



SAN DIEGO REGIONAL  
WATER QUALITY  
CONTROL BOARD

2011 MAY 26 P 4:48

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**VIA HAND DELIVERY**

May 26, 2011

Frank Melbourn  
Water Resource Control Engineer  
San Diego Regional Water Quality Control Board  
9174 Sky Park Court, Suite 100  
San Diego, CA 92123

**Re: In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001  
Submissions by San Diego Gas & Electric Company**

Dear Mr. Melbourn:

Pursuant to the Third Amended Order of Proceedings in this matter, enclosed herewith is San Diego Gas & Electric Company's supplement to the Administrative Record in the above-referenced proceedings, consisting of copies of the following documents:

1. Transcript of the Deposition of David Barker, Volume 1, taken March 1, 2011, In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001;
2. Transcript of the Deposition of David Barker, Volume 2, taken March 2, 2011, In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001;
3. Transcript of the Deposition of David Barker, Volume 3, taken March 3, 2011, In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001;
4. Transcript of the Deposition of David Barker, Volume 4, taken March 10, 2011, In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001;
5. Exhibit Book One of Three to the Deposition of David Barker taken In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001 containing Exhibit Nos. 1201 – 1231;

6. Exhibit Book Two of Three to the Deposition of David Barker taken In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001 containing Exhibit Nos. 1232 – 1267;
7. Exhibit Book Three of Three to the Deposition of David Barker taken In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001 containing Exhibit Nos. 1268 – 1285;
8. Transcript of the Deposition of Craig Carlisle, Volume 1, taken February 9, 2011, In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001, including Exhibit Nos. 1000 - 1020;
9. Transcript of the Deposition of Lisa Honma, Volume 1, taken October 5, 2010, In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001, including Exhibit Nos. 400 – 407;
10. Transcript of the Deposition of Benjamin Tobler, Volume 1, taken September 29, 2010, In the Matter of: Tentative Cleanup and Abatement Order No. R9-2011-0001, including Exhibit Nos. 300 – 305;
11. Transcript of Bench Trial, *Natural Resources Defense Council, et al., v. Southwest Marine*, United States District Court Case No. 96CV1492-B, Volume VII, taken November 24, 1999. (Testimony of Shawn Halvax.);
12. Memo from Kenneth J. Moser dated March 25, 1998 re: Southwest Marine Wet Inspection;
13. Transcript of the Deposition of Charles Von Fange taken on October 7, 1997 in *Natural Resources Defense Council, et al., v. Southwest Marine*, United States District Court Case No. 96-1492-B-AJB;
14. Email to Lloyd A. Schwartz from Sandor Halvax dated May 8, 1997, re: Environmental Project Updated;
15. Site Investigation and Characterization Report for 401 Water Quality Certification, BAE Systems, Inc. (Formerly Southwest Marine, Inc.) Bulkhead Extension and Yard Improvement Phase 2 Activities, prepared by Anchor Environmental, CA LP, August 2005;

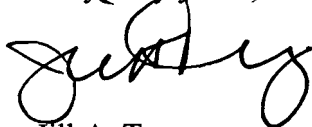
16. Site Investigation and Characterization Report for 401 Water Quality Certification, BAE Systems, Inc. (Formerly Southwest Marine, Inc.) Bulkhead Extension and Yard Improvement Phase 2 Activities, prepared by Anchor Environmental, CA LP, January 2005;
17. Site Investigation and Characterization Report for 401 Water Quality Certification, BAE Systems, Inc. (Formerly Southwest Marine, Inc.) Bulkhead Extension and Yard Improvement Phase 2 Activities, prepared by Anchor Environmental, CA LP, November 2004;
18. Construction Completion Report, Bulkhead Extension and Yard Improvement Project, BAE Systems San Diego Ship Repair Inc., prepared by Anchor Environmental CA, L.P., December 2006;
19. Transcript of the Deposition of Susan Pease taken on April 17, 1997 in *Natural Resources Defense Council, et al., v. Southwest Marine*, United States District Court Case No. 96-1492-B-AJB;
20. Anchor Environmental LLP Memorandum to Shawn Halvax from Michael Whelan dated June 2, 2004 re: Analytical Results from Site Groundwater Sample with attached Analytical Report;
21. Letter to John Pearson from David R. Engel dated January 11, 2002 re: Quaywall Improvement;
22. Caulerpa Survey Reporting Form, September 18, 2001;
23. Appendix B – Standard Operating Procedures for Well-Point Sampling – Southwest Marine Bulkhead Extension – June 2004 Sampling Event;
24. U.S. Army Corps of Engineers Public Notice of Application for Permit No. 199915091-SKB dated September 11, 2000;
25. Anchor Environmental CA, L.P. letter to Shawn Halvax from Nicole Lombre with attached Construction Completion Report Bulkhead Extension Yard Improvement Project BAE Systems San Diego Ship Repair Inc., dated December 2006;
26. Anchor Environmental LLP Memorandum to Shawn Halvax from Michael Whelan and David Keith dated September 26, 2003 re: Evaluation for Sediments for Placement Behind Bulkhead Extension - Southwest Marine Shipyard, San Diego;

27. Construction Completion Report – Bulkhead Extension and Yard Improvement Project – BAE Systems San Diego Ship Repair, prepared by Anchor Environmental CA, L.P., December 2006;
28. Letter to Scott McKay from John H. Robertus dated September 14, 2004;
29. Data Evaluation Report in Support of 401 Water Quality Certification for Southwest Marine Bulkhead Extension and Yard Improvement Phase 2 Activities prepared by Anchor Environmental LLP, August 2004;
30. Appendix A – Water Quality Monitoring Plan Bulkhead Extension and Yard Improvement Phase 1 and Phase 2 Activities prepared by Anchor Environmental LLP, August 2004;
31. Construction Completion Report – Bulkhead Extension and Yard Improvement Project – BAE Systems San Diego Ship Repair – Draft for Client Review prepared by Anchor Environmental CA, L.P., November 2006;
32. Invoice form Calscience Environmental Laboratories, Inc. to Shawn Halvax dated August 26, 2006 with attached chain of custody record;
33. BAE Systems Excavated Soil Sampling Results, Anchor Environmental CA, L.P., December 2006;
34. Letter to Michael Whelan from Robert Steams dated June 21, 2006 re: Bulk Head with attached CalScience Environmental Laboratories, Inc. Analytical Report;
35. CalScience Environmental Laboratories, Inc. Chain of Custody Records, June 23, 2006;
36. San Diego Gas & Electric Onsite Hydrology/Drainage Study - Silvergate 230/69kV Substation dated March 14, 2006;
37. Sampson Street Drawings;
38. Sampson Street Drawings;
39. Detailed Description of Operational Processes for Northwest Marine and Its Successors at the Portland Harbor Shipyard, November 5, 2008; and
40. Southwest Marine Uniform Hazardous Waste Manifest No. 98816076 dated November 24, 1998.

Frank Melbourn  
San Diego Regional Water Quality Control Board  
May 26, 2011  
Page 5

As a courtesy, also enclosed is a DVD containing text-searchable, electronic copies of the  
aforementioned documents. Please contact me if there are any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jill Tracy", written in a cursive style.

Jill A. Tracy  
Senior Counsel

cc: All Designated Parties (letter only)

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

IN RE THE MATTER OF )  
)  
TENTATIVE CLEANUP AND ABATEMENT )  
ORDER NO. R9-2011-0001 )  
)  
)  
)  
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**VIDEOTAPED DEPOSITION OF DAVID BARKER  
Volume I, Pages 1 - 208  
San Diego, California  
March 1, 2011**

**Reported By: Anne M. Zarkos, RPR, CRR,  
CSR No. 13095**



530 B Street  
Suite 350  
San Diego, CA  
92101

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619 260 1069 tel  
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March 17, 2011

In re: Tentative Cleanup and Abatement

Deposition of: David Barker

Date of Deposition: March 1, 2011

Dear Counsel:

The original transcript of the above referenced witness will be sent from our office to Christian Carrigan, Esq., via UPS on March 17, 2011.

If you have any questions or concerns, please do not hesitate to call this office.

Sincerely,



Betty McGlynn  
Production Assistant



530 B Street  
Suite 350  
San Diego, CA  
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800 649 6353 toll free  
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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

IN RE THE MATTER OF )  
)  
TENTATIVE CLEANUP AND ABATEMENT )  
ORDER NO. R9-2011-0001 )  
)  
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DEPOSITION OF DAVID BARKER,  
taken by the Attorney for NASSCO, commencing at the hour  
of 9:19 a.m. on Tuesday, March 1, 2011, at  
600 West Broadway, Suite 1800, San Diego, California,  
before Anne M. Zarkos, RPR, CRR, CSR No. 13095, Certified  
Shorthand Reporter in and for the State of California.

1 APPEARANCES:

2 For the State Water Resource Control Board:

3 STATE WATER RESOURCES CONTROL BOARD

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15 BROWN & WINTERS

16 BY: WILLIAM D. BROWN, ESQ.

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18 Cardiff-by-the-Sea, CA 92007

19 760-633-4485

20 -and-

21 PORT OF SAN DIEGO

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24 San Diego, CA 92101

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26 For Star & Crescent Boat Company:

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32 For BAE Systems:

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1       **APPEARANCES (cont.):**

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3                       **GORDON & REES, LLP**

4                       **BY: KRISTIN N. REYNA, ESQ.**

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8               **For San Diego Gas & Electric Company:**

9                       **SEMPRA ENERGY**

10                      **BY: JILL TRACY, ESQ.**

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14               **Telephonically for San Diego Coastkeeper:**

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16                      **2820 Roosevelt Street, Suite 200A**

17                      **San Diego, CA 92106-6146**

18                      **619-758-7743**

19

20               **Also Present: Abel Sibrel, Videographer**

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I N D E X

WITNESS: DAVID BARKER, Vol. 1  
EXAMINATION PAGE  
MR. RICHARDSON 9

E X H I B I T S

MARKED FOR IDENTIFICATION PAGE  
1201 NASSCO's Third Amended Notice of Videotaped Deposition of David Barker; eight pages 16  
1202 NASSCO's First Amended Notice of Videotaped Deposition of San Diego Regional Water Quality Control Board Cleanup Team's Person(s) Most Knowledgeable for Designated Subject Matters; seven pages 23  
1203 San Diego Water Board Cleanup Team's Amended Witness Designations; three pages 34  
1204 Resolution No. 2001-02; five pages 69  
1205 Letter and Certified Mail receipt to Mike Chee of NASSCO from John H. Robertus of RWQCB dated June 1, 2001; eight pages 70  
1206 RWQCB Guidelines for Assessment and Remediation of Contaminated Sediments in San Diego Bay at NASSCO and Southwest Marine Shipyards, dated June 1, 2001; 42 pages 72  
1207 Article from Ecotoxicology 5, 327-229 (1996) entitled "Presentation and interpretation of Sediment Quality Triad data," 13 pages 106  
1208 SWRCB Resolution No. 92-49 as Amended on April 21, 1994, and October 2, 1996; 21 pages 117

	E X H I B I T S (cont.)		
1			
2	1209	RWQCB Cleanup and Abatement Order No. 95-21 for Campbell Industries; 40 pages	119
3			
4	1210	Regional Board Cleanup Team's Responses & Objections to Designated Party NASSCO's Second Set of Special Interrogatories; 17 pages	122
5			
6	1211	RWQCB Cleanup and Abatement Order No. 86-92 for Teledyne Ryan Aeronautical; 21 pages	123
7			
8	1212	RWQCB Cleanup and Abatement order No. 89-18 for Eichenlaub Marine; 14 pages	127
9			
10	1213	RWQCB Order No. 91-91 Rescinding Cleanup and Abatement Order No. 88-70 for Shelter Island Boatyard; 12 pages	129
11			
12	1214	RWQCB Cleanup and Abatement Order No. 88-79 for Bay City Marine; 16 pages	131
13			
14	1215	RWQCB Addendum No. 2 to Cleanup and Abatement Order No. 89-31 for Driscoll Custom Boats; 17 pages	132
15			
16	1216	RWQCB Addendum No. 6 to Cleanup and Abatement Order No. 88-78 for Kettenburg Marine Corporation and Whittaker Corporations; four pages	134
17			
18	1217	RWQCB Cleanup and Abatement Order No. 89-32 for Koehler Kraft Company; 21 pages	135
19			
20	1218	RWQCB Cleanup and Abatement Order No. 88-86 for Mauricio and Sons, Inc.; 18 pages	136
21			
22	1219	RWQCB Cleanup and Abatement Order No. 85-91 for Paco Terminals, Inc.; 20 pages	137
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E X H I B I T S (cont.)

1220	NASSCO Whole Yard Bathymetry Survey; one page	153
1221	Technical report entitled "Total Maximum Daily Loads for Dissolved Copper, Lead, and Zinc in Chollas Creek, Tributary to San Diego Bay," dated May 30, 2007; eight pages	164
1222	EPA document entitled "Contaminated Sediment Remediation Guidance for Hazardous Waste Sites," nine pages	166
1223	Report entitled "Sediment Assessment Study for the Mouths of Chollas and Paleta Creek, San Diego," dated May 2005; 13 pages	170

ALL EXHIBITS FOR ALL 4 VOLUMES TO BE BOUND SEPARATELY

1           **THE VIDEOGRAPHER:** Good morning. The time on 08:47:45  
2 the record is 9:19 a.m. Today's date is March 1st, 09:19:51  
3 2011. My name is Abel Sibrel with Peterson Reporting, 09:19:55  
4 Video and Litigation Services. The court reporter today 09:20:00  
5 is Anne Zarkos of Peterson Reporting, located at 09:20:03  
6 530 B Street, Suite 350, San Diego, California 92101. 09:20:06  
7           This begins the videotaped deposition of 09:20:12  
8 David Barker, testifying in the matter of In Re 09:20:14  
9 Tentative Cleanup & Abatement Order No. R9-2011-0001; 09:20:17  
10 taken at 600 West Broadway, Suite 1800, San Diego. 09:20:26  
11           The video and audio recordings will take place 09:20:31  
12 at all times during this deposition unless all counsel 09:20:33  
13 agree to go off the record. The beginning and end of 09:20:36  
14 each videotape will be announced. 09:20:39  
15           Will counsel please identify yourselves and 09:20:42  
16 state whom you represent. 09:20:44  
17           **MR. RICHARDSON:** Kelly Richardson with Latham 09:20:46  
18 and Watkins for NASSCO. 09:20:49  
19           **MS. TRACY:** Jill Tracy for SDG&E. 09:20:52  
20           **MS. REYNA:** Kristin Reyna on behalf of the City 09:20:55  
21 of San Diego. 09:20:57  
22           **MR. DART:** Matt Dart of DLA Piper for 09:21:00  
23 BAE Systems. 09:21:03  
24           **MR. BROWN:** Bill Brown, Brown & Winters, for the 09:21:05  
25 Port of San Diego. 09:21:05

1 MS. FITZGERALD: Leslie Fitzgerald, also for the 09:21:05  
2 Port of San Diego. 09:21:05  
3 MS. EVANS: Sarah Evans for Star & Crescent Boat 09:21:08  
4 Company. 09:21:10  
5 MR. CARRIGAN: Cris Carrigan for the San Diego 09:21:11  
6 Water Board and the witness Mr. Barker. 09:21:13  
7 THE VIDEOGRAPHER: Thank you. The court 09:21:16  
8 reporter may now swear in the witness. 09:21:16  
9 \*\*\* 09:21:16  
10 DAVID BARKER, 09:21:16  
11 having first been duly sworn, testified as follows: 09:21:17  
12 \*\*\* 09:21:17  
13 EXAMINATION 09:21:17  
14 BY MR. RICHARDSON: 09:21:27  
15 Q. Would you please state your name and spell it 09:21:29  
16 for the record, please? 09:21:32  
17 A. David Barker. D-a-v-i-d, B-a-r-k-e-r. 09:21:33  
18 Q. Mr. Barker, have you ever been deposed before? 09:21:39  
19 A. Yes, I have. 09:21:41  
20 Q. And how many times have you been deposed? 09:21:43  
21 A. Three times. 09:21:48  
22 Q. As a reminder, I'll go over a few of the ground 09:21:51  
23 rules for the deposition today that will hopefully help 09:21:54  
24 things go more smoothly and quickly. I'm going to ask 09:21:58  
25 you a series of questions. Please answer the questions 09:22:01



1 as fully and accurately as you can. 09:22:04

2 And as you can see, we have a court reporter 09:22:06

3 here today who will take down everything that's being 09:22:08

4 said. To make the court reporter's job easier, let's try 09:22:10

5 not to talk over each other. Please wait until I'm 09:22:15

6 finished asking the question, and then you can begin your 09:22:18

7 answer. 09:22:21

8 The only -- the court reporter can only 09:22:21

9 prescribe -- transcribe one person at a time. Does that 09:22:23

10 make sense? 09:22:26

11 A. Yes. 09:22:27

12 Q. It's important for the court reporter to -- to 09:22:28

13 be able to take down your responses. So it's important 09:22:31

14 that you speak very clearly and not doing what I just did 09:22:33

15 and say "um" or nod your head. So if you can answer as 09:22:37

16 clearly as possible, that would be helpful. Understood? 09:22:41

17 A. Yes. 09:22:43

18 Q. If you don't hear a question, please ask me to 09:22:44

19 rephrase it, and I'd be gladly happy to repeat it for 09:22:47

20 you. If you don't ask me to repeat it, I'll assume that 09:22:51

21 you understand the question. Does that make sense? 09:22:54

22 A. Yes. 09:22:57

23 Q. From time to time, you may hear objections from 09:22:59

24 attorneys around the room. These are intended to build a 09:23:01

25 record. The presiding officer or judge at some point 09:23:04

1 will rule upon those. But once an -- an objection is 09:23:07  
2 made, you're required to answer unless your counsel 09:23:10  
3 instructs you not to do so. Do you understand? 09:23:14  
4 A. Yes. 09:23:17  
5 Q. Although this is a relatively informal setting, 09:23:21  
6 you are under oath. And your testimony has the same 09:23:24  
7 effect as if you were testifying in trial or for the 09:23:29  
8 Regional Board, subject to the penalties of perjury. 09:23:32  
9 Do you understand? 09:23:37  
10 A. Yes. 09:23:37  
11 Q. The court reporter will prepare a -- a 09:23:37  
12 transcript of the deposition today. You'll have an 09:23:39  
13 opportunity to read it, to review it, and if necessary, 09:23:42  
14 make any changes to it. However, if you make corrections 09:23:44  
15 of a substantive nature, those corrections may be 09:23:47  
16 commented upon at any hearing concerning your 09:23:52  
17 credibility. So it's important for you to give your best 09:23:55  
18 testimony today. Do you understand? 09:23:58  
19 A. Yes. 09:23:59  
20 Q. If you need to take a break at any time, please 09:24:01  
21 tell me. I'll accommodate you after we've finished the 09:24:03  
22 question that's currently pending. Okay? 09:24:06  
23 A. Yes. 09:24:08  
24 Q. Is there any reason, Mr. Barker, that you can 09:24:09  
25 think of that may prevent you from answering my questions 09:24:11

1 fully and truthfully today? 09:24:14

2 A. No. 09:24:16

3 Q. Are you taking any medications or drugs of any 09:24:18

4 kind that may make it difficult or prevent you from 09:24:21

5 understanding or answering any of my questions today? 09:24:25

6 A. No. 09:24:27

7 Q. Is there any other reason why we should not 09:24:28

8 proceed today? 09:24:30

9 A. No. 09:24:31

10 Q. You are here to testify regarding your role as a 09:24:35

11 member of the San Diego Regional Board's Cleanup Team in 09:24:37

12 connection with Tentative Cleanup & Abatement 09:24:41

13 Order R9-2011-0001, publicly released on 09:24:42

14 September 15th, 2010, and the accompanying Draft 09:24:51

15 Technical Report. 09:24:55

16 When I refer to the CAO or the DTR respectively, 09:24:57

17 I'll be referring to these versions of the documents 09:25:01

18 unless I indicate otherwise. Does that make sense? 09:25:03

19 A. Yes. 09:25:06

20 Q. When I refer to "site" or "Shipyard Sediment 09:25:07

21 Site," I'm referring to the adjoining leaseholds of 09:25:10

22 NASSCO and Southwest Marine/BAE that are the subject of 09:25:14

23 the CAO and defined by the Shipyard Sediment Site in the 09:25:18

24 CAO and DTR. Does that make sense? 09:25:21

25 A. Yes. 09:25:24

1 Q. When I refer to NASSCO site, I'm referring to 09:25:25  
2 the portion of the shipyard site that is within the 09:25:27  
3 NASSCO leasehold rather than to the whole site. 09:25:30  
4 Does that make sense? 09:25:33  
5 A. Yes. 09:25:34  
6 Q. As you're probably aware, yours is not the first 09:25:35  
7 deposition in this proceeding. At the first deposition, 09:25:38  
8 a series of master exhibits were introduced and 09:25:40  
9 designated as such because the parties assumed that we 09:25:44  
10 would be using those depositions [sic] from one 09:25:47  
11 deposition to the next. 09:25:49  
12 For example, Master Exhibit 1 is the most recent 09:25:51  
13 iteration of the cleanup and abatement order. Master 09:25:54  
14 Exhibit 2 is the most recent version of the DTR. So if I 09:25:57  
15 refer to master exhibits, I'm referring to those exhibits 09:26:01  
16 already introduced in prior depositions, whereas today I 09:26:04  
17 may introduce exhibits for your deposition alone. 09:26:07  
18 Does that make sense? 09:26:10  
19 A. Yes. 09:26:11  
20 Q. I'm going to give to you now Master Exhibit 1, 09:26:11  
21 the tentative CAO; Master Exhibit 2, the DTR; and Master 09:26:15  
22 Exhibit 6, the State's Phase 1 Sediment Quality 09:26:21  
23 Objectives. Do you see those? 09:26:26  
24 A. Yes. 09:26:27  
25 Q. Mr. Barker, do you understand why you're being 09:26:28

