 Q. And when was the State Water Project started?

14 A. '67.

15 Q. So, between the late 40s and the 60s, those
16 deliveries were made down to the DMC and to the exchange
17 contractors without any facilities from the state project;
18 is that correct?

19 A. Yes.

20 Q. So, what was it in the construction of the State
21 Water Project that changed the pattern of deliveries for
22 those who were served before the project was built?

23 A. I thought I attempted to answer that, and that is,
24 that the operations, the joint point of diversion and the
25 cooperation between the State and the Bureau in San Luis,

1 which allows them to switch water back and forth so that
2 they can make greater deliveries, that they would have
3 otherwise been able to make in the absence of the State
4 Water Project.

5 Q. And it was your understanding that those greater
6 deliveries were to the original DMC contractors as compared
7 to San Luis unit contractors?

8 A. It's my belief that some of that water drains into
9 the San Joaquin River.

10 Q. What water?

11 A. The water that comes in the salt, mud, slough.

12 Q. That's all you were talking about, salt, mud,
13 slough?

14 A. Well, I believe that's all I'm talking about. In
15 five minutes, that's all I can come up with.

16 MR. SHULZ: That's all I have.

17 CHAIRPERSON DODUC: Thank you, Mr. Shulz.
18 Stockton East Water District.

19 MS. BOLEZZI: Jeanne Bolezzi, Stockton East Water
20 District. No questions. Thank you.

21 CHAIRPERSON DODUC: Bureau of Reclamation.

22 MS. AUFDEMBERGE: Amy Aufdemberge, Bureau of
23 Reclamation. No questions.

24 CHAIRPERSON DODUC: Thank you. That completes our
25 list of parties wishing to cross-exam.

1 MR. NOMELLINI: I'd like to move our exhibits
2 into evidence, Madam Chairman?

3 THE COURT: Any objections? Mr. Rubin.

4 MR. RUBIN: Yes, I do object to Central Delta
5 Water Agency Exhibit 10. I believe that the information as
6 presented in there by Mr. Zuckerman has no basis. I do not
7 believe that Mr. Zuckerman has the expertise to present the
8 testimony that is in that exhibit.

9 I recognize Mr. Zuckerman has a lot of knowledge
10 that he obtained in his capacity as an attorney, but I don't
11 believe that provides him with the expertise on operations
12 and particularly of the Central Valley Project, the State
13 Water Project. I don't believe that his work as an attorney
14 has provided him with the expertise to make statements
15 regarding the application of water within the service areas
16 for the Central Valley Project and the State Water Project.
17 There is no basis for his expertise and has not been
18 presented.

19 CHAIRPERSON DODUC: Mr. O'Laughlin.

20 MR. O'LAUGHLIN: I would like to object to the
21 testimony of Mr. Sharp and Mr. Neudeck. Mr. Neudeck's
22 testimony is irrelevant. Since you claim that water rights
23 were not an issue here, then this testimony by
24 Mr. Neudeck -- because the sole basis is to support a claim
25 for riparian right without an actual determination of the

1 riparian right -- that needs to be stricken.

2 And the second one that needs to be stricken is
3 Mr. Sharp's testimony. Because his testimony is solely the
4 testimony of Mr. Nomellini, as told to him, and then
5 recorded by Mr. Nomellini, and Mr. Sharp believes it to be
6 true. So, there's no independent basis for Mr. Sharp to
7 make a determination as to whether or not what Mr. Nomellini
8 told him, is, in fact, true and correct.

9 MR. NOMELLINI: On the question of the conclusion,
10 legal conclusion of riparian status, I believe the Chair
11 already ruled, and that conclusion was stricken from the
12 testimony, and that's a legal issue that we'll address.

13 But I think the facts, the chain of title, the
14 facts of the water use, those are facts in evidence that
15 these people are very competent to testify to. And whether
16 we prevail in our argument that those facts support a
17 riparian right or not is really a legal issue. So, I think
18 that's been dealt with by the Chair.

19 As to the expertise of Mr. Zuckerman, I think
20 you've heard at nauseam the qualifications of Mr. Zuckerman.
21 Many of the items in his testimony are factual items that
22 exist. The source, for example, of the Department of Water
23 Resources, the data, and that is ready available. Those are
24 records that are publicly available and don't depend on his
25 expertise.

1 So, I think that the challenges to the opinion
2 aspect, those are more narrow, and I think his
3 qualifications speak for themselves. He's been qualified
4 before to testify before the Board; and, therefore, I think
5 it should be admitted, and I think it goes to the the
6 weight. Of course, some scientist might have a better
7 qualification with regard to the sodium and so on and so
8 forth issue.

9 But, anyway, I would ask that they all be admitted
10 and that you not grant either of the petitions.

11 CHAIRPERSON DODUC: Well, thank you. At this
12 point, we will accept all the testimony and exhibits into
13 the record, and objections will be considered in weighing
14 the evidence. And that concludes the Central Delta Water
15 Agency. Thank you very much for participating.

16 I believe Ms. Crothers has a request to make.

17 MR. NOMELLINI: No redirect.

18 MS. CROTHERS: We would request that because of
19 the scheduling that's occurred, and the presentations have
20 taken a little longer than I guess anticipated, and one of
21 our key witnesses will not be available November 7, the next
22 hearing date.

23 And I would like to request that if our witness,
24 Mr. John Letey, could present his testimony today. It is
25 related to what we're hearing today regarding the matter of

1 harm from an exceedance, which the CDO addresses. I know
2 it's out of order, but we would request that he could give
3 his testimony; otherwise, we might not be able to give it if
4 the only other hearing date is November 7.

5 CHAIRPERSON DODUC: Objections?

6 MR. HERRICK: Thank you, Madam Chair. John
7 Herrick for the South Delta Water Agency. I have no
8 objection to it. But as I said yesterday, a couple of my
9 panel members are not available for the 7th, so we'd like to
10 get to them today, but we're always willing to accommodate.

11 CHAIRPERSON DODUC: I appreciate that.
12 Mr. Jackson.

13 MR. JACKSON: I just noticed that we had moved up
14 in the list to being next, and I was just checking with my
15 witnesses. We can accommodate both requests because my
16 witnesses can be available on November 7.

17 CHAIRPERSON DODUC: Thank you very much. With
18 that then, Ms. Crothers, you may present your witness.

19 MS. CROTHERS: Thank you for accommodating us.
20 I'd like to introduce our witness, Dr. John Letey. His
21 statement of qualifications is DWR Exhibit 3, and his
22 testimony is provided at DWR Exhibit 22.

23

24 DIRECT EXAMINATION

25 Q. BY MS. CROTHERS: Dr. Letey, did you prepare in

1 your Exhibit 3 your statement of qualifications?

2 A. Yes.

3 Q. Could you please summarize your qualifications?

4 A. The qualifications pertinent for the hearing are
5 that I'm a retired distinguish Professor of Soil Science at
6 the University of California at Riverside. Between 1980 and
7 1985, I was a Director of the Kearney Foundation of soil
8 science, and the specific mission for the Kearney Foundation
9 during that period was dealing with salinity.

10 From the period of July, 1993 through December 31,
11 2004, I was Director of the U.C. Center for Water Resources,
12 which dealt with research on the west side of the San
13 Joaquin County. In addition, I've had my own personal
14 research, which has led to several technical publications,
15 including a few which I've referenced as part of my
16 testimony.

17 Q. Thank you. Dr. Letey, did you prepare, in regard
18 to Exhibit 22 regarding the water quality, irrigation water
19 quality needs?

20 A. Yes.

21 Q. Could you please summarize your testimony?

22 A. Yes, my basic purpose here is to provide the
23 scientific basis for the relationship between the irrigation
24 water salinity and crop response.

25 The outline in which I will follow is, first I'll

1 start with some general descriptions of the salinity plan
2 interactions. Secondly, will I reproduce portions of the
3 Ayers & Westcott analysis. The reason for doing that is the
4 basis for many decisions, including U.C. guidelines back in
5 1978, where we have made considerable progress in our
6 understanding with computer technology. So, I'm going to go
7 through that analysis and point out some deficiencies in
8 that analysis.

9 CHAIRPERSON DODUC: Could we hold on for a minute?
10 I believe there are some objections.

11 MR. HERRICK: John Herrick for the South Delta
12 Water Agency. I believe Mr. Letey's testimony is squarely
13 one of the topics that's already been ruled on that's
14 changing the 1.0 standard to something higher than 1.0,
15 whereas this hearing deals with the portion that is 00.7.