1       deposed today? 09:26:31

2           A.    Yes. 09:26:32

3           Q.    And why is that? 09:26:32

4           A.    To provide testimony on the tentative CAO and 09:26:35

5       DTR. 09:26:43

6           Q.    And in preparing for this deposition, did you 09:26:46

7       meet with anyone? 09:26:50

8           A.    Yes, I did. 09:26:50

9           Q.    And who did you meet with? 09:26:51

10          A.    My attorney, Cris Carrigan, and some of the 09:26:53

11       other staff on the Board's Cleanup Team. 09:27:00

12          Q.    Okay. And who on the staff did you meet with? 09:27:04

13          A.    Let's see. That would be Julie Chan, 09:27:08

14       Craig Carlisle, Tom Alo, Vicente Rodriguez. 09:27:13

15          Q.    Anyone else? 09:27:26

16          A.    Excuse me. Lisa. 09:27:34

17          Q.    Lisa Honma? 09:27:36

18          A.    Yes. 09:27:38

19          Q.    Anyone else? 09:27:41

20          A.    That's it. 09:27:42

21          Q.    How many times did you meet with Mr. Carrigan in 09:27:46

22       preparation for this deposition? 09:27:48

23          A.    I believe there were five meetings. 09:27:50

24          Q.    Did Mr. Carrigan show you any documents in 09:27:57

25       preparation for this deposition? 09:27:59

1           A.    Yes, just copies of our responses to various           09:28:06  
2           interrogatories.   09:28:13  
3           Q.    So those were copies to discovery requests           09:28:18  
4           propounded on the Cleanup Team during this proceeding?   09:28:21  
5           A.    Yes.   09:28:24  
6           Q.    And all of those documents were produced to the   09:28:25  
7           other parties during this proceeding; correct?           09:28:27  
8           A.    Yes.   09:28:30  
9           Q.    Did he show you any other documents in           09:28:33  
10          preparation for this deposition?                         09:28:34  
11          A.    No.    09:28:36  
12          Q.    How long were the meetings with Mr. Carrigan in   09:28:39  
13          preparation for this?                                     09:28:41  
14          A.    I would say one to two hours.                     09:28:45  
15          Q.    You met on five separate occasions; on each       09:28:49  
16          occasion it was one to two hours?                         09:28:54  
17          A.    That sounds about right.                           09:28:56  
18          Q.    Okay.  When you met with the other Cleanup       09:28:57  
19          Team -- team members, did you meet with them individually   09:29:00  
20          or collectively?   09:29:03  
21          A.    This was collectively.  And Mr. Carrigan was       09:29:04  
22          present during those same meetings.                       09:29:09  
23          Q.    I see.   09:29:11  
24                  Did any of those other individuals with the       09:29:14  
25          Cleanup Team provide you with any documents in           09:29:16

1 preparation for this deposition? 09:29:19

2 A. No. 09:29:21

3 Q. Did you meet separately with any of those 09:29:24

4 individuals in preparation for your deposition? 09:29:26

5 A. I might have had one very brief meeting with 09:29:32

6 Julie Chan. 09:29:37

7 Q. In your meeting with Ms. Chan, did you review 09:29:39

8 any documents? 09:29:44

9 A. Discussed the DTR. 09:29:48

10 Q. And when was that meeting held with Ms. Chan? 09:29:51

11 A. I believe last -- last Friday. 09:29:55

12 Q. Did you review any other documents to prepare 09:30:05

13 for this deposition? 09:30:07

14 A. No. Excuse me. I -- I reviewed the DTR, the 09:30:12

15 draft CAO. 09:30:20

16 Q. Any other documents? 09:30:26

17 A. No. 09:30:27

18 Q. If the court reporter would mark this as 09:30:34

19 Exhibit 1201, 1201. 09:30:36

20 (Exhibit 1201 was marked.) 09:30:38

21 BY MR. RICHARDSON: 09:30:53

22 Q. Mr. Barker, I'm handing you NASSCO's Third 09:30:54

23 Amended Notice of Videotaped Deposition of David Barker. 09:30:57

24 Do you see that? 09:31:01

25 A. Yes. 09:31:02

1 Q. Have you seen this document before? 09:31:05  
2 A. Yes. I believe I have. 09:31:09  
3 Q. When is the first time that you saw this 09:31:11  
4 document? 09:31:12  
5 A. I believe back in February. 09:31:13  
6 Q. Today is March 1st. So if you could be a 09:31:24  
7 little more specific, that would be helpful. 09:31:27  
8 A. Oh, excuse me. I -- I -- you're asking me the 09:31:34  
9 date when I first saw it? 09:31:41  
10 Q. Approximately. 09:31:43  
11 A. I -- I would receive copies from Mr. Carrigan. 09:31:45  
12 And I assume they were distributed to me as soon as he 09:31:53  
13 received them. 09:32:00  
14 Q. Okay. So the document was served on 09:32:02  
15 February 11th. 09:32:04  
16 A. Right. 09:32:05  
17 Q. 2011. So I assume -- is it correct to say that 09:32:05  
18 you received it on or about that time frame? 09:32:08  
19 A. Yes, that's correct. 09:32:10  
20 Q. Mr. Barker, if I could have you look at page 3 09:32:11  
21 of Exhibit 1201. The section is referred to as "Document 09:32:15  
22 Requests." 09:32:24  
23 Did you search for any and all documents in your 09:32:25  
24 possession, custody, or control that are responsive to 09:32:28  
25 these requests? 09:32:31



1 A. Yes. 09:32:32

2 Q. What did you do to look for those documents? 09:32:34

3 A. Searched my hard drive on the office computer, 09:32:39

4 searched the office email account. 09:32:48

5 Q. Mr. Barker, is your office computer the same 09:33:04

6 thing as your hard drive? 09:33:07

7 A. Yes, it is, yeah. 09:33:08

8 Q. And the office email, is that a server that's 09:33:10

9 maintained by the Regional Board? 09:33:12

10 A. Yes. 09:33:14

11 Q. Did you look for hard copy files? 09:33:15

12 A. Yes. 09:33:20

13 Q. And where did you look for hard copy files? 09:33:22

14 A. In my office. 09:33:25

15 Q. Did you look for files anywhere else? 09:33:32

16 A. No. 09:33:36

17 Q. Do you ever maintain work files at home? 09:33:37

18 A. No. 09:33:40

19 Q. Do you ever maintain files at anyone else's 09:33:46

20 workstation? 09:33:50

21 A. No, I do not. 09:33:50

22 Q. Did you locate any documents in -- that are 09:33:55

23 responsive to Exhibit A of Exhibit 1201? 09:34:00

24 A. No, I did not. 09:34:03

25 Q. You understand that you are in obligation -- you 09:34:04

1 are under an obligation to produce documents in response 09:34:11  
2 to Exhibit A? 09:34:14  
3 A. Yes. 09:34:15  
4 Q. And why were no documents produced, then? 09:34:16  
5 A. The documents, any document that I would have to 09:34:20  
6 produce is in the administrative record. 09:34:28  
7 Q. So all the documents that you would have seen 09:34:32  
8 during your search for documents in response to 09:34:36  
9 Exhibit 1201 are already included in the administrative 09:34:38  
10 record -- 09:34:41  
11 A. Yes. 09:34:41  
12 Q. -- that's produced to all the parties in this 09:34:42  
13 proceeding? 09:34:44  
14 A. That's correct. 09:34:45  
15 Q. Thank you. 09:34:46  
16 Mr. Barker, what is your practice in retaining 09:34:47  
17 records and work product in matters relating to the 09:34:49  
18 Regional Board? 09:34:53  
19 A. The Regional Board has a -- what we call the 09:34:58  
20 paperless digital system for archival of documents. And 09:35:07  
21 they are logged in and indexed into that system. 09:35:15  
22 Q. And when did that system begin to be used at the 09:35:21  
23 Regional Board? 09:35:23  
24 A. Approximately, 2007. 09:35:26  
25 Q. Does that recordless system only include formal 09:35:31

1 communications outside of the Regional Board? 09:35:34

2 A. No. It -- it would -- could include internal 09:35:36

3 and external communication documents. 09:35:41

4 Q. Would it include your own personal notes that 09:35:44

5 you take on any matter at the Regional Board? 09:35:47

6 A. If -- if they were notes that I wanted to retain 09:35:50

7 for future use, it would. 09:35:54

8 Q. Do you maintain notes in any other fashion? 09:35:58

9 A. I have. When I attend meetings, sometimes I 09:36:02

10 have a little composition book I bring with me and make 09:36:13

11 informal notes in that. 09:36:18

12 Q. Okay. Do you keep copies of these composition 09:36:19

13 notebooks? 09:36:22

14 A. I -- I -- no, I don't. I just have a couple of 09:36:26

15 books. And they are -- I don't have back copies of them 09:36:37

16 or anything like that. 09:36:46

17 Q. Did you review those composition notebooks for 09:36:48

18 anything that may be responsive to Exhibit 1201? 09:36:51

19 A. Yes. I -- I was aware of what was in there and 09:36:56

20 did not feel there was anything that was responsive to 09:36:59

21 the request. 09:37:03

22 Q. How far back in time do your composition 09:37:07

23 notebooks go? 09:37:10

24 A. Oh, they're within the last year, basically. 09:37:12

25 Q. Where would be the notes that you took in years 09:37:19

1 prior to the last year? 09:37:22

2 A. Any notes that I wanted to retain would be in 09:37:25

3 the -- have gone to the Regional Board paper files prior 09:37:29

4 to 2007 and then into the digital office record system 09:37:37

5 after that date. 09:37:44

6 Q. Okay. So is it fair to say that all the notes 09:37:46

7 that would have been taken prior to this year would be in 09:37:49

8 the administrative record concerning this proceeding? 09:37:53

9 A. Any -- yes. Any notes that I wanted to retain 09:37:57

10 that was -- ended up in the Regional Board files would 09:38:01

11 have been included in the administrative record. 09:38:04

12 Q. So for the files or notes that you did not want 09:38:07

13 to maintain in the administrative record, where would 09:38:10

14 they be located? 09:38:13

15 A. They're just thrown away, basically. 09:38:17

16 Q. Mr. Barker, do you keep emails regarding this 09:38:21

17 matter? 09:38:24

18 A. Yes. 09:38:24

19 Q. How do you maintain your email inbox? 09:38:26

20 A. The -- I'm not sure exactly how to answer that. 09:38:35

21 The emails come in. They're maintained. I delete a very 09:38:43

22 few of them. Most of them are -- are retained. 09:38:53

23 Q. Do you archive them in folders? 09:38:58

24 A. There is a system to archive emails. However, I 09:39:02

25 did not take advantage of that system until quite 09:39:06

1 recently. I virtually never deleted an email; however, 09:39:11  
2 when the operating system would periodically get updated, 09:39:20  
3 it would go in and purge my emails sometimes that -- 09:39:25  
4 unexpectedly, actually. And so I would lose material 09:39:34  
5 that way. 09:39:37  
6 Q. Understood. 09:39:38  
7 So the older emails from time to time would be 09:39:40  
8 automatically deleted -- 09:39:42  
9 A. Yes. 09:39:44  
10 Q. -- by your server? 09:39:44  
11 A. Right. 09:39:46  
12 Q. If you intentionally delete an email, would you 09:39:47  
13 print a copy first? 09:39:51  
14 A. No. 09:39:53  
15 Q. Does the Regional Board have a policy or 09:39:59  
16 practice concerning the retention of emails? 09:40:01  
17 A. Not at this time. The State Board Office of 09:40:04  
18 Chief Counsel is working to develop one. But there 09:40:08  
19 really is not a formal written email retention policy. 09:40:12  
20 Q. Does your -- your unit have a policy? 09:40:16  
21 A. No. 09:40:22  
22 Q. Does the Cleanup Team have a policy? 09:40:22  
23 A. No. 09:40:25  
24 Q. Other than emails, the other electronic type of 09:40:30  
25 files that you'd work on, documents, spreadsheets, those 09:40:34

1 types of things, how are those stored at the Regional 09:40:39  
2 Board? 09:40:41

3 A. I'm sorry. Could you repeat that? 09:40:42

4 Q. For documents other than emails, such as Word 09:40:45  
5 documents or spreadsheets, for example, how do those 09:40:47  
6 documents get stored at the Regional Board? 09:40:51

7 A. They are -- they're usually in electronic form 09:40:54  
8 on the office computer. They are either stored on a 09:41:01  
9 drive we refer to as the S drive, which all staff have 09:41:06  
10 access to that drive to collaborate on work products. 09:41:12  
11 And then sometimes documents are saved on the individual 09:41:18  
12 hard drives. 09:41:21

13 Q. Is there anyone outside of the Regional Board 09:41:27  
14 that could be holding any documents for you in this 09:41:29  
15 matter? 09:41:32

16 A. No. 09:41:32

17 Q. Let's take a moment and talk about the person 09:41:38  
18 most knowledgeable designations. If you could mark this 09:41:41  
19 as Exhibit 1202. 09:41:47

20 (Exhibit 1202 was marked.) 09:41:48

21 BY MR. RICHARDSON: 09:42:12

22 Q. Mr. Barker, I've handed you the -- NASSCO's 09:42:12  
23 First Amended Notice of Videotaped Deposition of the 09:42:18  
24 Regional Board's person most knowledgeable for designated 09:42:21  
25 subject matters. Do you see that? 09:42:24

1	A. Yes.	09:42:26
2	Q. Are you familiar with this document?	09:42:27
3	A. Yes.	09:42:28
4	Q. When is the first time that you saw this	09:42:31
5	document?	09:42:32
6	A. On or about February 15th.	09:42:33
7	Q. Thank you.	09:42:37
8	Mr. Barker, as authorized by the presiding	09:42:38
9	officer's discovery plan governing the discovery in this	09:42:41
10	matter and provisions of the CCP, NASSCO and BAE have	09:42:46
11	requested that the Cleanup Team designate its person most	09:42:50
12	knowledgeable on various subject matter areas relevant to	09:42:53
13	the CAO and DTR. Do you understand that?	09:42:56
14	A. Yes.	09:42:58
15	Q. Are you aware that there has been a request for	09:42:58
16	the Cleanup Team to designate persons most knowledgeable?	09:43:01
17	A. Yes.	09:43:04
18	Q. To your knowledge, have you been designated as	09:43:05
19	the cleanup team's person most knowledgeable in any	09:43:07
20	subject area?	09:43:10
21	A. Yes.	09:43:11
22	Q. I just want to confirm that -- that you've been	09:43:13
23	designated as the cleanup team's person most	09:43:16
24	knowledgeable regarding certain specific topics, so I'm	09:43:19
25	going to run through those with you.	09:43:21

1                   Have you been designated as the cleanup team's                   09:43:23  
2 person most knowledgeable regarding sediment and site                   09:43:27  
3 investigation?                   09:43:29  
4           A.    Yes.                   09:43:30  
5           Q.    Bioavailability and bioaccumulation?                   09:43:30  
6           A.    Yes.                   09:43:33  
7           Q.    Technological feasibility?                   09:43:33  
8           A.    Yes.                   09:43:36  
9           Q.    Economic feasibility?                   09:43:36  
10          A.    Yes.                   09:43:38  
11          Q.    Alternative cleanup levels?                   09:43:39  
12          A.    Yes.                   09:43:40  
13          Q.    Alternative remedies including monitored natural                   09:43:42  
14 attenuation, dredging, capping, aquatic disposal?                   09:43:45  
15          A.    Yes.                   09:43:49  
16          Q.    Other sediment investigations in San Diego and                   09:43:50  
17 California?                   09:43:53  
18          A.    Yes.                   09:43:54  
19          Q.    Remedial footprint?                   09:43:56  
20          A.    Yes.                   09:43:58  
21          Q.    And administrative record?                   09:43:59  
22          A.    Yes.                   09:44:00  
23          Q.    Great. Thank you.                   09:44:01  
24                   Mr. Barker, I assume you're aware that certain                   09:44:07  
25 parties to this proceeding including the Cleanup Team                   09:44:09



1 have been engaged in mediation regarding the cleanup 09:44:13  
2 and -- cleanup of the site, the CAO and DTR. 09:44:15  
3 Do you understand that? 09:44:19  
4 A. Yes. 09:44:19  
5 Q. Do you also understand that all communications 09:44:20  
6 with -- made within the context of that mediation are 09:44:21  
7 confidential? 09:44:24  
8 A. Yes. 09:44:25  
9 Q. Do you understand that you are not to disclose 09:44:27  
10 the substance of any of these communications in this 09:44:28  
11 deposition? 09:44:31  
12 A. Yes. 09:44:32  
13 Q. Mr. Barker, if I start to discuss any topic that 09:44:33  
14 will raise an issue related to the mediation, please stop 09:44:35  
15 me and ask me to rephrase. 09:44:39  
16 A. Okay. 09:44:40  
17 Q. All right. Let's talk about your background. 09:44:41  
18 Would you describe for us the formal education 09:44:46  
19 that you've had since high school? 09:44:48  
20 A. Yes. I have a bachelor's degree in civil 09:44:50  
21 engineering from Virginia Tech in 1975. I have taken 09:44:55  
22 some postgraduate classes in civil engineering at 09:45:05  
23 San Diego State University. 09:45:11  
24 Q. Did you earn an advanced degree? 09:45:18  
25 A. No, I did not. 09:45:19

1 Q. Other than the post grad classes in civil 09:45:23  
2 engineering at San Diego State, have you taken any other 09:45:26  
3 courses or instruction post high school? 09:45:29  
4 A. Just periodic technical seminar training through 09:45:33  
5 the years at the -- that was conducted within the 09:45:39  
6 San Diego -- or excuse me -- the State Water Resources 09:45:43  
7 Control Board, Regional Water Board organization. 09:45:47  
8 Q. Did any of those training courses involve 09:45:51  
9 sediment-related issues? 09:45:53  
10 A. Yes. 09:45:56  
11 Q. And do you recall which of those were sediment 09:45:56  
12 related? 09:45:58  
13 A. Most recently, there was a training conducted on 09:46:01  
14 the implementation of the State Board's sediment quality 09:46:05  
15 objective policy. 09:46:12  
16 Q. Mr. Barker, for -- for the sediment quality 09:46:15  
17 objective policy, are you referring to Master Exhibit 6? 09:46:17  
18 A. Yes, I am. 09:46:20  
19 Q. And that would be the -- commonly referred to as 09:46:21  
20 the Phase 1 sediment quality objectives? 09:46:25  
21 A. Yes. 09:46:28  
22 Q. Do you recall taking any other courses of 09:46:28  
23 instruction concerning sediment related matters other 09:46:32  
24 than the SQO course? 09:46:35  
25 A. No. 09:46:41

1 Q. For the civil engineering courses postgraduate 09:46:42  
2 level that you took at San Diego State, were any of those 09:46:46  
3 environmentally related? 09:46:48  
4 A. Yes. 09:46:50  
5 Q. Which were those? 09:46:51  
6 A. There was wastewater engineering class, 09:46:52  
7 wastewater chemistry class. Those two. 09:46:59  
8 Q. Any others that you recall? 09:47:04  
9 A. No. 09:47:06  
10 Q. Were either of those classes -- strike that. 09:47:08  
11 In either of those classes did you address 09:47:11  
12 sediment -- 09:47:13  
13 A. No. 09:47:13  
14 Q. -- related issues? 09:47:14  
15 A. No. 09:47:15  
16 Q. Let's take a moment and talk about your work 09:47:17  
17 experience. After you graduated from -- with your B.S. 09:47:19  
18 from -- in civil engineering from Virginia Tech, where 09:47:23  
19 did you begin your career? 09:47:28  
20 A. At the State Water Resources Control Board in 09:47:29  
21 Sacramento. 09:47:34  
22 Q. And what was your job title? 09:47:36  
23 A. Water resource control engineer. 09:47:40  
24 Q. And what were the primary duties associated with 09:47:43  
25 that? 09:47:46

1           A.    At that time there was a clean water grants           09:47:46  
2 program, which was being used to fund the upgrade of --           09:47:51  
3 of publicly owned sewage treatment plant works throughout       09:47:55  
4 the state.  And I was determining what part of the           09:48:03  
5 upgrade costs were eligible for grant funding.           09:48:07  
6           Q.    And in that position, did you work on any           09:48:13  
7 sediment-related issues?           09:48:15  
8           A.    No.           09:48:17  
9           Q.    How long were you in that position?           09:48:18  
10          A.    Two years.           09:48:20  
11          Q.    And what was the next position after you left       09:48:25  
12 the State Board?           09:48:27  
13          A.    I transferred down to the San Diego Water Board.   09:48:28  
14          Q.    And what was the first position you held at the       09:48:34  
15 San Diego Water Board?           09:48:36  
16          A.    The job title was the same, the water resource       09:48:39  
17 control engineer.           09:48:46  
18          Q.    And what were your functions in that capacity?       09:48:49  
19          A.    Performing compliance inspections of various       09:48:54  
20 facilities regulated by the San Diego Water Board.           09:48:58  
21          Q.    And how long were you in the role of a water       09:49:04  
22 resources control engineer?       09:49:06  
23          A.    Approximately, two years.           09:49:14  
24          Q.    In that role, did you work on any           09:49:18  
25 sediment-related issues?       09:49:20

1 A. No. 09:49:23  
2 Q. After that two-year period, what was your next 09:49:25  
3 assignment? 09:49:28  
4 A. I was promoted to, I think, I believe the title 09:49:32  
5 was associate water resource control engineer. 09:49:37  
6 Q. And what were your duties in that position? 09:49:43  
7 A. Writing NPDS permits, preparing enforcement 09:49:46  
8 orders on compliance issues for various discharges around 09:49:55  
9 the region. 09:50:00  
10 Q. And how long were you in the position of 09:50:04  
11 associate water resources control engineer? 09:50:05  
12 A. Approximately, two years. 09:50:09  
13 Q. There's a theme developing here. 09:50:10  
14 Were you involved in any sediment-related issues 09:50:15  
15 in that position? 09:50:18  
16 A. No. 09:50:19  
17 Q. And what's the next position that you held? 09:50:21  
18 A. It was senior water resource control engineer. 09:50:23  
19 Q. And what were the job functions in that 09:50:29  
20 position? 09:50:31  
21 A. It was a supervisory position involving 09:50:31  
22 overseeing staff that were conducting compliance 09:50:43  
23 inspections, preparing permits, drafting enforcement 09:50:47  
24 orders. 09:50:52  
25 Q. Were you involved in any sediment-relates issues 09:50:54