16 And without being a stickler, the reason this is
17 so important is that we have two separate other processes
18 under this Board dealing with whether or not 1.0 is a
19 protective standard.

20 This was not noticed to examine whether or not 1.0
21 was protective. So, not just us, but the rest of the world
22 isn't here to argue about what is the protective standard or
23 what it should be. So, unfortunately, we have to object to
24 Mr. Letey's proposed testimony. This is squarely within the
25 area that's been excluded. And I would remind the Board

1 that the co-hearing officer previously ruled that although
2 things may get confused, we are dividing the hearing from
3 periodic review from this review.

4 CHAIRPERSON DODUC: Mr. Nomellini?

5 MR. NOMELLINI: Yes, I have a similar objection.
6 I guess it's in the form of a motion in limine from
7 preventing this testimony from going forward. But the
8 testimony that is about to be produced goes to whether or
9 not the standard in D1641 should be different than the 0.7
10 for the interior South Delta Agricultural Standards, which I
11 believe the Chair itself had ruled was not a subject matter.

12 This does not go to the question of the damage,
13 which the Chair has allowed testimony on, from a violation
14 standards. This goes to whether or not the standard should
15 be changed.

16 There's other testimony to come behind this, it's
17 of a similar nature. So, this particular ruling, I think,
18 is pretty important to the scope of the hearing. Anyway,
19 I'd ask it be prohibited from going forward.

20 CHAIRPERSON DODUC: Thank you, Mr. Jackson.

21 MR. JACKSON: Yes, my objection is pretty much the
22 same. It's a motion in limine based upon your revised
23 notice of public hearing in which on page one, it indicates
24 that the items relevant to the case are the draft cease and
25 desist orders 261.31-16 and 261.31-17 against the USBR/DWR

1 respectively, and four petitions for reconsideration of the
2 Chiefs July 1, 2005 conditional approval of the April 25,
3 2005 water quality response plan; condition one being the
4 extension from 2005 of time for the 0.7 to go into effect to
5 2009.

6 Consequently, I did no preparation in regard to
7 whether or not the original water quality, 1995 water
8 quality standards were to be changed. And it's my view that
9 under -- that there is a process for changing water quality
10 standards in a control plan which are listed in the 1995
11 water qualify control plan at page 7.

12 And that this would be a violation of Water Code
13 Section 13240, 13170, 13 -- excuse me -- the sequence
14 section 21085, and as indicated in the water quality control
15 plan, a violation of Article 10, Section 2, the public trust
16 under National Audubon and the statutory principles
17 pertaining to water rights, which would be the change in the
18 0.7 required in D1641, would violate Water Code Section 183,
19 1243, 1243.5, 1251, 1253, and 1256 through 1258. Thank you
20 for allowing me to make a record in case you allow this
21 testimony to go forward.

22 CHAIRPERSON DODUC: Thank you. Mr. O'Laughlin.

23 MR. O'LAUGHLIN: Thank you. Tim O'Laughlin
24 representing San Joaquin River Group Authority. As I stated
25 this morning when we had this initial discussion, it's

1 really fair for both sides of the aisle to put in a case
2 regarding harm.

3 And as much as I disagree with what Central Delta
4 and South Delta Water Agency are entering, it's within their
5 right, as Mr. Shulz said, to put in their testimony
6 regarding the impacts to their farming operations that would
7 occur from a potential violation that may occur at some
8 future date.

9 To understand both sides of the equation regarding
10 harm, one must understand from a scientific standpoint what
11 the EC values have and their effect when you apply them in a
12 field on plant and plant growth in order to understand from
13 the other side that there may be an argument that, in fact,
14 there is no harm if the standard is not 0.7 but might be 0.8
15 or 0.9 or 1.0, which all goes to your discretion as to
16 whether or not to issue a cease and desist order for a
17 potential threatened violation, which may occur at some
18 future date.

19 I have reviewed the testimony of the witness that
20 is being called, and I think what is fair to say is that
21 it's rebuttal testimony to the testimony submitted by the
22 farmers, that they are relying on their personal knowledge
23 as farmers as to what occurred on their farms. Whereas, Mr.
24 Letey is stating a scientific approach and is looking at it
25 from the application of water to the soils in the Delta and

1 their impacts on specific crops within the Delta.

2 And I think that both of those give the State
3 Water Resources Control Board the necessary testimony to
4 weigh and balance potential harms in the Delta from not
5 having the 0.7 standard met. Thank you.

6 CHAIRPERSON DODUC: Mr. Rubin.

7 MR. RUBIN: Madam Chair, I remind the Board that
8 the issue before it is whether it should exercise its
9 discretion under Water Code Section 1831. The issue here is
10 whether there's a threatened violation and whether, again,
11 the exercise of discretion should occur.

12 I think that the testimony that you're hearing
13 today from DWR addresses both issues in the context of
14 whether a threat exists of a violation, and I presume that
15 would be part of the case after this witness, but more
16 importantly, whether it's more important for the State Board
17 to exercise discretion.

18 I add also, this is testimony very similar, albeit
19 rendering a different conclusion from what you just heard
20 from Central Delta. The only difference in my mind is that
21 testimony is coming from an expert here who has done studies
22 himself versus information that's presented from farmers.

23 And the information that was presented from
24 farmers, you have allowed it, admitted into it in evidence,
25 and I think that you should allow this to proceed. And if

1 it's moved, that it's admitted as well.

2 CHAIRPERSON DODUC: Mr. Shulz.

3 MR. SHULZ: Yes. I'm here to oppose the motion to
4 strike this testimony, which I agree is somewhat of a motion
5 in limine. The proponents of the motion have in effect set
6 up a strong man. They have told you the purpose of this
7 testimony is to amend the standard; it is not.

8 CHAIRPERSON DODUC: Actually, that's the title of
9 his -- that's actually the title.

10 MR. SHULZ: I'm sorry. I didn't read the title. I
11 don't see that as changing the standards. Let me put it
12 this way.

13 We've let in testimony about injury that they
14 claim. It is our position that the Board has the ability,
15 without changing the standard, not changing D1641 or the
16 base plan, to decide whether or not to issue a cease and
17 desist order, depending upon whether there's a potential of
18 injury from exceedance. And that the Board has the
19 authority to approve the response plan under circumstances
20 where you may not be meeting the 0.7, but there is not
21 injury to legal users of water.

22 And if this -- I hope that the Department will
23 disallow any statement that they believe that this testimony
24 is coming in for any purpose other than to show that a cease
25 and desist order is not necessary, and that the process laid

1 out in D1641, namely, if there is an exceedance to take a
2 notice of that to the executive officer who will decide
3 whether or not an enforcement action is appropriate, that
4 that's all that's necessary. And the degree of impact on
5 farmers from the exceedances under the Water Rights decision
6 is a key element of that.

7 The concept here is, and I would hope and suggest
8 that even if it could be used for that purpose, it is very
9 common practice to say it is coming in for the limited
10 purpose of understanding whether or not there is damage to
11 farmers to the point where we should either (a) issue a
12 cease and desist order or (b) not approve the response plan.

13 CHAIRPERSON DODUC: Mr. Nomellini.

14 MR. NOMELLINI: In response, I think it's quite
15 clear from this testimony that it is directed at the change
16 in the salinity standard.

17 Now, if this witness or the state, Department of
18 Water Resources wants to present testimony that additional
19 salt does not cause damage or doesn't have the potential to
20 cause damage to farmers crops in the Delta, that would be
21 different, and that opportunity for rebuttal testimony is
22 still available.

23 But this testimony that's presented, that they
24 want to put in in direct, is clearly directed at the
25 proposal to change the water quality standard that is the

1 subject of the tri-annual review, what we call the periodic
2 review of the quality control plan. And one not only look
3 at the front page title, but take a look at that title on
4 page 14, where its comments on the protest application
5 change 0.7 EC to 1.0 EC, I don't think it could be clearer
6 that this testimony certainly spans the prohibitive gap and
7 should not be allowed to go forward in this form. Thank
8 you.

9 CHAIRPERSON DODUC: Mr. Jackson, you've already
10 made an objection, do you have something new to add?

11 MR. JACKSON: Yes, I do. The reason that there
12 would be great harm to the environment from the introduction
13 of this evidence to change the salinity water standard is
14 that the Central Delta, the agricultural standards are the
15 mechanism, one of the mechanisms for the protection of fish
16 and wild life, and is so stated in Table 3 of the 1995 Water
17 Rights Plan.

18 So, on argument that we should establish new
19 salinity water standards without establishing anything else
20 to protect the environment, would be substantially damaging.
21 If you look at Table 3, you will see that these standards
22 are absolutely critical to the environment as well as to the
23 farmer.

24 CHAIRPERSON DODUC: Ms. Crothers.

25 MS. CROTHERS: Yes, I would like to explain DWRs

1 position here. When DWR obtained the services of Dr. Letey
2 to investigate, our issue was, what harm would result if the
3 exceedance occurs and water quality is, in fact, under
4 existing conditions prior to the April 1, 2005 date? Before
5 this 0.7 objective came into effect, we asked him the
6 question: Could you -- what would you find the harm of
7 having irrigation water quality higher than 0.7. And the
8 title that he put on his paper was his title. I didn't tell
9 him what to write. It wasn't influenced on any grounds to
10 say, you know, I'm recommending a new water quality
11 standard; that isn't the meaning of his title.

12 And what everybody here in this audience is so
13 familiar with these issues, to read that into this title, it
14 wasn't meant to be for that purpose at all. It was merely
15 his perspective of what I was asking him. And when I asked
16 him for his analysis and investigation, he told me that he
17 didn't know what it would be, and he started off in his own
18 direction.

19 The request I made was to look into potential harm
20 from the difference between 0.7 and 1.0 as to affect on
21 crops, if that's an irrigation water quality in the channel.

22 It is solely for the purpose in this hearing to be
23 introduced and offered for establishing whether an
24 exceedance of 0.7 is to cause harm, and that relates to the
25 cease and desist order that's against DWR, which says this

1 is an enforcement action for not meeting the requirements of
2 our water rights permit conditions. And in our permit
3 condition, as I mentioned earlier, talks about whether there
4 is a need to enforce.

5 And prior to the issues regarding the discretion
6 on enforcement, will relate to the degree of harm. And we
7 ruled earlier on that, and that is the purpose of this
8 testimony only for those purposes. And Dr. Letey, he can
9 explain why he chose that title. He wrote it quite a while
10 ago. And, in fact, this paper could be generically used for
11 other forums. That's my feeling.

12 CHAIRPERSON DODUC: Thank you. The court reporter
13 is going to thank you as well. We're going to take a five
14 minute break and resume at 3:15 p.m., and I'll issue a
15 ruling then. Thank you.

16 (A recess was taken at 3:15 p.m.)

17 (Back on the record 3:20 p.m.)

18 CHAIRPERSON DODUC: Ms. Crothers, I need to ask
19 you a few questions; specifically, given my opening
20 statement yesterday about the issues that we're not going to
21 go into in this hearing, how do you propose to conduct the
22 questioning of your witness in order to stay within the
23 parameter of this hearing?

24 MS. CROTHERS: Well, I'm assuming that the
25 parameter being established by this morning's order that we

1 get to testify as to the impact of exceedance of 0.7.

2 CHAIRPERSON DODUC: But we're not going to touch
3 the issue of the standards, the long-term change petition,
4 the decision, or any of the other issues that are very much
5 related to what is in the paper that is presented from your
6 witness.

7 MS. CROTHERS: I believe -- my understanding, my
8 witness and I have -- we've gone over his testimony, and his
9 testimony is purely on a scientific basis regarding a
10 rethinking of a scientific paper whereby Westcott and Ayers.

11 I think when you hear his testimony, it's not
12 about any of those other things, like our change in
13 petitions or the water quality control plan objectives.
14 It's purely an analysis of irrigation water quality and
15 effects on crops.

16 CHAIRPERSON DODUC: My concern is we recently
17 concluded a very long session on the review of the water
18 point control plan, and these are things that DWR did not
19 raise during those meetings and hearings.

20 I do not want this to be an opportunity for the
21 introduction of information which other parties will not be
22 able to respond to in this very inappropriate forum
23 regarding changing the standards and objectives.

24 MS. CROTHERS: Well, no we're not proposing his
25 testimony is for the water quality control plan. Although

1 since you brought it up, I would suggest that the Board
2 consider it myself.

3 CHAIRPERSON DODUC: Which is exactly, I think,
4 people are trying to suggest here?

5 MS. CROTHERS: But that's to the Board's position.
6 I'm not saying the Board should do that, but the Board has
7 discretion on what kinds of information they want to use in
8 their periodic review. That's their decision. But at this
9 hearing, we were told we'd have the opportunity to testify
10 as to the matter of harm from an exceedance of implementing
11 the water quality objective. And that's what we're offering
12 this testimony for.

13 My witness is only to testify as to his analysis
14 of the impacts from applying irrigation water quality
15 between a 1.0 and 0.7. If at some point it sounds like he
16 is testifying on that, I will stop and redirect his
17 testimony.

18 CHAIRPERSON DODUC: I think there will be many
19 people that will stop you. I'm going to allow you to
20 proceed, but it's going to be with a great deal of caution.
21 As I said, I don't think others will be shy to jump up as
22 necessary, and, of course, my staff counsel will as well.

23 Again, I must caution you, be very careful here.
24 And, obviously, anything that is beyond the scope, anything
25 that is relevant to the objections that have been made, will

1 be considered in weighing the evidence that is provided
2 here.

3 MS. CROTHERS: Thank you, and would you also like
4 him to explain the title?

5 CHAIRPERSON DODUC: No.

6 MR. NOMELLINI: Is Exhibit 22 going to be stricken
7 in its entirety and just accept the oral testimony?

8 CHAIRPERSON DODUC: We'll consider that at the
9 time that DWR makes the motion regarding its exhibits.

10 MR. JACKSON: For clarity, the Ayers and Westcott
11 paper, which is basically the first sentence in this
12 testimony. Was the steady state analysis, was what was used
13 to develop the 0.7 EC and was the main analysis that
14 established the standard in both the 1991 and 1995 water
15 quality control plan --

16 CHAIRPERSON DODUC: And I assume that will be your
17 grounds to your objecting to the introduction of this
18 exhibit.

19 MR. JACKSON: My question is: Is the order of the
20 Chairperson that he is going to be allowed to question the
21 analysis that's established 0.7?

22 CHAIRPERSON DODUC: We're not going there. That
23 is not going to be included in his testimony.

24 MR. JACKSON: So, no mention of the
25 Ayers/Westcott --

1 CHAIRPERSON DODUC: Let us proceed to hearing the
2 witness' testimony, and we will consider the objections
3 accordingly.

4 Ms. Crothers, please proceed.

5 MS. CROTHERS: Thank you.

6 Q. BY MS. CROTHERS: Dr. Letey, can you summarize
7 your testimony, which is DWR Exhibit 22?

8 A. Yes, thank you, Madam Chair. I might point out
9 that I'm a professor, and had I sat in on yesterday and
10 today's hearings today and understood more or less this
11 process, that I would have written things much differently
12 than I did.

13 My intent, again, is strictly to provide
14 scientific information. Establishing the standards is not
15 my purview. It is the purview of the Board, and I fully
16 understand that. My full intent is to provide scientific
17 information which gives a relationship between irrigation
18 quality and that on crop production.

19 And I understand there are many other factors that
20 lead into what might establish a standard, and I will try to
21 provide on the basis of what I just heard you layout.

22 The Ayers/Westcott has nothing to do necessarily
23 with the standard, but --

24 CHAIRPERSON DODUC: No, we're not going to go
25 there.

1 THE WITNESS: Exactly. That's my point I'm trying
2 to make. It has much broader inclination. It was the basis
3 upon which UC guidelines have been established. The
4 guidelines have been used --

5 CHAIRPERSON DODUC: Please, just move on to your
6 direct testimony.

7 THE WITNESS: So, basically, I do need to review
8 the Ayers/Westcott for the purposes of evaluating not for
9 the standard point of view, but as it has been established
10 for our understanding of the relationship between salinity
11 of irrigation water and plant response.

12 CHAIRPERSON DODUC: We're not going there.

13 MS. CROTHERS: Excuse me, Madam Chair. Can you
14 clarify what you do mean, because this testimony is about
15 what impacts a water quality between 0.7 and one would
16 potentially cause from a scientific point of view.