1 in that position? 09:50:57

2 A. Yes. 09:50:58

3 Q. Okay. How long were you in the position as a 09:50:59

4 senior water resource control engineer? 09:51:01

5 A. Approximately, 19 years. 09:51:13

6 Q. And then after that position, what position did 09:51:17

7 you hold? 09:51:22

8 A. Supervising water resource control engineer. 09:51:24

9 Q. And how long were you in that position? 09:51:29

10 A. I'm currently in that position. I believe, 09:51:31

11 let's see, approximately 1999 to the present day. 09:51:39

12 Q. So approximately 12 years? 09:51:44

13 A. Yes. 09:51:46

14 Q. In your role as a senior water resources control 09:51:49

15 engineer, you testified that you worked on some 09:51:52

16 sediment-related matters. 09:51:56

17 A. Yes. 09:51:58

18 Q. So very briefly, can you just name those 09:51:58

19 sediment matters for me? 09:52:01

20 A. I'll try to recall the names by the names of the 09:52:02

21 sites. The first one was Paco Terminals, Incorporated. 09:52:05

22 The second site was referred to as the 09:52:15

23 Convair Lagoon Teledyne Ryan site. 09:52:22

24 The -- there was another series of several sites 09:52:34

25 over in the Commercial Basin portion of San Diego Bay, a 09:52:38

1 number of boatyard facilities over there. Kettenburg, 09:52:44  
2 Shelter Island Boatyard. 09:52:51  
3 Q. Mauricio and Sons? 09:52:55  
4 A. Mauricio and Sons, Bay City Marine. 09:52:58  
5 Q. And what other sediment matters? 09:53:05  
6 A. Yes. 09:53:08  
7 Q. Are there other sediment matters? 09:53:10  
8 A. Oh, other sediment matters. And then, of 09:53:13  
9 course, the current Shipyard Sediment Site matter. 09:53:15  
10 Q. Mr. Barker, for the Paco Terminals matter, what 09:53:31  
11 was your role? 09:53:34  
12 A. Let's see. I was the -- kind of the instigator 09:53:38  
13 of the -- developing a cleanup action for the site. And 09:53:42  
14 I oversaw the development of the cleanup order and had a 09:53:49  
15 lead role in the hearings for the order, preparing 09:54:01  
16 responses to various petitions over the order, and just 09:54:09  
17 kind of tracking the case through to the cleanup being 09:54:13  
18 obtained. 09:54:16  
19 Q. Okay. So sounds like you were involved in the 09:54:18  
20 details at every -- every stage of that proceeding. 09:54:20  
21 A. Yes. 09:54:23  
22 Q. Did you have the similar role at the 09:54:24  
23 Convair Lagoon TDY site? 09:54:26  
24 A. Yes. 09:54:31  
25 Q. And at the Commercial Basin sites? 09:54:31

1           A.    The Commercial Basin sites, I had that role up           09:54:34  
2           to the time the board adopted cleanup levels for the           09:54:37  
3           sites.  And -- and then the tracking of the subsequent           09:54:42  
4           cleanup work was transferred to another unit in the           09:54:50  
5           office.   09:54:53  
6           Q.    And which unit is that?                                     09:54:56  
7           A.    This would have been back in the early '90s.  I           09:54:59  
8           can't recall the name of the unit.                                 09:55:04  
9           Q.    Do you recall the name of the person supervising           09:55:06  
10           in your capacity in that unit?                                     09:55:08  
11           A.    I -- Bruce Posthumus may have been that person,           09:55:10  
12           I think.   09:55:17  
13           Q.    If it was not Bruce Posthumus, do you know who           09:55:19  
14           it may be?   09:55:22  
15           A.    I -- I -- I -- I think it was him.  I can't           09:55:33  
16           think of another person.   09:55:45  
17           Q.    So what branch or unit are you in now?                     09:55:46  
18           A.    I'm a branch manager.  It's referred to as           09:55:48  
19           the -- the surface water basins branch of the office.           09:55:53  
20           Q.    And what are your current primary duties and           09:56:00  
21           responsibilities in that position?                                 09:56:02  
22           A.    Let's see.  I over -- oversee the board's NPDS           09:56:03  
23           permit program, the NPDS storm water program, the           09:56:11  
24           401 certification program, nonpoint source program.           09:56:17  
25           Q.    How many employees do you supervise?                       09:56:29



1           A.    Let's see.  This would be a very approximate           09:56:31  
2           number.  Twenty, I would say.  I'd have to get an org           09:56:34  
3           chart in front of me and count them all out.           09:56:41  
4           Q.    Understood.  That's fine.           09:56:45  
5           A.    Okay.  I'd like to introduce this as           09:56:46  
6           Exhibit 1203.           09:56:57  
7                    (Exhibit 1203 was marked.)           09:56:58  
8           BY MR. RICHARDSON:           09:57:07  
9           Q.    Mr. Barker, I'm handing you a document titled           09:57:10  
10           "San Diego Water Board Cleanup Team's Amended Witness           09:57:15  
11           Designations."  Do you see that?           09:57:18  
12           A.    Yes.           09:57:24  
13           Q.    Have you seen this document before?           09:57:25  
14           A.    Yes.           09:57:29  
15           Q.    Are you aware that you have been designated as a           09:57:32  
16           witness on behalf of the Cleanup Team, in this proceeding?           09:57:35  
17           A.    Yes.           09:57:37  
18           Q.    And have you agreed to testify in this matter?           09:57:39  
19           A.    Yes.           09:57:41  
20           Q.    Do you know the anticipated subject matter of           09:57:43  
21           your testimony in this proceeding?           09:57:46  
22           A.    Yes.           09:57:50  
23           Q.    The designation indicates that each witness may           09:57:52  
24           testify as a percipient witness and/or offer an expert           09:57:54  
25           opinion within the scope of his or her experience as an           09:57:58

1 employee of the San Diego Water Board. 09:58:01

2 Is it your understanding that you've been 09:58:04

3 designated to offer an expert opinion in this case? 09:58:06

4 A. Yes. I believe so. 09:58:18

5 Q. On what subject matters? 09:58:20

6 A. On the subject matters within -- in the DTR. 09:58:27

7 Q. On all subject matters within the DTR, or only 09:58:32

8 those for which you're designated as the person most 09:58:34

9 knowledgeable? 09:58:38

10 A. On the ones that I've been designated as person 09:58:38

11 most knowledgeable. 09:58:41

12 Q. Okay. Do you plan to prepare and submit an 09:58:42

13 expert report in this proceeding? 09:58:50

14 A. No, I do not, other than possibly in response to 09:58:56

15 rebuttals to the DTR and CAO. 09:59:07

16 Q. Do you -- do you consider yourself to be an 09:59:18

17 expert in any field relevant to your duties at the 09:59:20

18 Regional Board related to this matter? 09:59:24

19 A. In -- in -- in terms of my work experience on 09:59:33

20 those matters, I do. 09:59:36

21 Q. Okay. And which fields are those? 09:59:37

22 A. The compliance issues with NPDS permits. The 09:59:48

23 enforcement options for dealing with contaminated 09:59:58

24 sediment issues. The assessment of sediment quality. 10:00:03

25 The determination of cleanup levels. 10:00:14

1 Q. Anything else? 10:00:25

2 A. No. 10:00:26

3 Q. Have you authored any technical publications on 10:00:31

4 any of these subject matters? 10:00:34

5 A. No. 10:00:35

6 Q. Have you lectured on any of these subject 10:00:37

7 matters? 10:00:39

8 A. Periodically, over the years I've been asked to 10:00:41

9 give presentations out at U -- UCSD and various 10:00:45

10 professional organizations around town. These were broad 10:00:56

11 based presentations, really, on what -- what -- what is 10:00:59

12 the role and function of the Regional Water Board. 10:01:04

13 Q. Were any of those specific to sediment-related 10:01:08

14 issues? 10:01:12

15 A. No. 10:01:13

16 Q. I'm going to go over a list of topics to see 10:01:18

17 whether or not you consider yourself to be an expert in 10:01:21

18 that particular field. Okay? 10:01:23

19 A. Okay. 10:01:25

20 Q. Do you consider yourself to be an expert in the 10:01:27

21 field of marine ecology? 10:01:30

22 A. Just based on work experience, that's not my 10:01:36

23 primary academic training was not in that field. 10:01:40

24 Q. But you do consider yourself to be an expert? 10:01:46

25 A. Through work experience on that issue, yes. 10:01:51

1 Q. Do you consider yourself to be an expert on 10:01:54  
2 sediment toxicology? 10:01:57  
3 A. Work -- through my work experience with the 10:02:00  
4 Board. 10:02:02  
5 Q. Okay. And when you say through work experience, 10:02:02  
6 are you referring to the sediment matters that you 10:02:06  
7 mentioned previously, Paco Terminals? 10:02:09  
8 A. Yes. 10:02:11  
9 Q. Convair Lagoon, Commercial Basin, and the 10:02:12  
10 Shipyard site? 10:02:14  
11 A. Yes. 10:02:16  
12 Q. Anything else other than those? 10:02:17  
13 A. What was the field you were mentioning again? 10:02:19  
14 Q. Sediment toxicology. 10:02:23  
15 A. No. There would be nothing else. 10:02:26  
16 Q. Do you consider yourself to be an expert in 10:02:28  
17 environmental chemistry? 10:02:30  
18 A. Yes. 10:02:33  
19 Q. And the basis for that is what? 10:02:35  
20 A. And the basis would be, again, my academic 10:02:37  
21 training and the work experience with the board. 10:02:42  
22 Q. Are you an expert in the field of environmental 10:02:46  
23 statistics? 10:02:49  
24 A. In my work experience with the board. 10:02:52  
25 Q. Are you an expert in ecotoxicology? 10:02:57

1 A. Through my work experience with the board. 10:03:05  
2 Q. Are you an expert in ecological risk assessment? 10:03:09  
3 A. Through -- again, through prior work experience 10:03:18  
4 with the board, yeah. 10:03:21  
5 Q. So the answer is yes? 10:03:23  
6 A. Yes, yes. 10:03:24  
7 Q. Are you an expert in human toxicology? 10:03:25  
8 A. Yes, the basis again would be work experience 10:03:29  
9 with the board. 10:03:32  
10 Q. Are you an expert in human health risk 10:03:34  
11 assessment? 10:03:36  
12 A. Yeah, based on work experience with the board. 10:03:46  
13 Q. So that was a yes? 10:03:49  
14 A. Yes. 10:03:50  
15 Q. Are you an expert in economic feasibility of 10:03:51  
16 sediment remediation? 10:03:54  
17 A. Yes, again, work -- through work experience with 10:03:57  
18 the board. 10:04:01  
19 Q. Are you an expert in technological feasibility 10:04:02  
20 of sediment remediation? 10:04:04  
21 A. Yes. Again, through work experience with the 10:04:06  
22 board. 10:04:09  
23 Q. Are you an expert in the California sediment 10:04:11  
24 quality objectives? 10:04:13  
25 A. Yes. 10:04:17

1 Q. Are you an expert in bioaccumulation? 10:04:19  
2 A. Yes, through work experience. 10:04:23  
3 Q. Are you an expert in remedial design? 10:04:27  
4 A. Yes. 10:04:29  
5 Q. Are you an expert in remedial monitoring? 10:04:31  
6 A. Yes. 10:04:35  
7 Q. Are you an expert in fate and transport? 10:04:36  
8 A. Yes. 10:04:41  
9 Q. Again, these latter categories are based on your 10:04:44  
10 experience at the Regional Board? 10:04:46  
11 A. Yes, that's correct. 10:04:48  
12 Q. To your knowledge, have you ever been designated 10:04:50  
13 as an expert in any lawsuit? 10:04:52  
14 A. I -- I can't recall that. 10:04:57  
15 Q. You do not recall ever being? 10:05:02  
16 A. I can recall giving testimony in various legal 10:05:05  
17 cases. I don't remember the capacity I was -- whether I 10:05:10  
18 was a person most knowledgeable or -- or in another 10:05:17  
19 category. But I was testifying on behalf of the board. 10:05:22  
20 Q. Have you ever prepared an expert witness report? 10:05:27  
21 A. No. I don't -- do not think so, no. 10:05:31  
22 Q. Have you ever been excluded by a court from 10:05:36  
23 testifying in any proceeding? 10:05:39  
24 A. No. 10:05:40  
25 Q. Have you ever been excluded before any 10:05:42

1 administrative body from testifying? 10:05:44

2 A. No. 10:05:46

3 Q. Have you ever prepared an expert report for 10:05:53

4 purposes of any litigation? 10:05:55

5 A. No. 10:05:57

6 Q. How about for purposes of an administrative 10:06:00

7 proceeding? 10:06:02

8 A. Expert reports, yes, many of them. 10:06:05

9 Q. Any of those related to sediment issues? 10:06:11

10 A. Yes. 10:06:14

11 Q. And which were those? 10:06:14

12 A. Those would have been the sites I referred to 10:06:16

13 earlier. 10:06:20

14 Q. Okay. So I'll ask you each one. 10:06:21

15 In Paco Terminals, did you prepare an expert 10:06:23

16 report for administrative proceedings? 10:06:25

17 A. Yes. 10:06:27

18 Q. For the Convair Lagoon TDY case, did you prepare 10:06:30

19 an expert report for the administrative proceedings? 10:06:35

20 A. Yes. And by saying I prepared these reports, 10:06:38

21 I'm saying I supervise their preparation, yes. 10:06:42

22 Q. For the Commercial Basin site? 10:06:48

23 A. Yes. 10:06:50

24 Q. For the Shipyard site? 10:06:51

25 A. Yes. 10:06:53

1 Q. By expert report, Mr. Barker, do you mean the 10:06:55  
2 staff reports that accompany the orders? 10:06:57  
3 A. Yes, I do. 10:06:59  
4 Q. Mr. Barker, you testified that -- I believe that 10:07:05  
5 you have been deposed three times; is that correct? 10:07:09  
6 A. Yes. 10:07:11  
7 Q. When were those depositions held? 10:07:12  
8 A. These would have been not recently, back in 10:07:14  
9 the -- well, let's see. There was -- one was sometime 10:07:24  
10 around 2005 which concerned the Commercial Basin cleanup. 10:07:33  
11 And the -- the others were back in the 1990s. One was on 10:07:44  
12 the City of San Diego's compliance with secondary 10:07:52  
13 treatment requirements for their treatment plan at 10:08:04  
14 Point Loma. And the other was in the Paco Terminals 10:08:07  
15 matter. 10:08:11  
16 Q. So the deposition in 2005 in the 10:08:19  
17 Commercial Basin cleanup, was that related to the cleanup 10:08:21  
18 and abatement order? 10:08:24  
19 A. Yes, it was. It was, I believe, a party -- some 10:08:27  
20 lawsuits between a couple of parties. And they came and 10:08:36  
21 got my deposition as part of that process. 10:08:39  
22 Q. So if I understand correctly, neither the 10:08:43  
23 Regional Board or the State Board or any other 10:08:45  
24 governmental entity was a litigant in that proceeding? 10:08:48  
25 A. That's correct, yeah. 10:08:50



1 Q. So you were a third party? 10:08:52

2 A. Yes. 10:08:55

3 Q. And you did not prepare an expert report in 10:08:56

4 connection with that case? 10:08:58

5 A. No. 10:08:59

6 Q. For the Paco Terminal site, did that involve 10:09:02

7 your role as a third party also? I can rephrase that. 10:09:06

8 Was the Regional Board involved in the 10:09:13

9 litigation in which you testified in Paco Terminals? 10:09:15

10 A. Yes. Yes, it was. 10:09:21

11 Q. What was the nature of that proceeding? 10:09:23

12 A. This goes back a number of years. I think it 10:09:27

13 was disputes concerning the allocation of cleanup costs. 10:09:31

14 And I -- I really cannot recall whether -- I believe the 10:09:40

15 board was named as one of the parties in the lawsuit at 10:09:50

16 the time. It's been a long time. 10:09:54

17 Q. I understand. 10:09:57

18 A. Yeah. 10:09:58

19 Q. So if I'm correct, the nature of the proceeding 10:10:00

20 was not to establish the cleanup levels for the site -- 10:10:03

21 A. No. 10:10:05

22 Q. -- but rather to establish who pays for the 10:10:06

23 cleanup of the site? 10:10:08

24 A. Yes, yeah. 10:10:09

25 Q. Did you prepare an expert report in that 10:10:10

1 proceeding? 10:10:11

2 A. No. No, I did not. 10:10:12

3 Q. In the proceeding in the 1990s concerning the 10:10:21

4 City of San Diego's secondary treatment, did that matter 10:10:23

5 involve sediment issues? 10:10:27

6 A. No, it did not. 10:10:29

7 Q. Did you prepare an expert report in that matter? 10:10:30

8 A. No. 10:10:33

9 Q. Was the Regional Board a party to that matter? 10:10:33

10 A. I believe it was in that case, yes. 10:10:36

11 Q. Mr. Barker, you testified that you've been 10:10:58

12 involved in -- in four different sediment projects in 10:11:00

13 San Diego Bay. Is that correct? 10:11:03

14 MR. CARRIGAN: Misstates testimony. You can 10:11:05

15 answer. 10:11:07

16 THE WITNESS: I believe it's more than four 10:11:15

17 sites. The Commercial Basin was actually divided up into 10:11:17

18 a number of different sites. But collectively, I refer 10:11:23

19 to them as the Boatyard site. So, let's see, Paco, 10:11:27

20 Teledyne, Commercial Basin, and -- and then the shipyard. 10:11:34

21 BY MR. RICHARDSON: 10:11:41

22 Q. I think I can short circuit that, actually. 10:11:42

23 A. Yeah. Okay. 10:11:44

24 Q. Why don't we just take the Paco Terminal site. 10:11:44

25 A. Sure. 10:11:47

1 Q. Where is that site located? 10:11:50

2 A. It's down adjacent to the 28th Street Marine 10:11:52

3 Terminal in National City. 10:11:58

4 Q. And did the Regional Board issue a -- a cleanup 10:12:04

5 order for that site? 10:12:06

6 A. Yes. 10:12:07

7 Q. Is that cleanup completed? 10:12:11

8 A. Yes, it is. 10:12:13

9 Q. For the Convair Lagoon site, was a cleanup order 10:12:18

10 issued for that? 10:12:23

11 A. Yes. 10:12:24

12 Q. Was remediation completed? 10:12:26

13 A. Yes and no. Yes, we thought at the time it was. 10:12:33

14 No, in the sense that there is another cleanup action 10:12:36

15 pending on the site because the first cleanup didn't 10:12:43

16 really control all of the sources of the PCBs there. 10:12:47

17 Q. For the collective Commercial Basin sites, were 10:12:57

18 cleanup orders issues for each of those sites? 10:13:01

19 A. Yes. 10:13:04

20 Q. And was remediation completed for each of those 10:13:04

21 sites? 10:13:07

22 A. Yes. 10:13:07

23 Q. Other than the sites that we just mentioned, 10:13:10

24 have you been involved in any other sites in 10:13:13

25 San Diego Bay where sediment was investigated? 10:13:15

1           A.    Yes.  There's a site called the Tow Basin and           10:13:30  
2           another site called the Boat Channel site, Navy Boat           10:13:42  
3           Channel site.   10:13:51  
4           Q.    Okay.  And what was your involvement in the           10:13:57  
5           Tow Basin site?   10:13:58  
6           A.    Just a preliminary involvement looking at some           10:14:00  
7           sediment quality data and determining whether -- who           10:14:02  
8           should be the lead agency on that site, the Regional           10:14:08  
9           Board or department of toxic substances control.           10:14:10  
10          Q.    Any other involvement with the Tow Basin site?           10:14:16  
11          A.    Not me personally, no.                                   10:14:19  
12          Q.    What has been your involvement in the Navy Port           10:14:23  
13          Boat Channel site?   10:14:28  
14          A.    Providing periodic feedback to the consultants           10:14:30  
15          on their sediment quality investigation.  Mostly it was           10:14:33  
16          just not a -- I personally didn't spend a lot of my time           10:14:41  
17          on that site.  But I did do some work on it overseeing           10:14:46  
18          the work of others that were working on that site.           10:14:50  
19          Q.    Aside from all the sites we mentioned so far,           10:14:56  
20          have you been involved in any other cleanup projects in           10:15:00  
21          San Diego Bay?   10:15:03  
22          A.    The -- there's a program referred to as the           10:15:10  
23          Total Maximum Daily Load, TMDL, program.  And this is a           10:15:15  
24          program to restore impaired sites and surface waters.           10:15:24  
25                    And there's a number of sites in San Diego Bay           10:15:35

1 that are listed as impaired due to sediment quality 10:15:37  
2 related issues. And so another site would be the mouth 10:15:43  
3 of Chollas Creek and the Naval Base San Diego facility 10:15:49  
4 and the Point Loma facility, as well. 10:15:57  
5 Q. That would be the Navy Point Loma facility? 10:16:00  
6 A. Yes. 10:16:03  
7 Q. Any others? 10:16:04  
8 A. The -- I think that's it. 10:16:11  
9 Q. Okay. And what was your role in the mouth of 10:16:18  
10 Chollas Creek TMDL? 10:16:20  
11 A. A -- part of my job duties for a period of time 10:16:23  
12 involved maintaining and updating the -- what's referred 10:16:33  
13 to as the Clean Water Act 303(d) list of impaired water 10:16:39  
14 bodies. And so I oversaw staff that was reviewing 10:16:45  
15 sediment quality information, deciding whether certain 10:16:51  
16 sites in San Diego Bay should be listed. 10:16:54  
17 Q. So for the mouth of Chollas Creek TMDL, did you 10:17:01  
18 have the ultimate decision whether or not to list it as 10:17:05  
19 an impaired water body? 10:17:08  
20 A. Well, the ultimate decision was made by our 10:17:11  
21 board. But I was in charge of developing the 10:17:13  
22 recommendations for that. And now that we're talking 10:17:20  
23 about it, there were sediment quality investigations 10:17:26  
24 that, as a consequence of listing these sites, there were 10:17:31  
25 sediment quality investigations initiated at a couple of 10:17:35