17 MR. O'LAUGHLIN: Well, I have another objection,
18 and that is, I'm shocked to hear the hearing officer say
19 that, in fact, his testimony shouldn't come in because
20 there's some other processes that are occurring under
21 periodic review. San Joaquin River Group Authority wrote a
22 letter to the State Water Resources Control Board
23 specifically objecting to the late submittal testimony in
24 the periodic review process.

25 We received a letter from your executive officer

1 telling us that until such time as the State Water Resources
2 Control Board made a decision, that any and all testimony,
3 evidence, correspondence, would be entered into the record,
4 and it would go to what the staff analysis and what they
5 thought about it.

6 So, if there is a boogie man in the closet out
7 here that you think this is going to corrupt your periodic
8 review process, that's not true, because that process is not
9 over. And, in fact, there will be many more submittals,
10 evidence, testimony, and hearings in that fashion.

11 And your executive officer, based on my letter --
12 in fact, I talked to your attorney on this very point, and
13 she said, "Tim, that goes to what weight the staff gives it
14 and how much time we have to look at it, but it doesn't mean
15 that it isn't admissible." So, I don't think how this
16 testimony is going to corrupt this process.

17 And, finally, I don't see how a scientific study
18 that was undertaken by UC Davis back in the early 70s and
19 80s, which is basically a foundation for understanding a
20 salinity EC applications and crop development generally
21 state why. Yet, it may have been used to adopt the
22 standards, but it's general application throughout the state
23 is not what he's talking about. That's what he's talking
24 about.

25 He's not talking about the actual standards that

1 were adopted. What the Board did or didn't do with that
2 report is what the Board did with it. What you get from
3 this testimony though is where the science has gone since
4 that document was done. And that is admissible to the harm
5 that will be suffered in the Delta if there are exceedances
6 for a threatened, potential violation of the standard.

7 CHAIRPERSON DODUC: Ms. Leidigh.

8 MS. LEIDIGH: Okay. First of all, with respect to
9 whether or not something can come into the water quality
10 control plan process, DWR isn't offering this for the
11 process of the water quality control plan, so that
12 objection, in my view, is off point.

13 MR. O'LAUGHLIN: Yes, but Barbara --

14 CHAIRPERSON DODUC: Let her finish, please,
15 Mr. O'Laughlin.

16 MS. LEIDIGH: I don't see any problem with that.
17 So, far as the Ayers/Westcott line of thinking is concerned,
18 I would wonder whether Dr. Letey can address the points that
19 DWR needs to have or wants to have addressed without
20 reference to Ayers/Westcott study.

21 Why can't Dr. Letey simply tell us what the effect
22 is of the salinity changes or the different salinity in the
23 Delta, without talking about Ayers/Westcott or challenging
24 the basis for the water rights decision and the water
25 quality control plan?

1 MR. O'LAUGHLIN: I know the second question will
2 be answered. But I do want to take time to respond to your
3 response to me, Barbara --

4 CHAIRPERSON DODUC: No, I think she addressed the
5 question. Ms. Crothers, I'd like to hear your response to
6 Ms. Leidigh's recommendation.

7 MS. CROTHERS: Well, I was trying to consult with
8 Dr. Letey about this, because I've read the testimony. And
9 from a scientific point of analysis, a scientist is usually
10 an analyzing apprentice and a hypothesis, where you choose
11 your hypothesis and then you go through and you show what's
12 wrong with it.

13 So, even though, like Mr. O'Laughlin said, this
14 was part of the history of these standards, it also was an
15 FAO paper back in the 70s that was developed for generic
16 agricultural use. So, it's always been a broader issue than
17 just a water rights issue.

18 So, for purposes of his scientific analysis, he
19 starts with an apprentice that was surely established a long
20 time ago, and it's an update of the thinking of that.

21 Now, he's told me he could try to go through it
22 and not discuss the Westcott and Ayers origins of this
23 analysis, but I think you're fooling yourselves that that
24 isn't what this is about, because that's the scientific
25 approach to irrigation water quality analysis that we all

1 use, and not just us, but other agricultural users.

2 So, anyway, with that, he's told me that he will
3 try to avoid the references to them, but I don't really
4 think it's going to change the overall scientific analysis
5 here.

6 CHAIRPERSON DODUC: We'll let you attempt to do
7 so, and, please, again, just focus your comments on the
8 impacts to agriculture at the 00.7 and the impacts at 1.0.

9 THE WITNESS: Without reference to Ayers and
10 Westcott?

11 CHAIRPERSON DODUC: I think we've already
12 mentioned that several times.

13 THE WITNESS: I just want to make sure. With
14 that, I hope you'll bear with me. It's going to take a
15 little time to bear through and pick and choose and those
16 things to avoid as I understand. So, if you'll have
17 patience with me as I go through this, I thank you very
18 much. Thank you.

19 And, therefore, much of my stuff I will present
20 was prepared on transparencies, so I will instruct the
21 person that's in charge of that to come to certain ones that
22 I'll focus on. Thank you.

23 My first slide here is one that everybody is
24 familiar, and that is, when we add irrigation water, we also
25 add salts. Pure water is transpired; and, therefore, salts

1 occur within the root zone. This is all something we
2 understand.

3 Because the salts accumulate, if they get high
4 enough, they can be detrimental to salt; and, therefore,
5 some periodic leeching to remove salts is required.

6 We have crops that have different degrees of
7 sensitivity and different irrigation water and different
8 salinities.

9 So, the basic understanding is that depending on
10 crops, tolerance in the irrigation water salinity, we have
11 different management practices. However, there's some
12 really fairly complex interactions that keeps that going.

13 First of all, the salinity of irrigation water, as
14 you all recognize, is generally measured by the electrical
15 conductivity.

16 Now, it becomes important to recognize irrigation
17 or the salinity EC, which I'm using for "IW" for my
18 presentation, referring to EC of the irrigation water. ECSW
19 is the EC of the water in the soil. We can't directly
20 measure EC of the water in the soil. And, therefore --

21 MR. NOMELLINI: Excuse me, are there exhibit
22 numbers associated with these documents in that graphic as
23 well?

24 MS. CROTHERS: This power point is a reflection of
25 the written testimony. Everything in these power points are

1 within the written testimony. We weren't planning to offer
2 the power point into evidence. It was just for purposes of
3 presentation.

4 MS. LEIDIGH: For purposes of this hearing and the
5 record, I think we do need to have the power point in
6 evidence, so that it can be referred to and looked at in the
7 future.

8 MS. CROTHERS: Well, DWR can do that if you'd
9 like us to do that.

10 MS. LEIDIGH: Would you like to do that?

11 MS. CROTHERS: Yes, we will mark this Exhibit 22A.
12 Well, we will make each page of the power point page
13 numbered Exhibit 22A, 1 through whatever how many pages
14 there are in the power point.

15 MS. LEIDIGH: Is this going to be page one or page
16 two?

17 MR. JACKSON: And for the purposes of the rest of
18 the hearing, we will be allowed to prepare demonstrative
19 power points that were not part of our filing, and we will
20 do that because it may help. But I just want to get the
21 same ruling when CSP does the same thing.

22 CHAIRPERSON DODUC: Given Mr. Jackson's comment,
23 are there any objections to this late submittal by DWR?

24 MR. NOMEILLINI: I don't know what else they have,
25 but it's a matter of keeping track of this testimony by

1 exhibit number. And those of us that have to cross-examine,
2 without having that file, it is a bit of a handicap. Yes, I
3 object to it. I think we had a proceeding set up here,
4 where the exhibits were to be submitted in advance for the
5 reason that as to the orderly process, allows us effective
6 opportunity to cross-examine, so, I object.

7 But, yes, I think this witness can come back at a
8 later point in the proceeding, after they clean up their
9 exhibits and testimony, and it will eliminate some of these
10 problems we're confronted with and probably save us a lot of
11 time.

12 CHAIRPERSON DODUC: Mr. Jackson, do you have more
13 to add?

14 MR. JACKSON: I don't.

15 CHAIRPERSON DODUC: Mr. O'Laughlin.

16 MR. O'LAUGHLIN: It's not evidence, and it's not
17 testimony. Basically, he's already submitted his testimony,
18 and all this is is an outline in summary form of his
19 testimony. Because if you look at these things that are on
20 these charts, this one specifically, they're all embedded in
21 his testimony.

22 So, there's not specific evidence being offered by
23 these exhibits that isn't already in his testimony, so it's
24 a summary. So, whether it's done orally or in written
25 writing, it doesn't make any difference.

1 I mean, you could do away with the power points,
2 and he could look at them right in front of him and get to
3 the same point anyway. In fact, if that's what we want to
4 do, I say take the power points off the wall, and he can
5 read from the screen in front of him, and we'll move
6 forward.

7 MR. NOMELLINI: That's not true. I looked in the
8 testimony. I couldn't find that graphic of the plan and the
9 water. That's what started me off to come to the podium.

10 CHAIRPERSON DODUC: All right. Let's -- we're
11 going to take the presentation off, and the witness will
12 proceed to present oral summary within the confine that has
13 been established. Your job just got a little bit harder.

14 THE WITNESS: May I ask a question? If I put up a
15 graphic that is in the testimony, will that be allowed?

16 CHAIRPERSON DODUC: If it's among the exhibits
17 already introduced by DWR and which does not violate the
18 parameters of this hearing.

19 THE WITNESS: Let me state what would have been
20 done on there. We have the electrical conductivity,
21 irrigation water; then we have, once the water gets into the
22 soil, it starts extracting. We have the salinity of the
23 soil irrigation water. But we can't correctly measure the
24 electrical conductivity in the soil.

25 So, the standard procedure is to add distilled

1 water to bring the soil up to saturation, and then extract
2 the water; and then measure the EC of that extract, and that
3 is commonly referred to as EC sub E, electrical conductivity
4 of the saturation extract.

5 And that particular number becomes very important
6 because we know that crops have different degrees of
7 tolerance. And two sides of the salinity laboratories
8 several years ago went through and viewed much of the
9 information available and found that there was a level
10 salinity for which there was no impact until it reached the
11 threshold, and then it decreased pretty much in salinity.
12 And they expressed these coefficients in terms of the ECE,
13 which is the electrical conductivity of the saturation
14 extract and not the soil.

15 However, what the plant responds to is the soil
16 PC. So, typically, as most soils are analyzed, the
17 electrical conductivity in the soil water is about two times
18 higher than the electrical conductivity of the soil
19 solution.

20 Again, if you'll bear with me a little bit of
21 patience as I go through these, because I'm having to factor
22 out and explain things as clearly as I can without the use
23 of some of my visuals.

24 This one can come up because it is directly in my
25 testimony.

1 Q. BY MS. CROTHERS: Could we refer to this as on
2 page two, figure 1 of DWR 22?

3 A. Well, basically, it just illustrates the
4 Maas-Hoffman relationship, where there's a threshold in the
5 drop. The next things that I had, which apparently won't
6 come up either, is, I've just given some typical
7 Maas-Hoffman coefficients versus selective crops -- they
8 were just given as examples.

9 CHAIRPERSON DODUC: If you can just refer to the
10 page on which it's in DWR?

11 MS. CROTHERS: It is table 1, page 2 of DWR 22.

12 THE WITNESS: What we find, as everybody knows,
13 there is wide range of tolerances of crops to salinity, and
14 this is here by merely to illustrate that.

15 In my testimony, I have an equation which appears
16 on -- well, it's not showing up -- which appears on page 3,
17 which identifies sort of a water balance equation, where the
18 applied water, including precipitation, and long-term equals
19 aspiration, plus the depercolation.

20 Now, if we apply less than that of transpiration
21 of saline water, one might assume that the salinity will
22 continue to accumulate. And as it accumulates, eventually
23 the crops will die based on this different equation.
24 However, there is an interaction with the plant that once
25 the plant senses an increase in salinity, such that the

1 waters from it shuts the storm, and there's a protective
2 mechanism in the plant that it reduces the water loss.

3 There's a consequence of closing the storms off.
4 Carbon dioxide, which comes in for photo synthesis, is also
5 reduced; and, therefore, the plant stops growing. And as
6 the plant decreases its growth, then the amount of
7 transpiration decreases, and we automatically set up some
8 depercolation, which then leeches some salts. So, there is
9 a trade off -- this is a very important point -- is that
10 there's very much an interaction between the plant and the
11 soil, and these are dynamic processes which are rather
12 complex and take place.

13 I'm going to now jump all the way over to --

14 CHAIRPERSON DODUC: I think you're about to get
15 into dangerous territory here going by the slide that's on.
16 We do have your testimony, and I appreciate your background
17 information, but I'm going to ask you to get to the point
18 which Ms. Crothers wanted to present from you, which is,
19 what is the impacts, in your opinion, to agricultural as a
20 result of these EC objectives not being met?

21 THE WITNESS: Okay. If you will turn to, on page
22 8, figure 4, which is really a graft showing data for
23 Rhoades, a reproduction from data from Rhoades, which I
24 could have gotten from various sources.

25 CHAIRPERSON DODUC: Page?

1 THE WITNESS: Page 8 of my testimony, figure 4.

2 CHAIRPERSON DODUC: There's no figure 4 on page 8.

3 THE WITNESS: I'm looking at the wrong -- I've got
4 my transparencies pages mixed up with my testimony pages.
5 It's still figure 4 on page 10.

6 What happens when we irrigate, is that the plant
7 removes water. As the water is removed, the salt
8 concentrates and the salt builds up; then a time comes when
9 we irrigate.

10 When we apply water, the irrigation water flushes
11 out. The salt in the upper part moves it down and is
12 replaced by irrigation water. So, what we have is a cycling
13 process of the salt concentrating between irrigations; then
14 when irrigation drops down -- and figure 4, which are data
15 from Rhodes's experiment -- illustrates that what we have is
16 the salt water concentration increases; then it drops;
17 increases; drops. And you will note from there it basically
18 drops down to the same level, approximately the same level
19 after every irrigation.

20 And, therefore, the key is that if we know what
21 the irrigation water salinity is, then we know how much
22 concentration takes place before the next irrigation. And
23 we know what the crop tolerance is, if we know what
24 concentration of irrigation water we apply, such that it
25 will not concentrate beyond the threshold before you

1 irrigate again.

2 And in this particular example, the concentration
3 was 10.7. Looking at volumetric water contents for most
4 soils and water contents where farmers irrigate in the field
5 capacity, is that the concentration would increase usually
6 less than two, which means that you can apply an irrigation
7 water salinity that can concentrate up to a level of two as
8 long as that concentration two is still below the threshold,
9 then the crop will not be impacted.

10 Now, since the concentration, I'm saying
11 represents about a two-fold between irrigations, then the
12 Maas-Hoffman coefficients are based on ECE, which is about
13 two times -- excuse me -- the ECE is about half of the soil.
14 Then it turns out coincidentally, and very fatuitiously,
15 that as long as we irrigate with an irrigation water equal
16 to the EC or the threshold EC, it should not concentrate to
17 a value beyond the threshold.

18 So, this gives us then a basis for evaluating of
19 the impact, not the impact, but in terms of what one can
20 expect as far as irrigation water. As it turns out, if an
21 irrigation water EC, able to do or less than the threshold
22 ECE, then you should be okay as far as crop yield
23 production.

24 And that basically is the basis of my testimony
25 and my basic conclusion that provides us the basis then for

1 the connection between in a simplicity term.

2 CHAIRPERSON DODUC: Thank you. Questions? Let's
3 move on then to cross-examination, and I will be as strict
4 with cross-examination as I was with the direct testimony.
5 Let's begin with the Division of Water Rights Prosecution
6 Team.

7 MS. MAHANEY: No cross-examination. Thank you.

8 CHAIRPERSON DODUC: Central Delta Water Agency.

9

10 CROSS-EXAMINATION

11 Q. BY MR. NOMELLINI: Mr. Letey, based on your
12 testimony, am I correct you are not offering any testimony
13 with regard to the impact of salinity in the water on
14 agricultural operations in the Delta?

15 A. My testimony is generic, not specific to any
16 location.

17 MR. NOMELLINI: I have no further questions.

18 CHAIRPERSON DODUC: Thank you. South Delta Water
19 Agency.

20 MR. HERRICK: Thank you, Madam Chair. John
21 Herrick for the South Delta Water Agency.

22

23

24

25 CROSS-EXAMINATION

1 Q. BY MR. HERRICK: Mr. Letey, have you done any
2 studies with regard to South Delta soils?

3 A. I have not conducted personally any research with
4 the South Delta soil.

5 Q. Have you done any studies with regard to leeching
6 ratios in the South Delta soils?

7 A. Would you please clarify that in terms of leeching
8 ratios?

9 Q. In your experience, have you done any
10 investigations that deal with the different rates at which
11 water will travel through the soils in the South Delta?