1 Navy sites on San Diego Bay, mouth of Chollas -- at the 10:17:43  
2 mouth of Chollas Creek and Paleta Creek, which is further 10:17:47  
3 south on the Naval Base San Diego. 10:17:52  
4 Q. And so you'd previously mentioned the Naval Base 10:17:59  
5 San Diego. Is that the same thing that you're referring 10:18:03  
6 to now? 10:18:05  
7 A. Yes. 10:18:05  
8 Q. So what work did you do in connection with 10:18:06  
9 sediment issues related to the Naval Base San Diego? 10:18:10  
10 A. Just back to initiating the -- overseeing the 10:18:13  
11 initial work to assess sediment quality at the mouth of 10:18:22  
12 Chollas Creek and Paleta Creek, getting -- working with 10:18:29  
13 the Navy to get the sediment quality investigations 10:18:36  
14 underway. 10:18:38  
15 Q. And have those investigations been completed? 10:18:43  
16 A. Yes. 10:18:45  
17 Q. And what was your role with the Navy Point Loma 10:18:46  
18 TMDL matter? 10:18:52  
19 A. Just -- there was just reviewing some sediment 10:18:53  
20 data in the bay and -- and making a determination that it 10:18:58  
21 should be listed on the 303(d) list. 10:19:09  
22 Q. For any of these TMDLs that you've described, 10:19:17  
23 have cleanup levels been set? 10:19:20  
24 A. No, not as yet. 10:19:24  
25 Q. For the Tow Basin matter, has cleanup levels 10:19:26

1       been set? 10:19:29

2           A.    I'm -- I'm not aware of it, no. 10:19:30

3           Q.    Okay.  In the Navy Boat Channel matter, has 10:19:33

4       cleanup levels been set? 10:19:36

5           A.    No. 10:19:38

6           Q.    Which of these matters involved shipyards? 10:19:46

7           A.    When you're referring to "these matters." 10:20:01

8           Q.    Yeah.  My apologies.  I'll be more specific. 10:20:07

9           A.    Okay. 10:20:09

10          Q.    For the Paco Terminal site, Convair Lagoon, the 10:20:10

11       Commercial Basin sites, Tow Basin, the Navy Boat Channel, 10:20:14

12       or any of the TMDLs that you mentioned. 10:20:19

13          A.    Well, parts -- there are ship maintenance 10:20:28

14       activities conducted at the Naval Base San Diego.  But 10:20:31

15       there are some differences between -- so sometimes it's 10:20:35

16       referred to as a shipyard, but it's not the same type of 10:20:40

17       shipyard as NASSCO or -- or BAE. 10:20:43

18          Q.    Okay.  So there are vessels repaired there? 10:20:48

19          A.    And maintained.  Mostly vessel maintenance 10:20:51

20       rather than constructing new vessels. 10:20:54

21          Q.    Were you involved in the Campbell shipyard 10:21:00

22       matter? 10:21:03

23          A.    Oh, excuse me.  Yes, I was.  And that was 10:21:04

24       another sediment quality investigation.  And that 10:21:06

25       resulted in a cleanup order.  And -- yes.  I'm sorry. 10:21:15

1 Q. Oh, no problem. 10:21:23

2 And what was your role in the Campbell shipyard 10:21:24

3 matter? 10:21:27

4 A. Let's see. I oversaw the review of a sediment 10:21:28

5 quality investigation report and supervised the 10:21:33

6 preparation of a cleanup and abatement order and followed 10:21:40

7 the order and the implementation of the order, which led 10:21:50

8 to the construction of a -- of a facility -- a cap 10:21:55

9 facility in the bay. 10:22:03

10 Q. So is it fair to say you were involved in the 10:22:04

11 day-to-day details in the matter? 10:22:06

12 A. Yes. 10:22:08

13 Q. Similar to your roles at Paco Terminals, 10:22:08

14 Commercial Basin, and the shipyard? 10:22:12

15 A. Yes. 10:22:15

16 Q. I think we should take a break here in just a 10:22:16

17 moment. I just have a few more questions if you'll allow 10:22:18

18 me. 10:22:20

19 A. Okay. 10:22:20

20 Q. Are you a member of any environmental 10:22:21

21 organizations? 10:22:23

22 A. No, I'm not. 10:22:24

23 Q. Are you a member of CoastKeeper? 10:22:25

24 A. No. 10:22:27

25 Q. Have you been a member of CoastKeeper in the 10:22:29



1 past? 10:22:31

2 A. I attended one or two functions in -- I think I 10:22:34

3 saw myself listed as a member once. But I -- I'm not a 10:22:39

4 member of it. It's probably just a name on a mail list 10:22:43

5 or something. 10:22:48

6 Q. Were you a member of San Diego BayKeeper? 10:22:50

7 A. No. 10:22:53

8 Q. Have you been a member of Environmental Health 10:22:57

9 Coalition? 10:23:00

10 A. No. 10:23:00

11 Q. Have you ever worked for or consulted in any way 10:23:05

12 with an environmental group? 10:23:09

13 A. Worked for them or consult, no. Other than 10:23:13

14 through my role with the Regional Board, no. 10:23:17

15 Q. Have you ever worked in the private sector? 10:23:21

16 A. Since college, no. 10:23:27

17 Q. Prior to starting your career with the State 10:23:29

18 Board, did you work for industry in any matter? 10:23:31

19 A. No. 10:23:35

20 MR. RICHARDSON: This might be a good time to 10:23:37

21 take a break. Does that sound good? 10:23:39

22 THE WITNESS: Good. 10:23:41

23 MR. RICHARDSON: Off the record. 10:23:41

24 THE VIDEOGRAPHER: Off the record. Time is 10:23:42

25 10:23 a.m. 10:23:43

1 (A recess was taken.) 10:23:51

2 THE VIDEOGRAPHER: Back on the record. Time is 10:44:53

3 10:44 a.m. 10:44:54

4 BY MR. RICHARDSON: 10:44:55

5 Q. Mr. Barker, I wanted to follow up with one of 10:44:57

6 your comments concerning the documents that are retained 10:45:00

7 for this matter. 10:45:04

8 Did I understand that there is a -- a document 10:45:04

9 retention system that involves scanning and storing 10:45:10

10 documents electronically? 10:45:12

11 A. Yes. 10:45:14

12 Q. And that that system was developed somewhere 10:45:15

13 beginning 2007? 10:45:18

14 A. Yes. 10:45:20

15 Q. So any documents after 2007 related to this 10:45:23

16 matter would have been scanned into that system? 10:45:26

17 A. Documents that it was -- like, date forward 10:45:34

18 would be scanned into that system. Past documents, no, 10:45:39

19 not as yet. 10:45:44

20 Q. Okay. So, for example, if there was a document 10:45:45

21 produced last week in connection with this matter, it 10:45:47

22 would be scanned into the system? 10:45:49

23 A. Yes. 10:45:51

24 Q. Have all the documents that have been scanned 10:45:52

25 into the system been produced in this matter? 10:45:54

1           A.    Yes.  I believe -- I believe they have, with the 10:46:01  
2           exception of mediation documents, yes. 10:46:05

3           Q.    How is that electronic scan document system 10:46:09  
4           stored? 10:46:13

5           A.    Stored, I don't know if I can explain it.  It's 10:46:14  
6           an electronic system.  It's on the network.  It's backed 10:46:22  
7           up.  It's a -- it's a formal record archival system. 10:46:25

8           Q.    So the software is designed to archive. 10:46:31

9           A.    Right. 10:46:33

10          Q.    Documents? 10:46:34

11          A.    Yes. 10:46:34

12          Q.    Okay.  Thank you. 10:46:35

13                    Let's take a moment and talk about your role on 10:46:38  
14           the Cleanup Team and your responsibilities for the 10:46:40  
15           preparation of the CAO and DTR. 10:46:42

16                    When were you first appointed to the Cleanup 10:46:45  
17           Team for this matter? 10:46:47

18          A.    I -- I believe the first time there was a 10:46:54  
19           designation of a Cleanup Team was in 2005, a formal 10:46:59  
20           designation. 10:47:08

21          Q.    Okay.  So as of mid-2005, you were designated as 10:47:09  
22           a member of the Cleanup Team? 10:47:12

23          A.    Yes. 10:47:14

24          Q.    When did you first begin to work on the matter? 10:47:14

25          A.    Well, this matter has a long history to it.  It 10:47:17

1 goes back many years in progressive fits and starts. I 10:47:21  
2 would say some of the earliest correspondence may have 10:47:27  
3 been back in around 1990 time frame. 10:47:35  
4 Q. Okay. And then you were formally appointed in 10:47:43  
5 2005; correct? 10:47:46  
6 A. Yes. 10:47:47  
7 Q. And who -- who appointed you? 10:47:47  
8 A. John Robertus, executive officer. 10:47:50  
9 Q. And were you appointed because you had already 10:47:56  
10 worked on the matter for a number of years? 10:47:58  
11 A. Yes. 10:48:01  
12 Q. And you're currently a member of the Cleanup 10:48:01  
13 Team; right? 10:48:03  
14 A. Yes. 10:48:04  
15 Q. Specific to this matter and specific to your 10:48:08  
16 role on the Cleanup Team, what are your duties? 10:48:11  
17 A. I'm -- I believe I'm designated as kind of the 10:48:14  
18 manager of the Cleanup Team. And I report to, currently, 10:48:19  
19 David Gibson, the executive officer. 10:48:27  
20 Q. Is David Gibson also a member of the Cleanup 10:48:29  
21 Team? 10:48:31  
22 A. I believe he is, yes. 10:48:33  
23 Q. Were you responsible for preparing any of the 10:48:38  
24 written analyses contained in the CAO or DTR? 10:48:40  
25 A. Supervising, I guess responsible for overseeing 10:48:48

1 the work of others that were preparing those analyses, 10:48:53  
2 reviewing work products and that type of thing, yes. 10:48:58

3 Q. And is that true for all sections of the DTR? 10:49:01  
4 A. Yes. 10:49:03

5 Q. And all sections of the CAO? 10:49:03  
6 A. Yes. 10:49:05

7 Q. Did you draft any sections of the DTR or CAO? 10:49:09  
8 A. I would be reviewing drafts, editing, sometimes 10:49:16  
9 adding text sections. So I guess the answer to that is 10:49:20  
10 yes. 10:49:23

11 Q. But for the most part, someone else had the pen 10:49:24  
12 to draft the initial versions of these sections? 10:49:27

13 A. Initial drafts, yes, right. 10:49:30  
14 Q. Is that true for previous iterations of the CAO 10:49:33  
15 and DTR? 10:49:36

16 A. Mostly true, yes. Sometimes I would draft large 10:49:42  
17 sections of certain parts of the order in the DTR, yeah. 10:49:51

18 Q. In connection with any iteration of the CAO or 10:49:59  
19 DTR, did you have any involvement with determining who 10:50:04  
20 would be listed as a responsible party? 10:50:06

21 A. Yes. 10:50:09  
22 Q. Were you involved in the designation of all of 10:50:12  
23 the responsible parties? 10:50:14

24 A. Yes. 10:50:16  
25 Q. Were you involved in developing the factual and 10:50:18

1 historical bases against NASSCO? 10:50:20

2 A. Yes. 10:50:23

3 Q. Were you involved with any of the analysis 10:50:26

4 regarding Chollas Creek? 10:50:29

5 A. Yes. 10:50:30

6 Q. And the potential for Chollas Creek to impact 10:50:32

7 the site? 10:50:35

8 A. Yes. 10:50:35

9 Q. Were you involved with the selection of the 10:50:37

10 reference stations? 10:50:40

11 A. Yes. 10:50:41

12 Q. Same question regarding aquatic life impairment 10:50:42

13 analysis. 10:50:45

14 A. Yes. 10:50:46

15 Q. Aquatic dependent wildlife impairment analysis? 10:50:47

16 A. Yes. 10:50:51

17 Q. The aquatic dependent wildlife risk assessment? 10:50:52

18 A. Yes. 10:50:56

19 Q. The human health impairment analysis. 10:50:57

20 A. Yes. 10:51:00

21 Q. The human health risk assessment? 10:51:00

22 A. Yes. 10:51:02

23 Q. The technological feasibility analysis? 10:51:03

24 A. Yes. 10:51:05

25 Q. The economic feasibility analysis? 10:51:06

1 A. Yes. 10:51:08  
2 Q. The establishment of alternative cleanup levels? 10:51:09  
3 A. Yes. 10:51:12  
4 Q. The proposed remedial footprint? 10:51:13  
5 A. Yes. 10:51:16  
6 Q. The preliminary remedial design? 10:51:16  
7 A. Yes. 10:51:19  
8 Q. The remedial monitoring program? 10:51:20  
9 A. Yes. 10:51:22  
10 Q. The remedial action implementation schedule? 10:51:23  
11 A. Yes. 10:51:25  
12 Q. Were you involved with the CEQA review of the 10:51:27  
13 CAO? 10:51:31  
14 A. Yes. 10:51:31  
15 Q. Do you continue to be involved with the CEQA 10:51:32  
16 review of the CAO? 10:51:34  
17 A. Yes. 10:51:36  
18 Q. Were you involved or are you involved currently 10:51:46  
19 with the Chollas Creek TMDL for dissolved copper, lead, 10:51:50  
20 and zinc? 10:51:57  
21 A. Yes, I was involved with that, yes. 10:52:01  
22 Q. What was your role in the preparation of the 10:52:06  
23 TMDL? 10:52:07  
24 A. I was branch manager at the time. I -- one of 10:52:08  
25 the units under my charge produced that -- the technical 10:52:15

1 document for the TMDL, yes. 10:52:25

2 Q. So you reviewed the draft TMDL? 10:52:30

3 A. Yes. 10:52:32

4 Q. And you made a recommendation to the Regional 10:52:33

5 Board concerning that TMDL? 10:52:35

6 A. Or my staff did, yes. 10:52:39

7 Q. Were you involved in that recommendation with 10:52:41

8 your staff? 10:52:42

9 A. Yes, uh-huh. 10:52:43

10 Q. Were you involved with determining the 10:52:50

11 compliance schedule for that TMDL? 10:52:52

12 A. Yes. 10:52:55

13 Q. Were you involved in the Chollas Creek TMDL for 10:52:57

14 diazinon? 10:53:00

15 A. Yes. 10:53:02

16 Q. And what was your role? Or maybe I can short 10:53:02

17 circuit this. Was it the same role that you had in 10:53:06

18 the -- 10:53:08

19 A. Same role. 10:53:09

20 Q. -- other? Okay. 10:53:10

21 Okay. Let's talk for a minute about the 10:53:17

22 administrative record. 10:53:20

23 In your duties as a member of the Cleanup Team 10:53:21

24 and as a manager, how were you involved in the 10:53:24

25 maintenance or development of the administrative record 10:53:26



1 for the CAO and DTR? 10:53:28

2 A. I was directly involved for the administrative 10:53:31

3 record. I worked with the -- another staff member to 10:53:36

4 determine what documents would be placed into the record 10:53:46

5 and interfacing with the contractor on getting the 10:53:54

6 documents scanned and indexed, yes. 10:53:57

7 Q. So you said you were involved in -- in 10:54:03

8 determining what documents to include in the 10:54:05

9 administrative record. 10:54:08

10 A. Yes. 10:54:08

11 Q. Were there documents that you chose not to 10:54:09

12 include? 10:54:11

13 A. For certain -- for certain parties, yes. 10:54:13

14 Q. And what was the basis for excluding those 10:54:18

15 documents? 10:54:21

16 A. Part of it was relevance. And the other part of 10:54:25

17 it was just the need to complete the administrative 10:54:29

18 record. 10:54:35

19 Q. So do you -- could you describe the types of 10:54:39

20 categories of documents that were excluded from the 10:54:42

21 administrative record? 10:54:44

22 A. There were a couple of oil companies, Chevron 10:54:50

23 and ARCO, that were originally named in the order. And 10:54:58

24 the board made a -- we made a determination to not name 10:55:06

25 them as dischargers in the order. And there were parts 10:55:10

1 of the NPDS permit record for those facilities, which we 10:55:19  
2 reviewed but just determined to not scan and index. 10:55:25

3 Q. Were there other categories of documents that 10:55:31  
4 were excluded from the administrative record? 10:55:34

5 A. Yes. 10:55:35

6 Q. And what were those? 10:55:36

7 A. Let's see. San Diego Gas & Electric Company had 10:55:38  
8 a NPDS permit for their power plant facility. And the 10:55:51  
9 board had regulated that facility for many years, and 10:55:59  
10 there were voluminous reports on its discharge to the bay 10:56:02  
11 that were not included as part of the record. 10:56:06

12 Q. Were there any other categories of documents 10:56:13  
13 that were excluded from the record? 10:56:15

14 A. Let's see. Just thinking back. When -- when 10:56:17  
15 we're talking about excluding from the record, I'm 10:56:24  
16 thinking about the record as it existed in April of 2008, 10:56:28  
17 the first issuance of the electronic record and what was 10:56:39  
18 excluded from that. 10:56:43

19 Q. Okay. Let's -- let's -- let's continue with 10:56:46  
20 that line of questions. 10:56:47

21 A. Okay. 10:56:49

22 Q. So for that version of the administrative 10:56:49  
23 record -- 10:56:51

24 A. Right. 10:56:51

25 Q. -- were there any other classes of documents 10:56:52

1 that you did not include? 10:56:54

2 A. Yeah. The -- I would say the complete record 10:56:58

3 for the San Diego -- San Diego County MS4 permit was not 10:57:02

4 included in that version of the record, just certain 10:57:15

5 select documents were. 10:57:19

6 Q. Why was the City MS4 documents not included in 10:57:21

7 the record? 10:57:26

8 A. We just -- the files were very voluminous. We 10:57:28

9 just made a determination to -- to copy certain -- the 10:57:33

10 most relevant portions of their administrative record but 10:57:42

11 not every single document. 10:57:45

12 Q. Are there any other categories of documents that 10:57:50

13 were not included in the administrative record? 10:57:53

14 A. No, none -- none that I can recall. 10:57:57

15 Q. And then I understand that there was a 10:58:03

16 supplemental administrative record developed. Is that 10:58:04

17 correct? 10:58:08

18 A. Yes. 10:58:08

19 Q. Did you play any role in the development of that 10:58:09

20 supplemental administrative record? 10:58:11

21 A. Mostly, yeah, reviewing the request for the 10:58:12

22 documents. There was another staff member, 10:58:17

23 Vicente Rodriguez, that did a lot of the work to pull 10:58:21

24 those documents together and respond. 10:58:25

25 Q. Did Vicente work under your supervision? 10:58:30

1           A.   Indirectly.  He was primarily supervised by           10:58:36  
2   Julie Chan.   10:58:40

3           Q.   Are you aware of any documents or categories of   10:58:41  
4   documents that were not included in the supplemental           10:58:43  
5   administrative record?   10:58:46

6           A.   No, I'm not.   10:58:52

7           Q.   Are you aware of any records that have been       10:58:58  
8   developed since the issuance of the supplemental           10:59:01  
9   administrative record in this matter that do not relate       10:59:04  
10   to mediation?   10:59:07

11          A.   That do not relate to mediation.  I -- I -- I     10:59:08  
12   don't believe the development of the CEQA document is       10:59:22  
13   part of the mediation process.  And I think there has       10:59:26  
14   been some back and forth emails between the board and the   10:59:34  
15   contractor preparing the CEQA document.  We also           10:59:39  
16   periodically prepare status reports for the board on the     10:59:51  
17   status of the cleanup effort.  That's all that I can       10:59:56  
18   think of.   11:00:03

19          Q.   Will those documents that you referred to that     11:00:06  
20   were excluded from or have not been included in the           11:00:09  
21   current supplemental administrative record, will they       11:00:11  
22   eventually be included in the administrative record in       11:00:15  
23   this proceeding?   11:00:17

24          A.   I believe they will, yes.                           11:00:17

25          Q.   Do you know the timing for that?                   11:00:19

1 A. No. 11:00:20

2 Q. Are you familiar with the advisory team in the 11:00:24

3 CAO proceeding? 11:00:26

4 A. Yes. 11:00:27

5 Q. Do you know what the purpose of the advisory 11:00:29

6 team is? 11:00:31

7 A. Yes, I do. 11:00:32

8 Q. And what is that? 11:00:33

9 A. To provide advice to the Regional Board members 11:00:34

10 in their consideration of the -- when this matter gets to 11:00:42

11 them in a public hearing. They also provide advice to 11:00:46

12 the board's administrative officer that's been assigned 11:00:52

13 to this -- oversee this case. 11:00:56

14 Q. Do you know who the current members of the 11:01:01

15 advisory team are? 11:01:03

16 A. Let's see. Yes, I do. 11:01:05

17 Q. And who are those individuals? 11:01:08

18 A. Let's see. Frank Melbourne, Catherine Hagen, 11:01:10

19 and Jimmy Smith. 11:01:22

20 Q. Anyone else? 11:01:27

21 A. Not that I'm aware. 11:01:27

22 Q. Have you had any substantive communications with 11:01:29

23 any member of the advisory team concerning the CAO and 11:01:32

24 DTR? 11:01:36

25 A. No. 11:01:37

1 Q. What about any prior iterations of the CAO and 11:01:40  
2 DTR? 11:01:43  
3 A. With the -- with the current members, no. 11:01:45  
4 Q. So you haven't had any communications with 11:01:50  
5 James Smith regarding the CAO and DTR? 11:01:52  
6 A. No. 11:01:56  
7 Q. Nor Frank Melbourne? 11:01:57  
8 A. No. 11:01:59  
9 Q. Did you have any substantive communication with 11:02:03  
10 past members of the advisory team concerning any 11:02:06  
11 iteration of the CAO or DTR? 11:02:09  
12 A. This -- in the period prior to 2005, I -- this 11:02:18  
13 was before Advisory Team and Cleanup Team was formally 11:02:27  
14 designated. There were communications I had with 11:02:32  
15 John Robertus, the executive officer, and with the 11:02:37  
16 board's counsel at that time, John Richards. 11:02:42  
17 Q. And John Robertus was named in 2005 to the 11:02:47  
18 Advisory Team; correct? 11:02:50  
19 A. Yes. And also Mike McCann, who was the 11:02:51  
20 assistant executive officer. 11:02:56  
21 Q. Did you have substantive communications prior to 11:02:59  
22 2005 with Mr. McCann? 11:03:02  
23 A. Mostly, they were with John Robertus, as I 11:03:07  
24 recall, yes. 11:03:09  
25 Q. And what were those substantive communications 11:03:11