12 A. Yes.

13 Q. And are you familiar with the soils of the South
14 Delta?

15 A. I am somewhat familiar with the soils in the South
16 Delta.

17 Q. Are they similar to soils in Coachella Valley,
18 which you have studied?

19 A. To some extent. There are some soils that are
20 similar and some that will be different.

21 Q. Are there soils in the South Delta similar to
22 soils in the Israel, which you also studied?

23 A. I'm sure there are.

24 Q. Are you aware of any damages to agricultural crops
25 in the South Delta?

1 A. I'm not aware of that.

2 Q. You have not examined any studies that deal with
3 impacts to crops in the South Delta due to elevated
4 salinities in the irrigation water?

5 A. I have not seen any data which gives a
6 relationship between irrigation water salinities and crop
7 response.

8 Q. Are you familiar with the ground water levels in
9 the South Delta?

10 A. No.

11 Q. Are you familiar with the salinity of ground
12 waters in the Delta?

13 A. No.

14 Q. Would your conclusions about the general affects
15 of applied irrigation water change if things such as ground
16 water salinity were also involved in the root zone of the
17 crop?

18 A. No, because it is well recognized when we irrigate
19 that the salt balance must be maintained, and very often
20 that requires a drainage system.

21 Q. Does the pH affect the ability of applied
22 irrigation water to leech out salts in the soil profile?

23 A. Not greatly.

24 Q. In your written testimony on page 8, you assume
25 that a 15 percent leeching fraction will be achieved in

1 soils. Is that a general number or is that site specific?

2 A. Well, that was related to the Ayers/Westcott
3 report, where they did their analysis for 15 percent
4 leeching, and that's the only analysis for --

5 CHAIRPERSON DODUC: Let's not go there.

6 Q. BY MR. HERRICK: Do you know whether or not a
7 15 percent leeching fraction can be achieved in the soils of
8 the South Delta?

9 A. I have seen the data of reports where they have
10 gone out and estimated leeching fractions, and the leeching
11 fractions range rather widely.

12 Q. Are you aware of the agricultural practices
13 associated with an alfalfa crop or alfalfa farming?

14 A. I'm familiar with growing alfalfa.

15 Q. Do you know whether or not any of those practices
16 affect the compaction of the soils of the crop?

17 A. They shouldn't impact, unless you go out there and
18 try to mow or harvest the soils to wit.

19 Q. Is mowing a regular practice during the summer
20 months for an alfalfa crop?

21 A. I would assume so.

22 Q. Is bailing a regular practice during agricultural
23 during the summer?

24 A. I would say so.

25 CHAIRPERSON DODUC: Where are you going with

1 this, Mr. Herrick?

2 MR. HERRICK: I'm trying to establish the factual
3 basis and his understanding of the, specifically South
4 Delta, since his testimony dealt with the affects of the
5 applied water in general.

6 Then from his answers here, we will attempt to
7 show that although there may be a general principle he's
8 referring to, his conclusions don't apply to the South
9 Delta.

10 CHAIRPERSON DODUC: All right.

11 Q. BY MR. HERRICK: Mr. Letey, are you aware that the
12 time required to cure a harvest of alfalfa crop may limit
13 the irrigation practices?

14 A. I'm assuming that if they have got it, it requires
15 some time to use, in your term "cure," before they can bail
16 or whatever they do. If somehow or another that will delay
17 irrigation, I can assume that may happen.

18 Q. And if your irrigation practices are limited by
19 other normal agricultural practices, would that affect the
20 ability to leech salts out of the soil?

21 A. No.

22 Q. Have you made any tests with regard to alfalfa
23 crops in the South Delta soils to determine whether any
24 leech ratio through the entire root zone occurs during the
25 summer months?

1 A. I'm made no tests on alfalfa in the area.

2 Q. Would you agree that some crops, the seedlings are
3 more salt sensitive than established crops?

4 A. That is somewhat subject to a question, because
5 while it is true that having good quality water during the
6 beginning of the season is rather important, it's not clear
7 whether that is just a timing factor or if indeed the crop
8 is more sensitive at that time.

9 Q. Are you asserting in your testimony -- I'm not
10 sure if you covered it there -- that the delusion might,
11 drain water reduces the EC of applied water required through
12 the irrigation season?

13 A. Rain fall definitely reduces the impact of
14 salinity.

15 Q. In your conclusion, did you give any consideration
16 to the amount of the evapotranspiration that occurs during
17 drainage season?

18 A. Actually, the impact or the effect of rain
19 quality, contribution of rain fall towards partially
20 mitigating the effect of salinity is based on the weighed
21 average of the irrigation water and the rainwater. And this
22 has been a conclusion that is verified from field experiment
23 and two models that I report in the testimony. And that
24 it's the weighed average, and it doesn't depend exactly as
25 to when the rain fall comes during the crop season or not.

1 Now, the rain fall, even though it may not cause
2 any leeching; nevertheless, if the rain fall comes, the
3 water that is evaporated is pure water, and, therefore, does
4 not contribute to concentrating.

5 It also does not mean it's evaporating soil water.
6 So, therefore, even a short rain fall, as long as it does
7 not run off the field, is a positive contribution to the
8 crop from a salinity point of view.

9 Q. I thought you said that the rain water helped
10 leech the salts out of the soil?

11 A. I didn't say they helped leech; I said it helped
12 mitigate the effect.

13 Q. In your testimony, you talked about the plants
14 having their stomatas closed as sort of a feedback mechanism
15 by which they stop taking up and transpiring water; is that
16 correct?

17 A. Correct.

18 Q. Based on that, you said that when the plant then
19 stops or reduces its takeup of water, that water helps in
20 the leeching or transportation of salts out of the root
21 zones; is that correct?

22 A. What it does is reduce the evapotranspiration,
23 therefore, the same amount of applied water will contribute
24 to depercolation, which, of course, helps the leeching.

25 Q. Now, when the plant reduces water loss, it stops

1 growing. Wouldn't that result in a decreased crop because
2 of that decrease in plant activity?

3 A. Okay. My purpose for explaining that is that we
4 have some very complex reactions going on. And that it's
5 true, that if you get to that point -- and that was premised
6 on salinity getting high enough to reduce subtake, of
7 course, at that time you are having impact -- but that had
8 no -- that was to establish that we have these very complex
9 interactions going on between plant and soil that needs to
10 be considered.

11 Q. So, have you done any analysis to see whether or
12 not the impact on salts to the plants or how those would
13 compare to the impacts of the plants stopping and growing?

14 A. Well, if the plant decreases growth, the amount of
15 salinity decreases.

16 Q. So, whether or not you've improved the soil
17 salinity, the plant still stops growing and the crop is
18 affected?

19 A. It's a protective mechanism but not a completely
20 protected mechanism.

21 Q. Mr. Letey, are you familiar with any studies that
22 identify the constituents in the water exported from the
23 Delta and how that compares to the water in the San Joaquin
24 River that reaches the Delta?

25 A. No.

1 MR. HERRICK: That's all I have. Thank you.

2 CHAIRPERSON DODUC: County of San Joaquin.

3 MS. GILLICK: Deeanne Gillick, we have no
4 questions.

5 CHAIRPERSON DODUC: Thank you. California Export
6 Fishing Protection Alliance.

7

8 CROSS-EXAMINATION

9 Q. BY MR. JACKSON: Mr. Letey, in your recommendation
10 that there would be no damage done to agricultural crops
11 from an increase from 0.7 EC to 1, have you considered any
12 other beneficial use and what the effects of such an
13 increase would be on those?

14 A. My analysis was entirely to agricultural crops.

15 Q. So, the list of beneficial uses in the water
16 quality control plan that are supported by the 0.7 EC are
17 not something that you considered?

18 MS. CROTHERS: Excuse me. I would object to that
19 because he's referencing information from the Water Quality
20 Control Plan, and I thought we weren't supposed to be
21 bringing that into this hearing.

22 CHAIRPERSON DODUC: Would you repeat your
23 question, Mr. Jackson?

24 Q. BY MR. JACKSON: The beneficial uses, which are
25 protected by the 0.7 EC in the Water Quality Control Plan,

1 were not considered by you in indicating that it would be
2 all right to raise the EC from 0.7 to 1.0.

3 CHAIRPERSON DODUC: He did not include that in his
4 verbal testimony.

5 MR. JACKSON: And I just wanted to make sure he
6 considered none of those.

7 CHAIRPERSON DODUC: No. You don't need to answer
8 any of those. Move on, please, Mr. Jackson.

9 MR. JACKSON: Certainly.

10 Q. BY MR. JACKSON: Calling your attention to your
11 written testimony, is it fair to say that in the second
12 paragraph of your written testimony, in which you've listed
13 six items, that you have only testified today, by order, on
14 items 1 and 6?

15 A. I have also 4, 5, and 6.

16 Q. So, we agree that you have not testified on 2 and
17 3?

18 A. Correct.

19 Q. Now, on number 4, you indicate that you believe
20 you testified to an alternative approach to the steady
21 state?

22 A. Yes, that was my description of how when we
23 irrigate, the salinity goes up and down. It's a behavior.
24 I would just simply say it's a scientific approach.

25 Q. So, the word "alternative" is not part of the

1 testimony?

2 A. No, it was stricken, everything preceding that.

3 Q. Thank you, sir. So, in redacting your written
4 testimony --

5 MR JACKSON: And I guess I could take some
6 guidance before I start doing this. Should we redact the
7 written testimony, eliminate the parts he was not allowed to
8 testify to without him or without him? I mean he may be
9 useful.

10 CHAIRPERSON DODUC: I prefer to do the redacting
11 later as we look at the exhibits that I'm sure DWR will be
12 introducing into evidence.

13 MR. JACKSON: Thank you.

14 CHAIRPERSON DODUC: San Joaquin River Group
15 Authority.

16 MR. O'LAUGHLIN: No questions.

17 CHAIRPERSON DODUC: Bay Institute.

18 California Department of Fish and Game.

19 MS. CANNON: Tina Cannon, no questions. Thank
20 you.

21 CHAIRPERSON DODUC: Contra Costa Water District.
22 Not seeing anyone.

23 Merced Irrigation District and San Luis Canal
24 Company? Not seeing anyone.

25 Northern California Water Association. Not seeing

1 anyone.

2 San Joaquin River Exchange Contractors Water
3 Authority.

4

5 CROSS-EXAMINATION

6 Q. BY MR. MINASIAN: Professor, my name is Paul
7 Minasian. I'm an attorney for the San Joaquin River
8 Exchange Contractors Water Authority. As part of your
9 career, have you worked with farmers in the application of
10 these models?

11 A. Yes.

12 Q. And addressing the problem before this Board, the
13 Board has to draft a CDO, a cease and desist order, and it
14 has to contain conditions that are designed to either
15 respond -- if there's a problem with the water qualify -- or
16 try to prevent damage from that.

17 And in your experience in working with farmers,
18 have you become acquainted with how farmers adapt to the
19 information you've developed?

20 A. Farmers have, particularly in western San Joaquin
21 Valley, have had to really learn to adapt to a lot of new
22 things as they've been constrained with the drainage
23 discharges and whatnot.

24 Q. And is part of the adaptation being able to gain
25 realtime knowledge as to the water quality that they might

1 be taking from a slough next to an area in the Delta?

2 A. Please repeat that question.

3 Q. Yes. I'm going to ask you, just generally, what
4 are the tools that farmers need to have, if you're a land
5 owner in the Central Delta or South Delta, to provide for
6 the application of these discoveries and facts that you've
7 determined about forces of nature relating to salinity?

8 A. Well, basically with the need to have is the
9 electrical conductivity of the irrigation water, which they
10 have and the crop that they are brewing.

11 Q. We now have devices which are hand-held meters,
12 don't we, in regard to EC? Do you have an opinion as to
13 whether those are valuable for a farmer to have?

14 A. Well, if they are reliable, I have no basis for
15 determining that.

16 CHAIRPERSON DODUC: Mr. Herrick?

17 MR. HERRICK: Excuse me, Madam Chairman. This is
18 very interesting information that may be presented on direct
19 examination, but it doesn't touch on anything that was
20 covered in direct, and I therefore object.

21 CHAIRPERSON DODUC: Where are you going with this?

22 MR. MINASIAN: I'm suggesting that his testimony
23 in regard to the physical constraints and the physical
24 interaction of these forces needs to be applied in a fashion
25 in which the Board can put conditions in its CDO, which

1 would theoretically reduce the risk of harm.

2 CHAIRPERSON DODUC: Mr. Shulz.

3 MR. SHULZ: Yes, this is almost more a question
4 for Ms. Leidigh. It's been a long time since I looked at
5 it. But if I recall the Boards' rules of evidence, that
6 cross-examination is not limited to direct, but to just the
7 matters that are relevant to the matter before the Board.

8 MS. LEIDIGH: That is correct.

9 CHAIRPERSON DODUC: Based on Mr. Minasian's
10 response, I'm going to go ahead and allow the question.
11 Please go on.

12 MR. MINASIAN: Could I make just a brief offer of
13 proof, and it may expedite this? I'd like Professor Letey,
14 who is obviously an expert in the field to give us his views
15 as to what we could do to improve the ability of the land
16 owners to respond if, in fact, there was a 0.7 or a 1.0
17 condition. He sat here for two days and listened to all of
18 us talk about this, and I'm sure it was offensive, and I'll
19 make it very brief.

20 CHAIRPERSON DODUC: Please, thank you.

21 Q. BY MR. MINASIAN: So, these hand-held EC meters,
22 if used reliably and if they're reliable models, can be very
23 helpful to a farmer?

24 A. Yes.

25 Q. Now, you understand in the Delta, that in some

1 cases, they're picking up, their irrigation water is also
2 their drainage water. Would those hand-held meters give
3 them an instantaneous reading so they could avoid the time
4 when their drainage water is coming into their irrigation
5 water?

6 A. I'm not sure if I follow the whole sequence of
7 what you said. But if they have a means of measuring the EC
8 of the irrigation water from whatever source, that would be
9 helpful to them.

10 Q. What role does training play, that is, are farmers
11 resistant to training, or do they receive it gladly but
12 sometimes inartfully apply?

13 CHAIRPERSON DODUC: Yes, I know he's drawing a
14 conclusion; we won't go there. Just go ahead and answer the
15 question, please.

16 THE WITNESS: Well, obviously farmers are
17 variable. I personally have high respect for farmers who
18 are familiar with their fields, familiar with their
19 operation, in that generally farmers do as good as they can.

20 I think farmers are receptive to information that
21 they consider to be valid. We've had a history at
22 University of California Cooperative Extension interacting
23 with farmers and others providing information, and this has
24 been useful in helping maintain the high agricultural
25 productivity that we have in California.

1 So, I think the exchange of research, extension,
2 and farmer adaptability and acceptance has been one of the
3 major contributors to the very productive and beneficial
4 agricultural industry in the State of California.

5 Q. How often should soil salinity tests be taken so
6 that the farmer is aware of his soil salinity conditions
7 while he's applying the water?

8 A. I don't know that it's necessary in most cases
9 that they really need to measure the soil salinity, as long
10 as they understand the operation. In other words, if I was
11 to, with any of these farmers, to review their operation,
12 their soils, and as long as they don't have a water table,
13 irrigation -- typically, if they irrigate to meet good crop
14 to men, they will not have a big salt water buildup of
15 irrigation water.

16 Q. Professor, you heard today that many of the land
17 owners in the Delta do have a water table, what they call a
18 "seepage problem." Would your answer be different, that is,
19 should more frequent soil tests and salinity tests ECW?

20 A. Actually, the problem is having a high water
21 table, and so that needs to be corrected. Any time we have
22 a high water table, it contributes to potential decrease in
23 crop production, and that is somewhat independent of the
24 salinity of the irrigation water they use.

25 The problem is not necessarily the irrigation

1 water salinity, but the salinity and the interactions
2 associated with the high water table, which may also impact
3 the irrigation to the root zone and maximum the problems
4 associated with that. These are things that affect crop
5 yield in the field. Salinity is only one of them.

6 Q. If a Board member were trying to draft a CDO, a
7 cease and desist order, saying maybe there will be a greater
8 risk of a little bit more saline water or a lot more saline
9 water at given times, can you visualize for us what might be
10 put in that CDO that will help the farmers avoid damage from
11 that?