1 with John Robertus prior to 2005? 11:03:14

2 A. Let's see. This was -- prior to that time was 11:03:16

3 the period of time when the sediment quality 11:03:22

4 investigation was initiated and the -- which led to the 11:03:27

5 issuance of the Exponent Sediment Quality Assessment 11:03:34

6 Report. So John, I would periodically brief him on how 11:03:39

7 that was proceeding during that period. And then, I 11:03:47

8 guess, right up to the first issuance of a draft CAO, 11:03:51

9 cleanup and abatement order. 11:03:57

10 Q. Did you discuss with Mr. Robertus anything 11:04:00

11 related to appropriate cleanup levels for the site? 11:04:02

12 A. In very -- in very general terms. 11:04:08

13 Q. Do you recall those general terms? 11:04:13

14 A. Just mostly the difficulty we were having in 11:04:14

15 coming up with a transparent scientifically sound process 11:04:18

16 to set those levels, yes. 11:04:23

17 Q. And what was the nature of those difficulties? 11:04:25

18 A. To come up with levels that were protective of 11:04:34

19 human health risk, aquatic-dependent wildlife, and -- and 11:04:40

20 aquatic life. And first of all, just to demonstrate 11:04:45

21 whether there was impairment to beneficial uses 11:04:52

22 associated with those receptors, and then to come up with 11:04:56

23 cleanup levels that were protective of those receptors in 11:05:02

24 a way that was, as I say, transparent and scientifically 11:05:06

25 sound. 11:05:10

1 Q. Did Mr. Robertus suggest any cleanup levels or 11:05:14  
2 cleanup approach for the site? 11:05:17

3 A. I -- I'm just remembering one -- this was kind 11:05:18  
4 of a leftover issue from the Campbell site where the 11:05:29  
5 levels were based on an AET standard, adverse effects 11:05:33  
6 threshold standard. And Mr. Robertus did not want the 11:05:47  
7 cleanup levels just set from that one limited viewpoint. 11:05:52  
8 He wanted it to be much more broad based than that to 11:05:57  
9 fully account for all of the receptors. 11:06:01

10 Q. Do you recall any other substantive discussions 11:06:08  
11 with Mr. Robertus concerning sediment matter? 11:06:12

12 A. Just discussions on practicality of cleanup to 11:06:15  
13 background, how does one determine background, that type 11:06:20  
14 of thing, yes. 11:06:22

15 Q. Have you had any communications with any current 11:06:29  
16 board member or past board member concerning the 11:06:31  
17 substance of the CAO and DTR? 11:06:35

18 A. Not outside of board meetings, no. 11:06:38

19 Q. Okay. Mr. Barker, it would be helpful to 11:06:47  
20 discuss some just general scientific principles 11:06:50  
21 underlying the DTR. At the discomfort of a number of us 11:06:53  
22 attorneys around the room, there's an awful lot of 11:06:57  
23 science and math in the DTR. So it would be helpful if 11:06:59  
24 you can explain a few general principles to me and how 11:07:02  
25 those tools were applied in the DT -- DTR. 11:07:05



1 I'm going to start with how data is averaged. 11:07:09  
2 My understanding is that there are upper and lower 11:07:12  
3 prediction limits used -- 11:07:15  
4 A. Yes. 11:07:17  
5 Q. -- throughout the DTR. That's correct? 11:07:17  
6 A. Yes. 11:07:19  
7 Q. Can you explain these mathematical tools 11:07:20  
8 generally? 11:07:23  
9 A. I -- I would have to -- I cannot explain them 11:07:24  
10 right now. No, I cannot. 11:07:28  
11 Q. Okay. Would you agree in -- in layman's terms 11:07:30  
12 where you have a set of numbers and you want to figure 11:07:33  
13 out if another number fits within that set, you might 11:07:36  
14 calculate the upper predictive limit or lower predictive 11:07:39  
15 limit and ask whether that new data point is higher or 11:07:41  
16 lower or the same -- 11:07:44  
17 A. Right. 11:07:46  
18 Q. -- as that? 11:07:46  
19 A. Yes. 11:07:47  
20 Q. And then for purposes of that comparison, is it 11:07:48  
21 true that you would then take the number that you achieve 11:07:51  
22 in your analysis and ask is it the same, is it higher or 11:07:56  
23 lower than that UPL? 11:08:01  
24 A. Yes. Yes. 11:08:03  
25 Q. So to understand this if you had a result of, 11:08:04

1 let's say, 4.0, and we compare that to a metric of 5.0, 11:08:07  
2 you'd say that the result of 4.0 is lower than the 11:08:12  
3 metric; correct? 11:08:15  
4 A. Yes. 11:08:17  
5 Q. And if the result is 5.0 and the metric is 5.0, 11:08:17  
6 you'd say it's the same. 11:08:21  
7 A. Right, yes. 11:08:22  
8 Q. If the number is 6.0, you'd say that it's higher 11:08:23  
9 than the metric. 11:08:25  
10 A. Yes. 11:08:27  
11 Q. And in any given test, it may be better to be 11:08:27  
12 higher or lower than the metric depending on the test; 11:08:30  
13 correct? 11:08:33  
14 A. Yes. 11:08:33  
15 Q. There's another mathematical method used in the 11:08:38  
16 DTR for determining averages. And that's a geometric 11:08:42  
17 mean. 11:08:46  
18 A. Yes. 11:08:46  
19 Q. Are you familiar with that? 11:08:46  
20 A. Yes. 11:08:48  
21 Q. And how does that compare with a simple 11:08:50  
22 algebraic average? 11:08:53  
23 A. It's more complicated. But I -- again, I'd have 11:08:55  
24 to -- I -- I -- I can't answer your question right now as 11:08:58  
25 to exactly how that's calculated. 11:09:02

1 Q. And that's fine. But it is different; correct? 11:09:04  
2 A. Yes. 11:09:06  
3 Q. And in general, it's -- the number of a 11:09:07  
4 geometric mean is lower than the algebraic mean; correct? 11:09:09  
5 A. Yes. 11:09:14  
6 Q. And in the environmental context, often it means 11:09:14  
7 more protective? 11:09:17  
8 A. Yes. 11:09:18  
9 Q. Okay. Let's talk about the site investigation 11:09:20  
10 that was conducted. 11:09:23  
11 To confirm, Mr. Barker, you've been designated 11:09:26  
12 as the Cleanup Team's person most knowledgeable regarding 11:09:29  
13 the sediment site investigation; correct? 11:09:32  
14 A. Yes. 11:09:35  
15 Q. Do you believe that you are the person most 11:09:36  
16 knowledgeable on the Cleanup Team regarding the sediment 11:09:38  
17 quality investigation? 11:09:41  
18 A. There's others equally as knowledgeable. But I 11:09:43  
19 know that I've been designated as the person most 11:09:47  
20 knowledgeable, yes. 11:09:50  
21 Q. And you deemed yourself to be that person; 11:09:51  
22 correct? 11:09:54  
23 A. Yes. 11:09:54  
24 Q. So when I ask you questions regarding the -- the 11:09:55  
25 sediment site investigation issues, I'm asking for your 11:09:58

1 response in your capacity as the Cleanup Team's person 11:10:00  
2 most knowledgeable -- 11:10:04  
3 A. Okay. 11:10:05  
4 Q. -- on that subject; that's clear? 11:10:05  
5 A. Yes. 11:10:07  
6 Q. Prior to developing the CAO and DTR, the board 11:10:11  
7 first required an analysis of the sediment quality at the 11:10:16  
8 shipyard; correct? 11:10:19  
9 A. Yes. 11:10:20  
10 Q. Introduce this as Exhibit 1204, please. 11:10:25  
11 (Exhibit 1204 was marked.) 11:10:27  
12 BY MR. RICHARDSON: 11:10:34  
13 Q. I'll give you a moment to look at the document. 11:10:35  
14 A. Okay. 11:10:37  
15 Q. Mr. Barker, this is Resolution No. 2001-02; 11:11:00  
16 correct? 11:11:05  
17 A. Yes. 11:11:06  
18 Q. Are you familiar with this document? 11:11:06  
19 A. Yes. 11:11:11  
20 Q. What is the purpose of this order? 11:11:12  
21 A. The purpose of it -- 11:11:15  
22 MR. CARRIGAN: Document speaks for itself. 11:11:25  
23 THE WITNESS: This order was adopted by the 11:11:28  
24 Regional Board at the conclusion of a hearing in 2001. 11:11:35  
25 And it was to announce their decision to -- to require 11:11:54

1 sediment studies at NASSCO shipyard. 11:11:58

2 BY MR. RICHARDSON: 11:12:03

3 Q. Okay. And didn't it direct the Regional Board 11:12:04

4 staff to develop site-specific cleanup levels? 11:12:07

5 MR. CARRIGAN: Document speaks for itself. 11:12:11

6 THE WITNESS: Let me -- 11:12:18

7 BY MR. RICHARDSON: 11:12:19

8 Q. I'll refer you to page 2, paragraph 7. 11:12:20

9 A. Yes. 11:12:27

10 Q. And so to be clear, the Regional Board itself 11:12:28

11 ordered staff to develop site-specific cleanup levels; 11:12:31

12 correct? 11:12:37

13 A. Yes. 11:12:37

14 Q. And this also directed the shipyard to conduct a 11:12:40

15 detailed site investigation under the direction of 11:12:43

16 Regional Board staff; correct? 11:12:46

17 A. Yes. 11:12:48

18 Q. I'll introduce this as Exhibit 1205. 11:12:59

19 (Exhibit 1205 was marked.) 11:13:02

20 BY MR. RICHARDSON: 11:13:15

21 Q. Mr. Barker, I handed you a letter dated 11:13:19

22 June 1st, 2001, to Mr. Mike Chee of NASSCO from 11:13:22

23 California Regional Water Quality Control Board San Diego 11:13:27

24 Region executive officer John Robertus. 11:13:30

25 Do you see that? 11:13:34



1 guidelines for how the assessment should be conducted; 11:14:55  
2 right? 11:14:58  
3 A. Yes. 11:14:59  
4 Q. I'm going to introduce as Exhibit 1206. 11:15:01  
5 (Exhibit 1206 was marked.) 11:15:04  
6 BY MR. RICHARDSON: 11:15:13  
7 Q. I'll give you a moment to refresh your 11:15:13  
8 recollection. 11:15:15  
9 A. Okay. Yes, I recall this document. 11:15:16  
10 Q. And what was the purpose of this document? 11:15:26  
11 A. To -- we wanted to provide NASSCO with some 11:15:28  
12 guidance as to what our expectations were on the type of 11:15:35  
13 issues we wanted analyzed in the sediment quality 11:15:40  
14 investigation. 11:15:44  
15 Q. So this directed NASSCO to develop a work plan 11:15:51  
16 for a study at the shipyard site and provided the 11:15:53  
17 framework for that study? 11:15:57  
18 A. Yes. 11:15:58  
19 Q. And this document was drafted by Regional Board 11:16:03  
20 staff? 11:16:07  
21 A. Yes, uh-huh. 11:16:07  
22 Q. Was this drafted under your direction? 11:16:08  
23 A. Yes. 11:16:10  
24 Q. Mr. Barker, on page 29 of the document, there's 11:16:16  
25 a discussion of a no action alternative. 11:16:20

1           A.    Let's see here.  Yes.   11:16:23

2           Q.    So Regional Board staff directed NASSCO to look                   11:16:34

3           at a number of different treatment alternatives; is that                   11:16:36

4           correct?   11:16:39

5           A.    Yes.   11:16:40

6           Q.    One of which was taking no action at the site?                   11:16:40

7           A.    That's correct.   11:16:43

8           Q.    And in looking at the no action alternative, was                   11:16:43

9           NASSCO to evaluate the dispersal of contaminants by                   11:16:46

10          natural processes?    11:16:52

11          MR. CARRIGAN:  Document speaks for itself.                   11:16:53

12          THE WITNESS:  Yes.    11:16:54

13          BY MR. RICHARDSON:    11:16:54

14          Q.    To be clear, I'm asking what board staff                   11:16:55

15          directed NASSCO to do.  Do you understand?                   11:16:57

16          A.    Yes.   11:16:58

17          Q.    Board staff also directed NASSCO to look at the                   11:17:02

18          natural detoxification of contaminated sediments; is that                   11:17:04

19          correct?   11:17:08

20          MR. CARRIGAN:  Same objection.   11:17:09

21          THE WITNESS:  Yes.    11:17:10

22          BY MR. RICHARDSON:    11:17:11

23          Q.    And NASSCO was to take into account restricting                   11:17:11

24          access to the site?    11:17:14

25          MR. CARRIGAN:  Same objection.  So to be clear,                   11:17:16



1 counsel is asking for your independent recollection of 11:17:19  
2 whether that direction was given by staff, not what it 11:17:22  
3 says in this document. Do you -- are you following me? 11:17:24  
4 THE WITNESS: Yeah. 11:17:29  
5 MR. CARRIGAN: Okay. 11:17:29  
6 THE WITNESS: Yeah. Our directions to NASSCO 11:17:33  
7 were through this document. That's my -- my frame -- 11:17:36  
8 framework. 11:17:40  
9 BY MR. RICHARDSON: 11:17:40  
10 Q. Very good. So the answer to the last question 11:17:42  
11 was yes? 11:17:43  
12 A. I'm sorry. 11:17:44  
13 MR. RICHARDSON: Can you re-read the question? 11:17:45  
14 (The record was read.) 11:17:55  
15 THE WITNESS: I don't recall that that was a 11:17:58  
16 consideration that we directed. 11:18:01  
17 BY MR. RICHARDSON: 11:18:02  
18 Q. Okay. To refresh your recollection, Mr. Barker, 11:18:03  
19 I'd refer you to page 29, paragraph 4B. 11:18:05  
20 A. Four B. 11:18:08  
21 Q. After you've had an opportunity to glance at 11:18:11  
22 that, let me know. 11:18:13  
23 A. Okay. Yes. 11:18:15  
24 Q. So it's correct that NASSCO was asked to look 11:18:18  
25 at -- on the no action alternative the restricting access 11:18:20

1 to the site; correct? 11:18:24

2 MR. CARRIGAN: Document speaks for itself. 11:18:25

3 THE WITNESS: Yeah. The -- the -- yeah. We 11:18:27

4 indicated that would be a consideration, yes. 11:18:28

5 BY MR. RICHARDSON: 11:18:31

6 Q. As well as monitoring of water, sediments, and 11:18:32

7 organisms? 11:18:34

8 MR. CARRIGAN: Same objection. 11:18:36

9 THE WITNESS: Yes. 11:18:46

10 BY MR. RICHARDSON: 11:18:46

11 Q. Okay, Mr. Barker. I refer you to page A2, 11:18:49

12 Appendix A, page 2, of Exhibit 1206. 11:18:55

13 Do you see this chart? It's appendix -- 11:19:00

14 Appendix A, page A2. 11:19:04

15 A. Yeah. 11:19:10

16 Q. Are you familiar with this chart? 11:19:10

17 A. I -- I recall it, yes. 11:19:12

18 Q. So among the other directives of the Regional 11:19:15

19 Board staff, NASSCO was to look at what background 11:19:17

20 conditions were; correct? 11:19:21

21 MR. CARRIGAN: Document speaks for itself. 11:19:23

22 THE WITNESS: Yes. 11:19:26

23 BY MR. RICHARDSON: 11:19:27

24 Q. NASSCO was directed to look at the protection of 11:19:28

25 aquatic life? 11:19:30

1 A. Yes. 11:19:31  
2 Q. The protection of wildlife? 11:19:32  
3 A. Yes. 11:19:34  
4 Q. And the protection of human health? 11:19:35  
5 A. Yes. 11:19:37  
6 Q. And before NASSCO began the study that was 11:19:49  
7 directed under Exhibit 1206 and 1205, they submitted a 11:19:52  
8 work plan to the Regional Board staff; correct? 11:19:56  
9 A. I believe -- believe so, yes, responsive to this 11:20:04  
10 letter. 11:20:08  
11 Q. Thank you. 11:20:09  
12 And the board reviewed and approved the work 11:20:10  
13 plan; correct? 11:20:13  
14 A. I -- 11:20:15  
15 MR. CARRIGAN: Vague. 11:20:16  
16 THE WITNESS: Eventually. We may have made some 11:20:19  
17 modifications and negotiated those with NASSCO, and then 11:20:24  
18 approved the investigation to proceed. 11:20:27  
19 BY MR. RICHARDSON: 11:20:30  
20 Q. Do you recall what the issues were that the 11:20:32  
21 parties discussed concerning the work plan? 11:20:35  
22 A. Cost of the work plan; the number of sediment 11:20:38  
23 quality stations; where the full triad would be conducted 11:20:42  
24 versus those stations where only sediment chemistry would 11:20:51  
25 be collected; what stations would bioaccumulation effects 11:20:55

1 be measured at; where would the reference stations be 11:21:03  
2 located; what were the list of analytes that would be 11:21:07  
3 analyzed at the various stations; what kind of testing 11:21:12  
4 organisms, and probably other technical factors. 11:21:17  
5 Q. Do you recall any issues concerning the nature 11:21:24  
6 of the tests to be performed for aquatic toxicity? 11:21:26  
7 A. Yes. I think the type of -- of test organisms 11:21:34  
8 that were -- would be used was -- came up. 11:21:42  
9 Q. Do you recall the nature of those discussions? 11:21:46  
10 A. No. Just, you know, what -- what were the end 11:21:50  
11 points being measured in the various toxicity tests and 11:21:55  
12 coming to agreement on what -- what that would be. 11:22:00  
13 Q. And eventually, Regional Board staff dictated 11:22:05  
14 which tests would be conducted at the site; correct? 11:22:08  
15 MR. CARRIGAN: Asked and answered. 11:22:13  
16 THE WITNESS: Yes. 11:22:13  
17 BY MR. RICHARDSON: 11:22:14  
18 Q. Were you involved with review of the work plan? 11:22:16  
19 A. Yes. 11:22:19  
20 Q. Do you recall if anyone else was reviewed -- 11:22:20  
21 involved in the review of the work plan? 11:22:23  
22 A. Let's see. Tom Alo. 11:22:25  
23 Q. Was there anyone else? 11:22:31  
24 A. A person that no longer -- has not worked there 11:22:38  
25 for many years. I cannot recall her name. Jimmy Smith 11:22:42

1 had a -- kind of a minor role. 11:23:03

2 Q. Do you recall what that minor role was? 11:23:11

3 A. I think he had just come to work for the board. 11:23:14

4 The -- we were putting -- this document, the June 1st 11:23:20

5 guidelines for assessment and remediation, together. And 11:23:26

6 he reviewed some of the text that was there and may have 11:23:31

7 made some edits to it. 11:23:38

8 Q. Was there anyone else involved with the review 11:23:42

9 of the work plan? 11:23:44

10 A. Steve Bay at SCCWRP. 11:23:49

11 Q. Anyone else? 11:23:55

12 A. I think that's it. 11:24:06

13 Q. And that work plan had a field sampling plan 11:24:07

14 with it; correct? 11:24:10

15 A. Yes. I just recalled another person that was 11:24:14

16 involved, Deborah Jane, kind of, for a very short period 11:24:20

17 of time. 11:24:28

18 Q. And who is Deborah Jane? 11:24:29

19 A. She's an environmental scientist with the 11:24:30

20 San Diego Water Board. 11:24:33

21 Q. Anyone else? 11:24:37

22 A. That's it. 11:24:38

23 Q. Mr. Barker, I was asking you, didn't the work 11:24:42

24 plan include a field sampling plan with it? 11:24:44

25 A. The work plan that NASSCO submitted? I -- I 11:24:47

1 assume that it did, yes. 11:24:50

2 Q. As well as a quality assurance project plan, 11:24:53

3 QAPP? 11:24:56

4 A. Without the document in front of me, I -- I 11:24:58

5 assume that it was there, yes. 11:25:02

6 Q. The final work plan that was approved, were you 11:25:09

7 satisfied with the final work plan that was approved? 11:25:13

8 A. I was -- I was satisfied we had negotiated a 11:25:20

9 satisfactory work plan. I had some misgivings that, as I 11:25:27

10 recall, one of our issues was the number of triad 11:25:33

11 stations. We were trying to improve our decision making 11:25:39

12 process by requiring more triad stations at sediment 11:25:46

13 quality sites than we had done in the past. 11:25:51

14 So I had some misgivings that perhaps we needed 11:25:59

15 to require more than what we were actually doing. But my 11:26:02

16 misgivings weren't enough to make me say, stop the 11:26:05

17 process or increase the stations. 11:26:10

18 Q. Okay. What is a triad analysis? 11:26:13

19 A. It's -- it's a -- in sediment quality, it -- it 11:26:17

20 refers to measurements of multiple lines of evidence in 11:26:22

21 terms of sediment chemistry, sediment toxicity, and the 11:26:33

22 health of benthic community at a sampling station. 11:26:38

23 Q. And how many stations were considered for the 11:26:43

24 triad analysis at the Shipyard Sediment Site? 11:26:45

25 A. I think we ended up with something like 29 or 11:26:49

1 30 stations, as I recall. 11:26:52

2 Q. In all the other sediment matters that you've 11:27:01  
3 been involved in throughout San Diego Bay, have you ever 11:27:04  
4 collected 30 or more triad analysis? 11:27:08

5 A. No. Excuse me. No. 11:27:11

6 Q. Even after this study in 2001/2002? 11:27:18

7 A. We haven't really initiated any new studies -- 11:27:26  
8 oh, excuse me. I'm just thinking at the Naval Base 11:27:32  
9 San Diego, yeah, that was also on the order of 11:27:39  
10 30 stations. So -- and your question was, have we 11:27:42  
11 required more? 11:27:48

12 Q. More than 30 stations? 11:27:50

13 A. Yeah. I'm not aware of that, no. 11:27:51

14 Q. And in the sediment investigation, how many 11:27:56  
15 total samples -- stations were sampled? 11:28:00

16 A. I recall something like 65 stations, I believe. 11:28:08  
17 Some of them had the full triad. I think it was around 11:28:14  
18 30 of those. And the other 35 were sediment chemistry. 11:28:17  
19 And the benthic community profile index, as I recall. 11:28:27