12 A. I have no idea. When it comes to CDOs, I'll leave
13 that to the regulatory agencies.

14 MR. MINASIAN: Thank you.

15 CHAIRPERSON DODUC: Thank you. San Luis &
16 Delta-Mendota Water Authority and Westlands Water District.

17 MR. RUBIN: I have no cross-examination for this
18 witness.

19 CHAIRPERSON DODUC: State Water Contractors.
20

21 CROSS-EXAMINATION

22 Q. BY MR. SHULZ: Dr. Letey, a couple of questions.
23 Turning to your table four, which I believe was on page 10,
24 this is the line where you talk about that the soil salinity
25 goes down when you irrigate and then comes back up. Is this

1 table dependent upon the leeching capability or the leeching
2 fraction capability of the soils?

3 A. First of all, these are experimental data. These
4 are actual data from the project by Rhoades on alfalfa. If
5 you'd repeat your question?

6 Q. I was trying to figure out whether the shape of
7 the rises and falls is dependent upon the tightness of the
8 soil or the capability of the soil to leech water, or is it
9 independent of those factors?

10 A. It's really quite independent. We have to have
11 agricultural soil for it to be productive; therefore, we do
12 have to get the water into the soil to start with or you
13 don't have water. So, if you don't have water going into
14 the soil, then these reactions take place. The water
15 flushes out what's ahead of it, and basically you now have
16 pretty close to irrigation water. And this is really quite
17 independent of the nature of the soil as long as you get
18 water into the soil.

19 Q. So, what you're saying is, if you can get the
20 water throughout the root zone, this will happen?

21 A. Yes.

22 Q. And if you can't get the water throughout root
23 zone, you've probably got other problems?

24 A. You've got other problems.

25 Q. A number of questions were asked of you concerning

1 alfalfa. On page 2 of your testimony, you referred to the
2 Maas-Hoffman coefficients?

3 A. Yes.

4 Q. And I'm looking at that table 1, and it says
5 "alfalfa threshold ECE is 2.0"?

6 A. Yes.

7 Q. In your opinion, would any of the cultural
8 characteristics that you were asked about, if you were
9 applying 1.0 EC water, do you believe that those could cause
10 the ECE to rise above 2?

11 Q. No. What would more likely happen is that it
12 would affect the dryness of the soil; in other words, if you
13 can't irrigate the soil, it would get too dry, and that
14 would have a bigger impact than any change in salinity.

15 Q. There's been testimony during these proceedings
16 about the variability of the soil types. Does that variable
17 soil types issue affect your conclusions in any way?

18 A. The variability of soils is a well recognized
19 phenomenon. We can look at the variability on different
20 skills. We have variability on a bigger scale, but then
21 within any given field, there can be some variability.

22 Now, the basic physical principles still apply.
23 We can have soils which have different characteristics, and
24 the impact of these changes in soils -- let me put it this
25 way -- there are many factors which affect crop yield. And

1 the variability of the soils very often impact some of these
2 other factors to a large extent. And, so, one has to factor
3 in the salinity with all of the other things that can be
4 impacted by the variability of the soil across the field. I
5 don't know if I properly answered your question. Maybe you
6 can redirect it another way.

7 Q. No, I think I probably asked the question too
8 broadly and you sort of narrowed me down. What I was trying
9 to figure out was whether or not you can say because I have
10 soil type A and soil type B on my farm, that the salinity of
11 my irrigation water is the cause of the differences in
12 yields that I am getting from those two pieces of land? How
13 would you approach that problem?

14 A. I would have to evaluate the salinity in
15 combination with all of the other things that are variable
16 between those two soils and their impact on yields, and then
17 maybe I could come to some better conclusion. But just a
18 salinity independent of the other factors, I wouldn't be
19 able to conclude.

20 Q. There's also been testimony about the fact that in
21 some circumstances, we've had testimony that the ground
22 water table could be within 2 feet of the surface. And I
23 think I heard you testify that if you got a ground water
24 table that's that close to the surface, unless you have an
25 awfully shallow rooted crop, I think I heard you testify

1 that the salinity of the applied irrigation water is not
2 very relevant to the issue of the ground water quality. Is
3 that what I heard you testify to?

4 A. I don't think exactly those terms.

5 Q. Could you explain that?

6 A. Again, with the water table within 2 feet of the
7 surface, is that the water table simply, because of the
8 water content, will have impact on the yield. And that one
9 needs to lower that water table. And a change, a modest
10 change in the irrigation water salinity will have a
11 relatively low impact on yield as compared to having a water
12 table. The problem is the water table.

13 MR. SHULZ: Thank you. That's all I have.

14 CHAIRPERSON DODUC: Thank you. Stockton East
15 Water District.

16 FROM THE FLOOR: No questions.

17 CHAIRPERSON DODUC: U.S. Bureau of Reclamation.

18 MS. AUFDEMBERGE: No questions. Thank you.

19 CHAIRPERSON DODUC: Thank you. Ms. Crothers.

20 MS. CROTHERS: Do I have an opportunity to make to
21 redirect questions?

22 CHAIRPERSON DODUC: Well, the purpose of --

23 MS. CROTHERS: Well, frankly, I think our
24 testimony was a little bit difficult seeing we had to on
25 kind of spur of the moment eliminate things. I just wanted

1 to clarify what the conclusion here is, and also based on
2 some of the cross-exam questions, what Professor Letey
3 considered a very saline water quality.

4 CHAIRPERSON DODUC: I think both of those issues
5 are captured very well, both in his verbal and his written
6 testimony, so I'm going to deny the request for redirect.

7 We're back on what was supposed to be the order,
8 which is now South Delta Water Agency.

9 MR. NOMELLINI: There's been no introduction for
10 this exhibit.

11 CHAIRPERSON DODUC: We'll consider the testimony
12 exhibit at the conclusion of DWR's presentation. This was
13 just taken out of order to accommodate the professor, and
14 thank you, sir, for bearing with us today. I understand
15 there are objections, and we'll deal with them at that time.

16 Looking at the time, it is four-thirty.
17 Obviously, we were rerouted by DWR's witness. Mr. Herrick,
18 how much time do you need for your witnesses today?

19 MR. HERRICK: Madam Chair, I appreciate, and I
20 hope I'm not being the difficult one here, between the
21 opening statement and the witnesses, it will probably be at
22 least an hour. As we said yesterday, we can postpone one
23 person and then do the rest of them today, but we ended up
24 postponing one until November 7. If we start on November 7,
25 we can have all except one. I don't know whether we

1 anticipate another date. My assumption is that the time it
2 will take for South Delta, California Sport and Fishing,
3 DWR, San Joaquin River Group Authority, we have more than
4 one day in addition to the November 7.

5 I kind of leave it to up. We were told we have
6 other obligations, so we shouldn't stay past five. If you
7 want to start today, I have a witness who won't be here on
8 the 7th; the other one will be here on the 7th. If you want
9 to wait until the 7th, and then have one of my witnesses on
10 whatever the further day is, that's okay with me. But we
11 are running late. I apologize for that. I guess I
12 shouldn't have been so nice.

13 CHAIRPERSON DODUC: What are the other parties
14 constraint with respect to timing today? In other words,
15 who cannot stay after five o'clock and cannot have a
16 representative here?

17 MR. SHULZ: I have a witness who is also
18 testifying about specific damages to crops due to the
19 salinity of the water. I can't guess, but there's been a
20 lot of cross-examination on those issues with
21 Mr. Nomellini's panel.

22 CHAIRPERSON DODUC: I don't believe we can do it
23 within 29 minutes, so to accommodate Mr. Shulz, we will
24
25

1 adjourn for today and reconvene on November 7 with South
2 Delta Water Agency.

3 [Hearing adjourned for the day at 4:34 p.m.]

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1 CERTIFICATE OF SHORTHAND REPORTER

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4 I, VICKI L. BRITT, a Registered Professional
5 Reporter, do hereby certify that I am a disinterested person
6 herein; that I reported the foregoing hearing in shorthand
7 writing; that I thereafter caused my shorthand writing to be
8 transcribed into typewriting.
9

10 I further certify that I am not of counsel of
11 attorney for any of the parties to said hearing, or in any
12 way interested in the outcome of said hearing.
13

14 IN WITNESS THEREOF, I have hereunto set my hand
15 this 8th day of November, 2005.
16
17
18

19 VICKI L. BRITT
20 REGISTERED PROFESSIONAL REPORTER
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