20 Q. So fair to say approximately half of the 11:28:35  
21 stations sampled had the full triad analysis? 11:28:38

22 A. Yes. 11:28:42

23 Q. And that sediment investigation that was 11:28:44  
24 conducted included chemical analyses of the sediment; 11:28:46  
25 correct? 11:28:50

1	A.	Yes.	11:28:51
2	Q.	Pore water?	11:28:51
3	A.	Yes.	11:28:52
4	Q.	Tissues of indigenous organisms?	11:28:55
5	A.	Yes.	11:28:59
6	Q.	Mineral -- mineralogical microprobe analysis?	11:28:59
7	A.	I don't recall that.	11:29:05
8	Q.	You don't recall yes or no?	11:29:10
9	A.	Correct.	11:29:11
10	Q.	Sediment toxicity tests?	11:29:12
11	A.	Yes.	11:29:14
12	Q.	Amphipod survival tests?	11:29:17
13	A.	Yes.	11:29:20
14	Q.	Echinoderm fertilization tests?	11:29:20
15	A.	Yes.	11:29:25
16	Q.	Bivalve larva development tests?	11:29:25
17	A.	Yes.	11:29:27
18	Q.	Sediment profile imaging?	11:29:28
19	A.	Yes.	11:29:29
20	Q.	Benthic macro-invertebrate community analysis?	11:29:30
21	A.	Yes.	11:29:34
22	Q.	Chemical bioaccumulation tests?	11:29:35
23	A.	Yes.	11:29:37
24	Q.	Histopathological examination of fish?	11:29:39
25	A.	Yes.	11:29:41



1 Q. Analysis of fish bile for Ph breakdowns? 11:29:43  
2 A. Yes. 11:29:47  
3 Q. So this was a pretty thorough study, isn't it? 11:29:49  
4 A. Yes, very thorough. 11:29:53  
5 Q. Do you recall that the report included quality 11:29:58  
6 assurance reports for chemistry data? 11:30:01  
7 A. Yes. 11:30:04  
8 Q. For toxicity tests? 11:30:05  
9 A. Yes. 11:30:07  
10 Q. For bioaccumulation tests? 11:30:07  
11 A. Yes. 11:30:09  
12 Q. For benthic macro invertebrate identification? 11:30:10  
13 A. Yes. 11:30:14  
14 Q. Were you involved with the review of these 11:30:14  
15 quality assurance reports? 11:30:17  
16 A. In a surficial way. 11:30:18  
17 Q. So you were the supervisor of the folks that did 11:30:20  
18 do the review? 11:30:22  
19 A. Yes. 11:30:24  
20 Q. Did you or your staff have any concerns with the 11:30:24  
21 quality assurance reports? 11:30:26  
22 A. No, we did not. 11:30:27  
23 Q. So they were approved by the board; right? 11:30:30  
24 MR. CARRIGAN: Objection. The board staff? 11:30:33  
25 MR. RICHARDSON: Board staff. Thank you. 11:30:36

1 BY MR. RICHARDSON: 11:30:38

2 Q. Did the board staff approve of the quality 11:30:38

3 assurance reports? 11:30:40

4 A. Yes. 11:30:42

5 Q. The CAO calls the investigation detailed. It 11:30:45

6 sounds like you agree; correct? 11:30:48

7 A. Yes. 11:30:50

8 Q. Would you also agree that this sediment 11:30:55

9 investigation conducted at the shipyards is the most 11:30:58

10 extensive sediment investigation ever conducted for a 11:31:01

11 site in San Diego Bay? 11:31:04

12 A. Yes. 11:31:05

13 Q. Anywhere else in the state that you're aware of 11:31:08

14 where a more extensive study was conducted for a site? 11:31:10

15 A. I am not aware of it. 11:31:14

16 Q. Was the public involved in the development of 11:31:16

17 the study? 11:31:18

18 A. Very much so, yes. 11:31:20

19 Q. So the board staff sought -- considered 11:31:27

20 substantial public input from a variety of stakeholders; 11:31:29

21 correct? 11:31:36

22 MR. CARRIGAN: Vague. 11:31:37

23 THE WITNESS: Yes. 11:31:37

24 BY MR. RICHARDSON: 11:31:38

25 Q. This is referred to in Exhibit 2, Master 11:31:38

1 Exhibit 2, but for convenience I'll give you a courtesy 11:31:42  
2 copy here. We're looking at Section 13. 11:31:46  
3 A. Okay. 11:31:51  
4 Q. Table 13-1 of the DTR. 11:31:50  
5 A. All right. 11:31:56  
6 Q. So if I understand correctly, there were several 11:31:57  
7 public workshops held that are summarized here on 11:31:59  
8 Table 13-1; correct? 11:32:03  
9 A. Yes. 11:32:05  
10 Q. As well as four stakeholder meetings? 11:32:06  
11 A. Yes. 11:32:09  
12 Q. And then two technical meetings prior to the 11:32:12  
13 release of the shipyard report in October of 2003. 11:32:14  
14 A. Yes. 11:32:18  
15 Q. Were you involved in any of these meetings? 11:32:20  
16 A. I was probably -- I -- I attended most if not 11:32:22  
17 all of them. 11:32:31  
18 Q. Do you feel that through this process the 11:32:38  
19 concerns of the public were considered and responded to? 11:32:41  
20 MS. TRACY: Objection. Calls for speculation. 11:32:46  
21 THE WITNESS: Yes, I do. 11:32:52  
22 BY MR. RICHARDSON: 11:32:55  
23 Q. It was an open process? 11:32:56  
24 A. Very much -- very transparent and open, as I 11:32:57  
25 recall. 11:33:00

1 Q. And do you recall that the process, do you 11:33:01  
2 believe, in your opinion, benefit from that public input? 11:33:02  
3 A. Yes, I believe it did. 11:33:06  
4 Q. Are you familiar with the testing that was 11:33:11  
5 conducted in 2009 at the shipyards? 11:33:16  
6 A. The testing done in 2009, are -- are you 11:33:25  
7 referring to the sediment triad sampling that was done in 11:33:35  
8 2009 at, I think it was, six stations? Is that the frame 11:33:41  
9 point for your question? 11:33:46  
10 Q. That's -- that's exactly what I'm considering. 11:33:48  
11 And it's sometimes referred to as the "now testing." 11:33:49  
12 A. Yes. I'm familiar with that. 11:33:53  
13 Q. That data is summarized, I believe, in 11:33:55  
14 Table 32-22 of -- of the DTR. And I'll give you courtesy 11:33:57  
15 copies. And understand that we have just a few moments 11:34:05  
16 left of -- of videotape, so this might be a good 11:34:08  
17 opportunity to break. You have an opportunity to look at 11:34:10  
18 that. We'll come back and I'll ask you a few questions 11:34:14  
19 about that. 11:34:16  
20 THE VIDEOGRAPHER: This ends Videotape No. 1 in 11:34:17  
21 the deposition of David Barker. The time off the record 11:34:19  
22 is 11:34 a.m. 11:34:22  
23 (A recess was taken.) 11:34:34  
24 THE VIDEOGRAPHER: This begins Videotape No. 2 11:55:37  
25 in the deposition of David Barker. The time on the 11:55:39

1 record is 11:55 a.m. 11:55:41

2 BY MR. RICHARDSON: 11:55:43

3 Q. Mr. Barker, before the break we were discussing 11:55:45

4 the 2009 supplemental testing, often referred to as the 11:55:47

5 now testing. 11:55:53

6 A. Yes. 11:55:54

7 Q. Do you recall that? 11:55:55

8 A. Yes. 11:55:55

9 Q. What was the purpose of this testing? 11:55:57

10 A. As I recall, it was testing that was conducted 11:56:01

11 to verify two sediment quality thresholds, called the 11:56:05

12 60 percent LAET threshold and the SSMEQ threshold. 11:56:19

13 Q. So the purpose was to predict whether the 11:56:27

14 sediment quality impacts to the benthic communities can 11:56:31

15 be predicted by those two metrics? 11:56:34

16 A. Yes. 11:56:36

17 Q. And those would be the LAET and the SSMEQ? 11:56:37

18 A. Yes. 11:56:41

19 Q. And SSMEQ stands for the site specific median 11:56:42

20 effects quotient; is that correct? 11:56:46

21 A. That's correct. 11:56:49

22 Q. And how many stations were sampled? 11:56:50

23 A. I believe there are, yes, six stations. 11:56:56

24 Q. Is there five stations there or six? 11:57:03

25 A. I see six, Table 32-20. 11:57:10

1 Q. 32-22? 11:57:16  
2 A. Or 32-20. Maybe it -- oh, excuse me. I was -- 11:57:19  
3 oh, five stations. Yeah. 11:57:32  
4 Q. So were five stations sampled in connection with 11:57:34  
5 the supplemental triad analysis? 11:57:38  
6 A. Yes. 11:57:39  
7 Q. Okay. And for all five of those stations, was 11:57:40  
8 the -- were the results predictive of the SSMEQ and LEAT? 11:57:43  
9 A. Yes. 11:57:50  
10 Q. So that sampling event successfully showed that 11:57:55  
11 the method developed by the Cleanup Team -- strike that. 11:57:59  
12 That was an awful question, wasn't it? 11:58:02  
13 Was it a success? 11:58:06  
14 A. I believe it accomplished its purpose, yes. 11:58:08  
15 Q. Okay. Is it your understanding that the 11:58:12  
16 supplemental triad analysis in 2009 generally followed 11:58:16  
17 the protocols for the 2001/2003 site sediment study? 11:58:20  
18 A. Yes, that's my understanding. 11:58:25  
19 Q. Do you have any concerns with the data quality 11:58:27  
20 for the 2009 sampling event? 11:58:29  
21 A. No, I do -- I do not. 11:58:31  
22 Q. On page 13-4 of the DTR, which I handed you 11:58:36  
23 previously as a courtesy copy. And Mr. Barker, you may 11:58:43  
24 want to keep out the sections of the DTR because I'll be 11:58:52  
25 referring back to those. Or you can refer to the master 11:58:55

1 exhibit if you like. 11:58:57

2 A. Okay. 11:58:58

3 Q. On page 13-4 of the DTR, it states that the data 11:58:59

4 reported in the shipyard report are found to be of 11:59:02

5 sufficient quality to be used to develop the San Diego 11:59:06

6 Water Board's findings and conclusions. 11:59:08

7 A. Yes. 11:59:11

8 Q. Do you agree with that statement? 11:59:12

9 A. Yes, I do. 11:59:13

10 Q. The CAO in finding 13 also indicates the 11:59:15

11 findings in the DTO -- DTR/CAO are primarily based on the 11:59:19

12 data and technical information in the shipyard report 11:59:24

13 unless otherwise indicated; is that correct? 11:59:27

14 A. Yes. 11:59:32

15 Q. So the shipyard report's the critical component 11:59:35

16 of -- of the board's development and issuance of the CAO 11:59:37

17 and DTR; correct? 11:59:43

18 MS. TRACY: Objection. Misstates testimony. 11:59:45

19 Lacks foundation. 11:59:47

20 MR. CARRIGAN: Vague. 11:59:48

21 THE WITNESS: Yes. 11:59:49

22 BY MR. RICHARDSON: 11:59:51

23 Q. I assume that's why the board was so involved in 11:59:51

24 its development; correct? 11:59:54

25 A. Correct. 11:59:56

1 Q. So without the data in the shipyard report, the 12:00:00  
2 CAO/DTR process would lack sufficient data to support 12:00:03  
3 most or all of the findings; correct? 12:00:06  
4 A. That is correct. 12:00:09  
5 Q. Did the Regional Board staff rely on data other 12:00:10  
6 than the 2001/2002 study and the 2009 study in evaluating 12:00:14  
7 the conditions at the NASSCO site? 12:00:18  
8 A. On other -- other data, not other site-specific 12:00:20  
9 data, no. 12:00:24  
10 Q. Okay. What other general categories of data did 12:00:25  
11 the Regional Board rely? 12:00:28  
12 A. I just would -- just technical references on how 12:00:32  
13 to evaluate sediment quality data, that type of thing, 12:00:39  
14 guidance issued by other agencies. 12:00:44  
15 Q. But no other sediment quality data at the 12:00:49  
16 shipyards? 12:00:52  
17 A. That's right. 12:00:53  
18 Q. Okay. Let's talk about bioavailability and 12:00:58  
19 bioaccumulation. 12:01:02  
20 To confirm, Mr. Barker, you've been designated 12:01:09  
21 as the Cleanup Team's person most knowledgeable regarding 12:01:11  
22 bioavailability and bioaccumulation; correct? 12:01:14  
23 A. That's correct. 12:01:17  
24 Q. Do you believe you are the Cleanup Team's person 12:01:18  
25 most knowledgeable regarding bioavailability and 12:01:20



1 bioaccumulation? 12:01:23

2 A. I've been -- I -- there are others equally as 12:01:25

3 knowledgeable. I am the person that was designated such. 12:01:27

4 Q. And you believe -- I'm sorry. You've been 12:01:30

5 designated as such and you believe that you are a person 12:01:32

6 most knowledgeable? 12:01:35

7 A. Yes. 12:01:36

8 Q. Is there anyone else on the Cleanup Team that 12:01:37

9 would be more knowledgeable on bioavailability and 12:01:39

10 bioaccumulation than yourself? 12:01:42

11 A. No. No, I don't think more knowledgeable, no. 12:01:48

12 Q. Okay. Can you define for me what you consider 12:01:51

13 to be "bioavailability"? 12:01:57

14 A. Well, in terms of -- of sediment contamination, 12:02:00

15 it would be the -- the portion of the sediment 12:02:08

16 contaminants that are not bound to the sediment that 12:02:14

17 could adversely affect biological organisms. 12:02:18

18 Q. So the bioavailable component of a pollutant is 12:02:24

19 that that would -- could reach some receptor? 12:02:28

20 A. That's correct. 12:02:31

21 Q. So why do we care if a chemical is bioavailable 12:02:35

22 to some benthic organism, for example? 12:02:39

23 A. Because that's the pathway that could cause 12:02:44

24 adverse effects in a biological receptor. If the 12:02:52

25 chemical is tightly bound to the sediment, then it would 12:02:57

1 not effect the biological receptor. Except I guess there 12:03:01  
2 is a caveat to that. Some biological receptors eat the 12:03:10  
3 sediment. So whether it's -- even though it's bound to 12:03:14  
4 the sediment particle. 12:03:17  
5 Q. Okay. So if it's not bioavailable, the organism 12:03:19  
6 does not uptake that chemical? 12:03:27  
7 A. Yes. 12:03:30  
8 Q. But if it is bioavailable, then it may cause 12:03:32  
9 harm? 12:03:35  
10 A. That's correct. 12:03:35  
11 Q. And isn't it true that even if the -- the 12:03:37  
12 organism uptakes the sediment where a pollutant is 12:03:39  
13 adhered to it, it still does not mean the pollutant will 12:03:44  
14 be bioavailable to that organism; correct? 12:03:47  
15 A. That's true. 12:03:50  
16 Q. A professor once explained this to me as -- as 12:03:53  
17 an aquarium. So imagine an aquarium, and you have fish 12:03:55  
18 swimming around, and you have copper wire. And you drop 12:04:00  
19 the copper wire in the tank, and the fish swim around it 12:04:03  
20 and have a great time. 12:04:08  
21 But if you take a different form of copper, such 12:04:10  
22 as copper sulfate, in the same amount and put it in a 12:04:12  
23 fish tank, it may have a harmful impact -- 12:04:15  
24 A. Right. 12:04:18  
25 Q. -- on the fish, may actually kill the fish even. 12:04:18

1 A. Right. 12:04:21

2 Q. And so by looking at bioavailability, we're 12:04:23

3 trying to find out whether it's the copper wire form or 12:04:25

4 the copper sulfate form; correct? 12:04:29

5 A. That's correct, yes. 12:04:31

6 Q. So the form of a substance is very important in 12:04:32

7 determining whether that chemical can cause impairment; 12:04:35

8 correct? 12:04:39

9 A. Yes. 12:04:39

10 Q. Can you define for me "bioaccumulation"? 12:04:41

11 A. It's -- I would have to refer to the definition 12:04:46

12 in the -- in the DTR. But it refers to the concentration 12:04:50

13 of a contaminant in a biological organism as a result of 12:04:56

14 its uptake of the contaminant. 12:05:01

15 Q. So would you agree it's sort of the degree to 12:05:03

16 which these chemicals enter the -- the aquatic food web? 12:05:05

17 A. Yes. 12:05:11

18 Q. So why do we care if a chemical is 12:05:12

19 bioaccumulating in an organism? 12:05:15

20 A. Well, the chemical could bioaccumulate to levels 12:05:19

21 that would be harmful to the organism or harmful to other 12:05:22

22 receptors that might consume the organism. 12:05:27

23 Q. Great. Thank you. 12:05:36

24 And last definition for you. 12:05:37

25 A. Okay. 12:05:41

1 Q. What is "biomagnification"? 12:05:41

2 A. I would have to refer to -- there is a technical 12:05:44

3 definition to that. And it's in the DTR, I believe. I'd 12:05:47

4 have to refer there to give you that definition. 12:05:50

5 Q. Okay. Thank you. I'm sorry. 12:05:53

6 So in layman's terms, would you agree that 12:05:55

7 biomagnification is a process where a chemical becomes 12:05:58

8 more and more concentrated as it moves up through the 12:06:02

9 food chain? 12:06:05

10 A. Yes, I would, yes. 12:06:06

11 Q. And it's true that bioaccumulation in one 12:06:08

12 organism does -- does not necessarily mean that there 12:06:11

13 will be biomagnification in species that consume that 12:06:14

14 organism? 12:06:17

15 A. That's right, yes. 12:06:18

16 Q. So you would agree that just because a 12:06:21

17 contaminant bioaccumulates, for example, in a benthic 12:06:22

18 organism doesn't necessarily mean that that contaminant 12:06:26

19 would also biomagnify up the food chain; is that correct? 12:06:30

20 A. That's correct. 12:06:34

21 Q. So do you agree that the DTR used 12:06:35

22 bioaccumulation as one of the multiple lines of evidence 12:06:37

23 to evaluate potential risks to benthic organisms at the 12:06:40

24 site? 12:06:44

25 A. Yes. 12:06:45

1 Q. Do you agree that the Cleanup Team used a 12:06:46  
2 two-step process to identify indicator chemical 12:06:48  
3 pollutants that may be impacting aquatic life at the 12:06:52  
4 shipyard, where the first step was to identify chemicals 12:06:55  
5 representative of major classes of sediment pollutants, 12:06:58  
6 and the second step was to evaluate the relationship 12:07:02  
7 between those chemicals and biological responses; 12:07:04  
8 correct? 12:07:07  
9 A. Yes. 12:07:08  
10 Q. And that's in Section 20 of the DTR; correct? 12:07:08  
11 A. Yes, I believe so. 12:07:13  
12 Q. I can give you a courtesy copy here of 12:07:20  
13 Section 20. I'm looking at page 20-1. 12:07:22  
14 A. Okay. 12:07:30  
15 Q. So it's correct that there is a two-step 12:07:48  
16 process? 12:07:50  
17 A. Yes. 12:07:53  
18 Q. Okay. At Step 2, to evaluate the relationship 12:07:54  
19 between the indicator chemicals and the biological 12:07:59  
20 responses, do you agree that Table 20-1 summarizes the 12:08:02  
21 results of the three toxicity tests to benthic community 12:08:11  
22 assessments in the bioaccumulation testing? 12:08:16  
23 A. Yes. 12:08:19  
24 Q. So there were six tests in all; correct? 12:08:21  
25 A. You're -- I believe you're referring to the 12:08:36

1 Macoma testing that was done. 12:08:38

2 Q. Correct. So in Table 20-1 -- I'll refer you to 12:08:42

3 Table 20-1. My understanding is that the Cleanup Team 12:08:50

4 evaluated these six different tests to determine whether 12:08:54

5 there was a -- 12:08:57

6 A. Okay. 12:08:57

7 Q. -- statistical relationship between a pollutant 12:08:58

8 and the benthic conditions; correct? 12:09:01

9 A. Yes, that's correct. 12:09:05

10 Q. And we'll discuss this more later. But do you 12:09:10

11 recall that the Cleanup Team established certain primary 12:09:12

12 CoCs for this site? 12:09:16

13 A. Yes. 12:09:21

14 Q. And there were five of those; correct? 12:09:21

15 A. Yes. 12:09:23

16 Q. And those were copper, mercury, HPAHs, PCBs, and 12:09:25

17 TBT; correct? 12:09:30

18 A. Yes. 12:09:32

19 Q. And the secondary CoCs were arsenic, cadmium, 12:09:33

20 lead, and zinc; correct? 12:09:37

21 A. Yes. 12:09:39

22 Q. So if I'm reading Table 20-1 correctly, the only 12:09:42

23 test that indicated any statistical relationship between 12:09:48

24 the presence of a primary CoC at the shipyard site and a 12:09:52

25 biological response to that chemical is the 12:09:56

1 bioaccumulation test; is that correct? 12:09:59  
2 MR. CARRIGAN: Document speaks for itself. 12:10:03  
3 Excuse me. 12:10:04  
4 BY MR. RICHARDSON: 12:10:16  
5 Q. Would it be easier to take these individually? 12:10:16  
6 A. Yeah, it would. 12:10:19  
7 Q. Let's look at copper. 12:10:20  
8 A. Yeah. 12:10:21  
9 Q. For copper, you would agree? 12:10:22  
10 A. Yes. 12:10:23  
11 Q. And mercury? 12:10:24  
12 MR. CARRIGAN: Same objection. 12:10:27  
13 THE WITNESS: Yes. 12:10:28  
14 BY MR. RICHARDSON: 12:10:28  
15 Q. And HPAHs? 12:10:31  
16 MR. CARRIGAN: Same. 12:10:34  
17 THE WITNESS: Yes. 12:10:36  
18 BY MR. RICHARDSON: 12:10:37  
19 Q. PCB? 12:10:38  
20 MR. CARRIGAN: Same objection. 12:10:40  
21 THE WITNESS: Yes. 12:10:41  
22 BY MR. RICHARDSON: 12:10:41  
23 Q. And TBT? 12:10:42  
24 MR. CARRIGAN: Same objection. 12:10:45  
25 THE WITNESS: Let's see. Yes. 12:10:46

1 BY MR. RICHARDSON: 12:10:48

2 Q. So based on the data represented in Table 20-1, 12:10:51

3 can one conclude that there is no statistical 12:10:58

4 relationship between the primary CoCs and any impairment 12:11:01

5 to benthic organisms at the shipyard site? 12:11:05

6 MR. CARRIGAN: Document speaks for itself. 12:11:09

7 THE WITNESS: I would -- I would say no, that 12:11:36

8 you would need this in addition to the Sediment Quality 12:11:39

9 Triad analysis results to make that determination. 12:11:43

10 BY MR. RICHARDSON: 12:11:58

11 Q. And the Sediment Quality Triad results involve 12:11:59

12 three different tests; correct? Sediment chemistry, 12:12:02

13 toxicity, and benthic community analysis? 12:12:07

14 A. Right. Yes. 12:12:10

15 Q. So if I understand correctly, Mr. Barker, this 12:12:10

16 table has all of that information other than the sediment 12:12:12

17 chemistry leg; is that correct? 12:12:17

18 A. That's correct, yeah. 12:12:18

19 Q. So my question really, Mr. Barker, is, based on 12:12:20

20 these direct lines of evidence of toxicity and the 12:12:22

21 benthic community analyses -- 12:12:24

22 A. Yes. 12:12:26

23 Q. -- wouldn't you agree that there is no 12:12:27

24 statistical relationship between any of the primary CoCs 12:12:28

25 and any impact to the benthic communities? 12:12:33



1 MR. CARRIGAN: Document speaks for itself. 12:12:35  
2 THE WITNESS: That there is no statistical 12:12:43  
3 relationship between -- could you say that again? 12:12:46  
4 BY MR. RICHARDSON: 12:12:49  
5 Q. Those five primary CoCs that we looked at. 12:12:50  
6 A. Oh, okay. 12:12:53  
7 Q. And impairment to benthic organisms at the site. 12:12:54  
8 A. Impairment to benthic organisms. 12:12:59  
9 Q. Right. 12:13:01  
10 A. Yes. 12:13:04  
11 Q. You would agree with me? 12:13:04  
12 A. Yes. 12:13:05  
13 Q. And isn't it possible for a substance to 12:13:06  
14 bioaccumulate in a laboratory test but not be associated 12:13:08  
15 with actual adverse effects to the benthic community? 12:13:12  
16 A. That is possible, yes. 12:13:15  
17 Q. Is it also true that metals do not biomagnify? 12:13:16  
18 A. I don't know that, no. 12:13:23  
19 Q. Are you aware of any CoCs at the site that 12:13:27  
20 biomagnify? 12:13:30  
21 A. PCBs, possibly, comes to mind. There could be 12:13:44  
22 others. But I'm not aware of them. 12:13:50  
23 Q. Okay. The bioaccumulation test involved the 12:13:52  
24 *Macoma nasuta* species; is that correct? 12:14:01  
25 A. Yes. 12:14:04

1 Q. And that's some type of clam? 12:14:05  
2 A. Yes. 12:14:06  
3 Q. Do you know whether any aquatic dependent 12:14:08  
4 wildlife consume the *Macoma nasuta* at the shipyard site? 12:14:12  
5 A. No. 12:14:16  
6 Q. That was a bad question, wasn't it? 12:14:19  
7 Do they consume *Macoma nasuta*? 12:14:22  
8 A. I'm -- I'm not aware of it, that they do, no. 12:14:25  
9 Q. Okay. So is it true that the bioaccumulation 12:14:27  
10 test involving the *Macoma* was used to estimate the 12:14:41  
11 potential for chemical exposure to aquatic dependent 12:14:44  
12 wildlife but didn't actually measure the exposure; 12:14:48  
13 correct? 12:14:50  
14 A. That's right, yes. 12:14:51  
15 Q. And is it correct that the *Macoma* tissue were 12:15:00  
16 used as surrogates for the prey species in your aquatic 12:15:02  
17 dependent wildlife analysis? 12:15:08  
18 A. Repeat that again, please. 12:15:10  
19 Q. I'm trying to understand the -- the reason that 12:15:12  
20 *Macoma* tissue was used for bioaccumulation. 12:15:14  
21 A. Okay. 12:15:17  
22 Q. And my understanding is that may be in part due 12:15:18  
23 to the aquatic dependent wildlife analysis. 12:15:21  
24 A. Yes. 12:15:24  
25 Q. And so if I understand correctly, the *Macoma* 12:15:24

1 tissue was used to -- as a surrogate for other prey 12:15:27  
2 species -- 12:15:32  
3 A. Right. 12:15:34  
4 Q. -- in determining whether there would be 12:15:34  
5 potential impairment to aquatic dependent wildlife. 12:15:36  
6 A. Yes. 12:15:39  
7 Q. Do you know whether any recreational or 12:15:48  
8 subsistence anglers ever consume Macoma nasuta? 12:15:52  
9 A. No. 12:16:02  
10 Q. No, they don't consume them or no, you don't 12:16:03  
11 know? 12:16:05  
12 A. No, I don't know. 12:16:05  
13 Q. Okay. Have you ever seen Macoma nasuta on a 12:16:06  
14 menu anywhere? 12:16:12  
15 A. No. 12:16:13  
16 Q. Okay. Would you agree that the -- that the 12:16:14  
17 laboratory bioaccumulation tests of Macoma nasuta -- 12:16:24  
18 nasuta are not necessarily representative of actual 12:16:29  
19 exposure conditions of either aquatic dependent wildlife 12:16:33  
20 or anglers at the shipyard? 12:16:38  
21 MR. CARRIGAN: Compound. 12:16:43  
22 THE WITNESS: Yes. Right. 12:16:51  
23 BY MR. RICHARDSON: 12:16:52  
24 Q. Do you agree that the DTR assumes that 12:16:56  
25 contaminants are bioavailable based on the 12:16:58

1 accumulation -- sorry. Strike that. 12:17:01

2 Based on the conclusion that they have 12:17:04

3 bioaccumulation potential? 12:17:06

4 MR. CARRIGAN: Document speaks for itself. 12:17:08

5 THE WITNESS: Yes. 12:17:11

6 BY MR. RICHARDSON: 12:17:11

7 Q. Was there any independent bioavailability 12:17:14

8 analysis of the CoCs done to confirm that they actually 12:17:17

9 are, in fact, bioavailable to benthic organisms at the 12:17:20

10 shipyard site? 12:17:25

11 MR. CARRIGAN: Lacks foundation. 12:17:29

12 THE WITNESS: There was some sampling done of 12:17:33

13 fish tissue, I recall, where contaminants were measured. 12:17:37

14 BY MR. RICHARDSON: 12:17:42

15 Q. What about in the -- in the benthic organisms? 12:17:42

16 A. In the benthic organisms, I -- I don't recall 12:17:47

17 that. 12:17:56

18 Q. Okay. When toxicity tests are performed of the 12:17:58

19 sediment at the shipyard site and the toxicity results 12:18:01

20 are high, that means that the contaminants are 12:18:07

21 bioavailable; right? 12:18:10

22 A. Right. And -- yes, and they could be 12:18:14

23 bioaccumulating in the organism, causing that toxic 12:18:15

24 effect, yes. 12:18:19

25 Q. Great. Thank you. 12:18:20

1           So the flipside would be true also, right, that 12:18:21  
2 if the -- if there is no toxicity at the shipyards, then 12:18:23  
3 those pollutants would not be in concentrations 12:18:26  
4 significant enough to harm the benthic organisms; 12:18:31  
5 correct? 12:18:34  
6           A. Yes, that's right. 12:18:34  
7           Q. Do you know which CoCs at the site have a 12:18:44  
8 bioaccumulation potential? And I'd refer you to 12:18:48  
9 Section 19 of the DTR, actually. 12:18:53  
10          A. Okay. 12:18:56  
11          Q. And I've got it -- I think I have copies of 12:18:57  
12 that, as well. 12:18:59  
13          A. Thank you. Okay. 12:19:09  
14          Q. So isn't it -- isn't it true that the Cleanup 12:19:18  
15 Team concluded that copper, lead, mercury, and zinc have 12:19:21  
16 a bioaccumulation potential at the shipyard site? 12:19:25  
17          A. Yes, based on the results of the Macoma testing, 12:19:28  
18 yes. 12:19:34  
19          Q. Great. Thank you. 12:19:35  
20                Do you agree that each of those metals would 12:19:36  
21 bond strongly to sulfide present in the sediment? 12:19:38  
22          A. They could, yes. 12:19:46  
23          Q. So would you agree that if the concentration of 12:19:47  
24 sulfides in the sediment is greater than that of the 12:19:50  
25 metals, the concentration of metals that are actually 12:19:53

1 bioavailable would be too low to produce toxic effects in 12:19:56  
2 the benthic organisms? 12:19:59  
3 MR. CARRIGAN: Incomplete hypothetical. 12:20:01  
4 THE WITNESS: It could be a -- a mitigation 12:20:02  
5 of -- of those effects with the sulfide levels binding 12:20:04  
6 the metals, yes. 12:20:09  
7 BY MR. RICHARDSON: 12:20:10  
8 Q. And to determine that, you would look at the 12:20:12  
9 actual benthic community analysis; correct? 12:20:14  
10 A. Yes. 12:20:18  
11 Q. So if the benthic community analysis is showing 12:20:20  
12 that the benthic community is not impaired, then those 12:20:23  
13 metals may not be bioavailable; correct? 12:20:27  
14 MR. CARRIGAN: Incomplete hypothetical. 12:20:30  
15 THE WITNESS: May not be, yes. 12:20:32  
16 BY MR. RICHARDSON: 12:20:33  
17 Q. If the benthic community is not impaired, could 12:20:42  
18 it mean that the metals are not at sufficient 12:20:48  
19 concentrations that are bioavailable to be at a level 12:20:50  
20 that could be toxic? 12:20:54  
21 MR. CARRIGAN: Same objection. 12:20:56  
22 THE WITNESS: Yeah. If -- yes, that's correct, 12:20:59  
23 yes. 12:21:02  
24 BY MR. RICHARDSON: 12:21:03  
25 Q. Are you aware of any tests that have been 12:21:05

1 performed at the shipyard to determine whether the 12:21:07  
2 concentration of sulfide is greater than the 12:21:10  
3 concentration of metals? 12:21:12  
4 A. I believe sulfide tests were -- were run. I 12:21:15  
5 don't recall the results of them. But I believe that it 12:21:19  
6 was one of the parameters. 12:21:23  
7 Q. Looking at Table 18-8 on page 18-16 of this 12:21:29  
8 document. I'll have a few questions, but I'll give you a 12:21:34  
9 moment to refresh your recollection. 12:21:38  
10 A. Okay. 12:21:39  
11 Q. So it's Table 18-8 on page 18-16. 12:21:41  
12 A. Okay. Okay. 12:21:45  
13 Q. Do you recall this table? 12:21:57  
14 A. Yes, uh-huh. 12:21:59  
15 Q. And this is a table of the results of toxicity 12:22:01  
16 tests conducted at the shipyard site; correct? 12:22:07  
17 A. We're on Table 18 -- 12:22:11  
18 Q. 18-8? 12:22:12  
19 A. Excuse me. Hang on a second. 12:22:13  
20 Q. On page 18-16. 12:22:16  
21 A. Yes. 12:22:21  
22 Q. Okay. So looking at the toxicity test results 12:22:22  
23 for the NASSCO stations, would you agree that these 12:22:25  
24 results suggest that contaminants in the sediment are not 12:22:28  
25 bioavailable? 12:22:31

1 MR. CARRIGAN: Document speaks for itself. 12:22:33  
2 THE WITNESS: Let's see. For the amphipod 12:23:04  
3 survival and urchin fertilization, I would agree with 12:23:07  
4 that, yes, that -- that the -- yeah, the toxicity results 12:23:13  
5 are not indicating bioavailability. 12:23:21  
6 BY MR. RICHARDSON: 12:23:29  
7 Q. Can I refer you to Table 18-12. 12:23:29  
8 A. Okay. 12:23:32  
9 Q. That's on page 18-23. 12:23:35  
10 A. Eighteen -- 18-12 on 23. Okay. 12:23:39  
11 Q. Are you familiar with this table? 12:24:00  
12 A. Somewhat, yes. 12:24:05  
13 Q. Okay. And this is the benthic community 12:24:06  
14 results -- sorry. 12:24:09  
15 This summarizes the benthic community results 12:24:10  
16 for the Shipyard Sediment Site; correct? 12:24:13  
17 A. Okay, yes. 12:24:14  
18 Q. Looking at the benthic community results for the 12:24:18  
19 NASSCO stations in this table, do these suggest that 12:24:20  
20 contaminants in sediment are not bioavailable? 12:24:25  
21 MR. CARRIGAN: Document speaks for itself. 12:24:28  
22 THE WITNESS: Yes. 12:25:01  
23 BY MR. RICHARDSON: 12:25:04  
24 Q. I'm going to hand you this. Could we mark this 12:25:05  
25 as Exhibit 1207. 12:25:08



1 (Exhibit 1207 was marked.) 12:25:09  
2 BY MR. RICHARDSON: 12:25:18  
3 Q. I'm sorry. Do you have two copies there? 12:25:31  
4 A. Yes. 12:25:34  
5 Q. Okay. Thank you. 12:25:34  
6 I'll give you a moment to -- to review the 12:25:39  
7 document. 12:25:41  
8 A. Okay. 12:25:42  
9 Q. I've handed you had a -- an article from 12:25:53  
10 "Ecotoxicology" from 1996 entitled, "Presentation and 12:25:56  
11 Interpretation of Sediment Quality Triad Data." 12:26:00  
12 Are you familiar with this article? 12:26:03  
13 A. I may have seen it. The author of it is a name 12:26:06  
14 I recognize. But I don't recall the article 12:26:12  
15 specifically, no. 12:26:15  
16 Q. And so Peter Chapman is one of the folks that 12:26:18  
17 developed the Sediment Quality Triad approach; correct? 12:26:22  
18 A. Okay. Yes. 12:26:26  
19 Q. I want to refer you to page 329. 12:26:29  
20 A. Okay. 12:26:32  
21 Q. The middle row of this table indicates that if 12:26:39  
22 you get a positive result for contamination, but there's 12:26:47  
23 no toxicity or benthic community effects different than 12:26:51  
24 reference conditions, the conclusion is the contaminants 12:26:56  
25 are not bioavailable. Do you see that? 12:27:01

1 MR. CARRIGAN: This line. 12:27:09  
2 MR. RICHARDSON: The middle line there. 12:27:10  
3 THE WITNESS: Okay. 12:27:11  
4 BY MR. RICHARDSON: 12:27:11  
5 Q. So you see the plus and minus, minus? 12:27:11  
6 A. Oh, I see, yeah. I'm following you, yes. 12:27:14  
7 Q. Okay. So if you -- in other words, if you have 12:27:16  
8 high chemistry but no toxicity compared to reference and 12:27:18  
9 no benthic community alteration compared to reference, 12:27:21  
10 then Chapman, the author of the triad study, concludes 12:27:25  
11 that there is no bioavailability of contaminants. 12:27:28  
12 Do you see that? 12:27:32  
13 A. Yes. 12:27:33  
14 Q. And then he concludes that the possible actions 12:27:33  
15 and decisions are no actions are necessary. 12:27:35  
16 Do you see that? 12:27:37  
17 A. Yes. 12:27:38  
18 Q. Do you agree with this methodology? 12:27:39  
19 A. No, not totally, I don't. From -- you know, 12:27:45  
20 it's one -- one approach for determining whether cleanup 12:27:59  
21 is necessary to mitigate against biological effects. 12:28:04  
22 However, in California, there are other considerations 12:28:09  
23 that enter into a cleanup decision that would go beyond 12:28:14  
24 those -- those factors. 12:28:19  
25 Q. Okay. I -- I think I understand that. 12:28:20

1 But for purposes of the benthic community 12:28:22  
2 impairment, the aquatic life impairment, would you agree 12:28:26  
3 that no action is necessary? 12:28:30  
4 MR. CARRIGAN: Misstates the document. Asked 12:28:31  
5 and answered. Incomplete hypothetical. 12:28:33  
6 THE WITNESS: I -- I would agree that no actions 12:28:35  
7 necessary, it is a possible decision to make from that 12:28:47  
8 scenario but not the only decision. 12:28:55  
9 BY MR. RICHARDSON: 12:29:00  
10 Q. So what other decision could be made? 12:29:05  
11 MR. CARRIGAN: Vague. 12:29:11  
12 MR. RICHARDSON: That's a good -- I think you're 12:29:14  
13 right, actually. Let me re-ask that. 12:29:16  
14 BY MR. RICHARDSON: 12:29:18  
15 Q. If you have sediment contamination, but you have 12:29:18  
16 no toxicity and no observed benthic impairment, what 12:29:20  
17 other actions are appropriate other than no action? 12:29:24  
18 MR. CARRIGAN: Incomplete hypothetical. Calls 12:29:27  
19 for a legal conclusion. You can answer. 12:29:29  
20 THE WITNESS: Oh, okay. The decision could 12:29:34  
21 still be made to require remedial action, yeah. 12:29:43  
22 BY MR. RICHARDSON: 12:29:49  
23 Q. But that decision would not be based on aquatic 12:29:50  
24 life impairment; correct? 12:29:52  
25 MR. CARRIGAN: Same objection. 12:29:54

1 THE WITNESS: Yeah. It might be based on, 12:29:57  
2 maybe, an accumulative effect by looking at that site in 12:29:59  
3 conjunction with other sites that might be in the area, 12:30:08  
4 maybe. 12:30:12  
5 I guess an example of that would be an 12:30:24  
6 accumulation of pollutants that's in the sediment that 12:30:27  
7 may use some of the assimilative capacity of the 12:30:38  
8 receiving water to absorb that pollutant load. But when 12:30:46  
9 you look at that load in conjunction with other loads, 12:30:49  
10 that there -- from that viewpoint it might dictate a 12:30:53  
11 different type of remedial action. 12:30:56  
12 BY MR. RICHARDSON: 12:30:59  
13 Q. Okay. We'll come back to that. 12:31:02  
14 A. Okay. 12:31:04  
15 Q. You said you're an expert on the state sediment 12:31:04  
16 quality objectives; correct? 12:31:07  
17 A. Yes. 12:31:09  
18 Q. Here's a courtesy copy. This is also 12:31:12  
19 Master Exhibit 6 which is commonly referred to as the 12:31:15  
20 Phase 1 SQOs. 12:31:18  
21 A. Okay. 12:31:20  
22 Q. I'll refer you to page 27. 12:31:21  
23 A. Okay. 12:31:24  
24 Q. LOE Category Combination No. 49. Do you see 12:31:29  
25 that? 12:31:33

1	A.	Forty-nine, yeah.	12:31:33
2	Q.	Okay. And that category involves high sediment	12:31:37
3		chemistry; correct?	12:31:42
4	A.	Right.	12:31:43
5	Q.	Reference conditions for the benthic community;	12:31:43
6		correct?	12:31:46
7	A.	Okay.	12:31:47
8	Q.	Nontoxic conditions for sediment; correct?	12:31:47
9	A.	Right.	12:31:50
10	Q.	The conclusion of the State Sediment Quality	12:31:52
11		Objectives would be that station would be likely	12:31:54
12		unimpacted; correct?	12:31:57
13	A.	Right, yes.	12:31:58
14	Q.	Would you agree that's consistent with the	12:31:59
15		methodology of Chapman on page 329?	12:32:01
16	A.	Yes, I would, yes.	12:32:05
17	Q.	So both the creator of the triad approach that	12:32:13
18		was used in this study as well as the State Board in its	12:32:17
19		Phase 1 Sediment Quality Objectives conclude that there's	12:32:22
20		no aquatic impairment where there's high chemistry but	12:32:25
21		reference conditions for toxicity and benthic community;	12:32:31
22		correct?	12:32:34
23	A.	Yes.	12:32:35
24		MR. CARRIGAN: Incomplete hypothetical.	12:32:35
25			

1 BY MR. RICHARDSON: 12:32:37

2 Q. So based on the table we were just looking at of 12:32:48

3 the site-specific conditions for toxicity and for benthic 12:32:51

4 community and the correlation of the CoCs to benthic 12:32:58

5 effects, wouldn't you agree that the bioavailability of 12:33:06

6 metals in sediment at the shipyard site is lower than 12:33:11

7 predicted by standard sediment quality values? 12:33:14

8 A. Which table are you referring to? 12:33:20

9 Q. I'm referring to Table 20-1. 12:33:22

10 A. And I'm sorry. The question again was? 12:33:51

11 MR. RICHARDSON: Can you read it back? 12:33:54

12 (The record was read.) 12:34:17

13 MR. CARRIGAN: I'm going to object. Vague and 12:34:20

14 incomplete hypothetical. But you can answer. 12:34:23

15 THE WITNESS: What is meant by lower -- or 12:34:29

16 standard sediment quality values? 12:34:30

17 BY MR. RICHARDSON: 12:34:33

18 Q. Are you familiar with effects range low and 12:34:34

19 effects range medium values? 12:34:38

20 A. Yes, okay. 12:34:40

21 Q. And don't those values predict whether you would 12:34:41

22 see toxicity in benthic community impairment? 12:34:44

23 A. Yes, they could be yes. 12:34:49

24 Q. In the case as is the case at NASSCO site where 12:34:51

25 there is high chemistry, but there are no toxic effect 12:34:54

1 and no benthic community impairment. 12:34:58  
2 A. Yes. 12:35:00  
3 Q. Wouldn't you agree that the bioavailability of 12:35:00  
4 metals in the sediment at NASSCO is less than thresholds 12:35:04  
5 such as the ERLs and ERMs? 12:35:08  
6 MR. CARRIGAN: Misstates facts in evidence. 12:35:11  
7 Misstates the document. Incomplete hypothetical. Go 12:35:13  
8 ahead. 12:35:18  
9 THE WITNESS: So the -- the scenario is at the 12:35:20  
10 NASSCO site where the metals are higher than the ERLs and 12:35:21  
11 ERMs, you are -- you are asking if the site-specific 12:35:26  
12 information indicates that that is not bioavailable to 12:35:32  
13 the -- in the same degree as what the ERM and ERL -- yes, 12:35:37  
14 I would. 12:35:42  
15 BY MR. RICHARDSON: 12:35:43  
16 Q. That's correct? 12:35:43  
17 A. Yes. 12:35:44  
18 Q. Okay. Thank you. We're actually at a pretty 12:35:44  
19 good breaking point if you want to do lunch now. 12:35:47  
20 A. Sure. 12:35:49  
21 MR. CARRIGAN: Yeah. 12:35:50  
22 MR. RICHARDSON: Okay. Let's go off the record. 12:35:51  
23 THE VIDEOGRAPHER: Off the record. Time is 12:35:53  
24 12:35 p.m. 12:35:55  
25 (A recess was taken.) 12:36:01

1 THE VIDEOGRAPHER: Back on the record. Time is 01:44:46  
2 1:44 p.m. 01:44:49  
3 BY MR. RICHARDSON: 01:44:50  
4 Q. Mr. Barker, let's move on to technological 01:44:52  
5 feasibility analysis conducted by the Cleanup Team. 01:44:55  
6 First, as we discussed, you've been designated the 01:45:02  
7 Cleanup Team's person most knowledgeable regarding the 01:45:05  
8 technological feasibility analysis; correct? 01:45:08  
9 A. Correct. 01:45:10  
10 Q. Do you believe you are the cleaning -- Cleanup 01:45:11  
11 Team's person with the most knowledge regarding 01:45:12  
12 technological feasibility? 01:45:15  
13 A. Yes. 01:45:17  
14 Q. Why is that? 01:45:17  
15 A. Based on my work experience on cleanups of this 01:45:19  
16 type at other sites. 01:45:26  
17 Q. How many remedial plans have you been involved 01:45:29  
18 with for sediment? 01:45:31  
19 A. For sediment, it would be the remedial plans for 01:45:35  
20 the sites I mentioned earlier this morning. I think 01:45:52  
21 there were four of them. Yeah. 01:45:56  
22 Q. Did you draft any of those remedial plans? 01:46:01  
23 A. I -- they were prepared by the responsible 01:46:04  
24 parties. So I just reviewed them. 01:46:08  
25 Q. Was dredging involved in any of those remedial 01:46:14



1 plans? 01:46:18

2 A. Yes. 01:46:19

3 Q. How many of those sites involved industrial 01:46:23

4 activities? 01:46:26

5 MR. CARRIGAN: Vague. 01:46:28

6 THE WITNESS: All of them. 01:46:35

7 BY MR. RICHARDSON: 01:46:36

8 Q. All of them. Was capping involved in any of 01:46:36

9 those remedial plans? 01:46:40

10 A. Yes. 01:46:42

11 Q. Was natural attenuation involved in any of the 01:46:42

12 remedial plans? 01:46:45

13 A. Yes. 01:46:47

14 MR. CARRIGAN: Vague. 01:46:54

15 THE WITNESS: Yes. I believe it was, yes. 01:46:57

16 BY MR. RICHARDSON: 01:47:01

17 Q. You say "it was." Was there a site in 01:47:01

18 particular that you're referring to? 01:47:03

19 A. One that comes to mind was Shelter Island 01:47:05

20 Boatyard. And another consideration that all of the -- 01:47:14

21 none of these sites required cleanup to background 01:47:23

22 conditions. So there was residual pollutants left behind 01:47:27

23 after the cleanups, where natural attenuation was 01:47:33

24 considered -- I guess they would be a consideration as to 01:47:41

25 whether it was protective to leave that fraction in the 01:47:49

1 environment, yes. 01:47:55

2 Q. Leave that fraction to naturally attenuate? 01:47:56

3 A. Yes. 01:47:59

4 Q. Mr. Barker, when I ask you questions regarding 01:48:01

5 technological feasibility issues, I'm asking for a 01:48:03

6 response in your capacity as the Cleanup Team's person 01:48:06

7 most knowledgeable on the subject. Understood? 01:48:09

8 A. Yes. 01:48:11

9 Q. You were involved with the DTR's technological 01:48:14

10 feasibility analysis; correct? 01:48:17

11 A. Correct, yes. 01:48:19

12 Q. Were any other members of the Cleanup Team 01:48:21

13 involved in that section? 01:48:23

14 A. Yes. Craig Carlisle. 01:48:24

15 Q. Anyone else? 01:48:28

16 A. I think that was about it, Craig and myself. 01:48:32

17 Q. What was Mr. Carlisle's involvement? 01:48:35

18 A. He did the research into, I guess, three 01:48:37

19 different alternatives and helped craft that section of 01:48:45

20 the DTR. 01:48:50

21 Q. Aside from yourself and Mr. Carlisle, was anyone 01:48:54

22 else involved in the technological feasibility analysis? 01:48:57

23 A. There may have been some staff working for Craig 01:49:04

24 that might have assisted him on some aspects of it. But 01:49:09

25 I don't recall any particular names. 01:49:13

1 Q. Did you consult with any governmental agencies 01:49:17  
2 on the technological feasibility section? 01:49:20  
3 A. I don't -- I don't recall that, no. 01:49:23  
4 Q. Any other organizations? 01:49:25  
5 A. No. 01:49:28  
6 Q. Did you consult with any environmental groups? 01:49:29  
7 A. No. 01:49:32  
8 Q. Did anyone else participate? 01:49:34  
9 A. No, not that I'm aware of. 01:49:37  
10 Q. Are you familiar with State Water Resources 01:49:40  
11 Control Board Resolution 92-49? 01:49:44  
12 A. Yes. 01:49:47  
13 Q. Did you consider it in drafting Section 30 of 01:49:48  
14 the DTR? 01:49:50  
15 A. Yes. 01:49:53  
16 Q. Do you agree the alternative cleanup levels may 01:49:55  
17 be imposed where the Regional Board finds that it's 01:49:59  
18 technologically or economically infeasible to achieve 01:50:02  
19 background? 01:50:06  
20 MR. CARRIGAN: Calls for a legal conclusion. 01:50:07  
21 MR. BROWN: Objection. Overbroad. 01:50:10  
22 THE WITNESS: Yes, I do. 01:50:11  
23 BY MR. RICHARDSON: 01:50:14  
24 Q. Do you agree that the technological feasibility 01:50:15  
25 analysis is determined by assessing available 01:50:17

1 technologies which have shown to be implementable and 01:50:22  
2 effective under similar conditions in reducing pollutant 01:50:25  
3 contaminant levels in contaminated marine sediments? 01:50:30  
4 A. I'm sorry. Could you repeat that question? 01:50:35  
5 MR. RICHARDSON: Yeah. Can you read it back? 01:50:38  
6 (The record was read.) 01:50:57  
7 THE WITNESS: Yes, I do. 01:50:59  
8 BY MR. RICHARDSON: 01:51:00  
9 Q. I'm going to hand you as a courtesy copy 01:51:02  
10 Section 30 of the DTR, the sections I'll be referring to. 01:51:05  
11 We'll also be referring to Resolution 92-49. So if we 01:51:23  
12 can introduce this, I believe we're at Exhibit 1208. Is 01:51:27  
13 that right? 01:51:31  
14 (Exhibit 1208 was marked.) 01:51:32  
15 MR. RICHARDSON: I believe it's also 01:51:47  
16 Master Exhibit No. 5. 01:51:49  
17 BY MR. RICHARDSON: 01:51:58  
18 Q. Mr. Barker, can you explain the difference 01:51:59  
19 between "impossibility" and "infeasibility"? 01:52:01  
20 A. Impossibility and infeasibility? Impossible -- 01:52:06  
21 in my opinion, "impossible" means can't be done. 01:52:10  
22 "Infeasible" would mean could be done but may be 01:52:18  
23 economically prohibitive. 01:52:28  
24 Q. Okay. So an example that was given to me at one 01:52:30  
25 time was, it's possible to build a bridge to Hawaii. It 01:52:34

1 may not be feasible, but it's possible. Is that fair? 01:52:37

2 A. Yes. 01:52:40

3 Q. So we're going to be talking today about 01:52:42

4 infeasibility, the technological and economic 01:52:44

5 infeasibility. 01:52:48

6 Page 30-1 of the DTR states that "Mechanical 01:52:49

7 dredging, subaqueous capping, and natural recovery have 01:52:52

8 been successfully performed at numerous sites including 01:52:56

9 several in San Diego Bay, and many of these projects have 01:53:00

10 successfully overcome the same types of operations limits 01:53:02

11 present at the shipyard side." 01:53:06

12 Do you see that? 01:53:08

13 A. Yes. 01:53:11

14 Q. Which sites do you contend are similar to the 01:53:14

15 Shipyard Sediment Site? 01:53:17

16 A. Present at the -- in some respects, although 01:53:28

17 they're smaller facilities, the boatyards in 01:53:35

18 Commercial Basin are -- have some similarity in that 01:53:40

19 they -- there needs to be boat movements into and out of 01:53:44

20 those facilities. And so -- although, again, smaller 01:53:49

21 scale. There's the factor that in -- in the boatyard's 01:53:57

22 case that there was a need for them to continue 01:54:09

23 conducting their business while cleanup was ongoing. And 01:54:11

24 the shipyards are -- would be faced with that same 01:54:15

25 challenge. 01:54:18

1	I can't recall if the Paco Terminal's site	01:54:22
2	was -- which was a copper ore loading facility where	01:54:26
3	ships came in and out, if that was still in operation at	01:54:33
4	the time of the cleanup. It may have been.	01:54:37
5	Campbell Shipyard, I think, had actually -- was	01:54:45
6	in the process of terminating its shipyard operations.	01:54:50
7	And -- yeah.	01:54:56
8	Q. Okay. Well, maybe that is a good starting	01:54:58
9	point. Let's talk about the Campbell -- Campbell	01:55:01
10	Shipyard Site.	01:55:04
11	Am I correct that you were involved in the	01:55:10
12	details of the Campbell Shipyard Site?	01:55:12
13	A. Yes.	01:55:14
14	Q. This is Exhibit 1209.	01:55:24
15	(Exhibit 1209 was marked.)	01:55:26
16	BY MR. RICHARDSON:	01:55:31
17	Q. Mr. Barker, I'm handing you Cleanup and	01:55:32
18	Abatement Order No. 95-21, the Campbell Industries Marine	01:55:36
19	Construction and Design Company Shipyard Site.	01:55:42
20	Do you see that?	01:55:45
21	A. Yes.	01:55:46
22	Q. Are you familiar with this document?	01:55:46
23	A. Yes. I've seen it before, yes.	01:55:47
24	Q. And you were involved with the development of	01:55:50
25	this cleanup order; correct?	01:55:52



1 there. 01:57:38

2 Q. Was there any dredging conducted? 01:57:40

3 A. I think there was some dredging conducted to 01:57:44

4 concentrate the material for containment within the cap. 01:57:51

5 Some of -- there may have been some removal of dredge 01:57:56

6 material at that site. But I -- I can't recall exactly 01:57:59

7 right now. 01:58:02

8 Q. Do you recall any differences between the 01:58:05

9 Campbell site and the NASSCO site? 01:58:06

10 A. Well, the main difference there was a 01:58:10

11 containment cap was feasible because it was going from an 01:58:15

12 active shipyard to an inactive shipyard. There wouldn't 01:58:20

13 have been the need to consider ship movements in and -- 01:58:24

14 in and out of the facility. 01:58:27

15 Q. Was cleanup to background conditions evaluated? 01:58:37

16 A. Yes, it was. 01:58:40

17 Q. And was dredging to background levels performed? 01:58:41

18 A. No, it was not. 01:58:47

19 Q. Do you know how many cubic yards of contaminated 01:58:56

20 sediment were removed at the NASSCO -- I'm sorry -- 01:58:58

21 Campbell site? 01:59:00

22 A. No, not off the top of my head. I -- I do not. 01:59:05

23 Q. Mark this as Exhibit 1209? 01:59:21

24 MR. CARRIGAN: 1210. 01:59:30

25 MR. RICHARDSON: I'm sorry, 1210. 01:59:31



1 (Exhibit 1210 was marked.) 01:59:32  
2 MR. RICHARDSON: Did I give you a copy yet, 01:59:40  
3 Counsel? 01:59:43  
4 MR. CARRIGAN: No. 01:59:43  
5 MR. RICHARDSON: Is this it? 01:59:54  
6 MR. CARRIGAN: Thank you. 01:59:55  
7 MR. RICHARDSON: Sure. 01:59:55  
8 BY MR. RICHARDSON: 02:00:04  
9 Q. Have you seen this document before, Mr. Barker? 02:00:05  
10 A. Yes. 02:00:07  
11 Q. And what is this document? 02:00:09  
12 A. It's a second set of special interrogatories 02:00:13  
13 from NASSCO to the Regional Board. 02:00:21  
14 Q. And these interrogatories were verified by you; 02:00:29  
15 correct? 02:00:32  
16 A. That's correct. 02:00:32  
17 Q. We'll refer -- be referring throughout the 02:00:34  
18 afternoon to the table that's included in those 02:00:37  
19 interrogatory responses in the back. 02:00:40  
20 A. Okay. Let's see. 02:00:42  
21 Q. If I understand correctly, Mr. Barker, the 02:00:51  
22 Campbell Industries Shipyard Site listed in this table 02:00:53  
23 indicates 41,000 cubic yards of contaminated sediment 02:00:56  
24 were dredged. 02:01:01  
25 A. Let's see. Which -- let me see where you're 02:01:02

1 looking. 02:01:05

2 Q. Dredge volume is the third, let's see, fourth 02:01:06

3 from the bottom line. 02:01:08

4 A. Oh, yeah. It actually, if you look up above, it 02:01:12

5 says "capping, dredging." And so -- okay. So 41,000 was 02:01:17

6 dredged, 135,000 capped. 02:01:22

7 Q. And do I understand correctly the last column 02:01:28

8 indicates that 143,000 cubic yards are estimated to be 02:01:30

9 dredged from the Shipyard Sediment Site? Is that 02:01:36

10 correct? 02:01:40

11 A. Yes, yes. 02:01:40

12 Q. Was the capping successful at the Campbell site? 02:01:53

13 MR. CARRIGAN: Vague. 02:01:56

14 THE WITNESS: I believe that it was, yes. 02:01:59

15 BY MR. RICHARDSON: 02:02:01

16 Q. Was the dredging successful? 02:02:01

17 MR. CARRIGAN: Same objection. 02:02:03

18 THE WITNESS: To the best of my knowledge, yes. 02:02:08

19 MR. RICHARDSON: Will you mark this as 1211. 02:02:26

20 (Exhibit 1211 was marked.) 02:02:27

21 BY MR. RICHARDSON: 02:02:36

22 Q. Mr. Barker, I've just handed you the Cleanup and 02:02:39

23 Abatement Order No. 86-92 for the Teledyne Ryan 02:02:42

24 Aeronautical near Lindbergh Field site. Do you see that? 02:02:47

25 A. Yes. 02:02:52

1 Q. Are you familiar with this document? 02:02:53  
2 A. Yes. 02:02:54  
3 Q. If I recall your testimony correctly, you 02:02:54  
4 actually worked on the preparation of this order; 02:02:56  
5 correct? 02:02:59  
6 A. Yes. 02:02:59  
7 Q. Is this also referred to as Convair Lagoon? 02:03:02  
8 A. Yes, it is. 02:03:06  
9 Q. And you're familiar with the Convair Lagoon site 02:03:06  
10 in San Diego Bay? 02:03:09  
11 A. Yes. 02:03:10  
12 Q. What are the similarities between the -- the 02:03:11  
13 Convair Lagoon site and the NASSCO shipyard site? 02:03:14  
14 A. They are both in San Diego Bay. And they both 02:03:22  
15 have storm drains entering into the site. Yeah. 02:03:37  
16 Q. Do they have similar contaminants? 02:04:00  
17 A. One -- I think there was -- the Convair Lagoon 02:04:04  
18 site was mostly a PCB-oriented cleanup. There were some 02:04:09  
19 metals present, but that was not the focus of the effort 02:04:16  
20 there. 02:04:20  
21 Q. And PCBs are one of the primary CoCs at the 02:04:25  
22 NASSCO site; correct? 02:04:28  
23 A. Yes, that's correct. 02:04:30  
24 Q. I should have asked the same question regarding 02:04:31  
25 Campbell. Were the CoCs chemicals of concern similar at 02:04:33

1 Campbell as they are at the Shipyard Sediment Site? 02:04:38

2 A. Yes. I believe -- believe there are, yes. 02:04:41

3 Q. Okay. Going back to the Convair Lagoon site, 02:04:42

4 are there any differences between the Convair Lagoon site 02:04:44

5 and NASSCO site? 02:04:48

6 A. Well, the Convair Lagoon site, again, it was -- 02:04:51

7 it's -- are there any similarities. I would say no. 02:04:57

8 Q. I was asking about differences. 02:05:10

9 A. Oh, differences. Excuse me. Differences, yes. 02:05:12

10 Yeah. The Convair Lagoon site's in kind of an isolated 02:05:15

11 portion of the bay. It -- there is no ship traffic in 02:05:20

12 and out of it. 02:05:28

13 Q. Okay. 02:05:28

14 A. And, whereas, of course, the shipyard sites 02:05:31

15 are -- are working shipyards. 02:05:35

16 Q. Are there any other differences you can think 02:05:38

17 of? 02:05:40

18 A. Between the two, not -- the Convair Lagoon site, 02:05:41

19 well, it's kind of an enclosed embayment, whereas the 02:05:51

20 shipyard site is kind of open to the bay. The ship -- 02:05:58

21 the shipyard site has a tributary stream nearby that is a 02:06:10

22 potential source of contaminants, in addition to MS4 02:06:17

23 storm drains that discharge into the site. And 02:06:23

24 Convair Lagoon is -- does not have that complicating 02:06:27

25 factor. 02:06:33

1 Q. For the Convair Lagoon site, was cleanup to 02:06:40  
2 background conditions evaluated? 02:06:44  
3 A. Yes. 02:06:45  
4 Q. Was the site remediated to background levels? 02:06:45  
5 A. No, it was not. 02:06:48  
6 Q. What remedy was employed at Convair Lagoon? 02:06:51  
7 A. A -- a subaqueous containment cap, sand cap. 02:06:53  
8 Q. So sand was placed over the contamination. 02:07:07  
9 A. Yes. 02:07:10  
10 Q. Was any dredging conducted? 02:07:11  
11 A. I -- I think there was some dredging conducted 02:07:15  
12 there associated with constructing the cap. The -- I -- 02:07:20  
13 I don't believe any PCB sediment was dredged out of the 02:07:30  
14 bay. It was all contained within the cap. 02:07:34  
15 Q. Okay. Was the capping successful at 02:07:38  
16 Convair Lagoon? 02:07:49  
17 A. Yes and no. It -- it was successful in 02:07:51  
18 containing the waste it was designed to contain. 02:07:56  
19 However, it was constructed in front of a storm drain 02:08:02  
20 that continued to leech contaminants out and -- that are 02:08:07  
21 deposited on the surface of the cap, which brought into 02:08:14  
22 the question whether the cap was leaking or not. 02:08:18  
23 Q. So there was potentially a source control issue? 02:08:22  
24 A. Yes, yeah. 02:08:25  
25 Q. Okay. Let's talk about the Commercial Basin 02:08:30

1 sites. 02:08:32

2 I'm probably going to pronounce this 02:08:34

3 incorrectly. But is Eichenlaub marine, is that one of 02:08:36

4 the... 02:08:38

5 A. Eichenlaub. 02:08:40

6 Q. Eichenlaub. 02:08:41

7 A. Yes. 02:08:42

8 Q. Is that one of the Commercial Basin sites? 02:08:42

9 A. Yes. 02:08:44

10 Q. Okay. Are you familiar with that site? 02:08:45

11 A. Yes. 02:08:46

12 Q. We'll mark this as 1212. 02:08:47

13 (Exhibit 1212 was marked.) 02:08:56

14 BY MR. RICHARDSON: 02:09:03

15 Q. Mr. Barker, were you involved in the development 02:09:17

16 of this order? 02:09:19

17 A. Yes, I was. 02:09:20

18 Q. So you're familiar with it? 02:09:21

19 A. Yes. 02:09:22

20 Q. What are the similarities between the Eichenlaub 02:09:26

21 site and the shipyard site? 02:09:28

22 A. Very, very little similarities. The Eichenlaub 02:09:36

23 site was a very small boat maintenance facility. And so 02:09:40

24 maybe some minor amount of vessel movement in and out. 02:09:50

25 But the similarities basically end there. 02:09:54

1 Q. What about in terms of the sediment conditions 02:09:58  
2 at the Eichenlaub site? 02:10:00  
3 A. Oh. Maybe some -- some of the same type of 02:10:03  
4 sediment contaminants would have been present there as 02:10:08  
5 with the shipyards. 02:10:12  
6 Q. Which I guess is not surprising because a 02:10:13  
7 boatyard does boat repair, shipyard does ship repair. 02:10:16  
8 A. Yes. 02:10:20  
9 Q. And the differences between the two sites? 02:10:25  
10 A. Differences, just the scale of the operation is 02:10:28  
11 much larger at the shipyards, the scale and complexity of 02:10:30  
12 the operation. 02:10:37  
13 Q. Of the shipyard operation itself? 02:10:39  
14 A. Yes. 02:10:41  
15 Q. But in terms of the sediment conditions, are 02:10:42  
16 there any significant differences that you recall? 02:10:45  
17 A. I -- it's been many years since I've looked at 02:10:48  
18 it. I don't know how the contaminant levels, sediment 02:10:53  
19 quality conditions, compare to the levels found at the 02:10:58  
20 shipyard site. 02:11:02  
21 Q. Both are in the same water body? 02:11:05  
22 A. Yeah. 02:11:07  
23 Q. Similar receptors of interest? 02:11:09  
24 A. Yes, yeah. The analysis at Eichenlaub was 02:11:11  
25 conducted at a different point in time, kind of in the -- 02:11:20

1 what I call the infancy of the board's sediment 02:11:25  
2 investigation and cleanup efforts. So factors considered 02:11:30  
3 were not as complete as they are at the present time. 02:11:38  
4 Q. Do you recall what cleanup was required at the 02:11:47  
5 Eichenlaub site? 02:11:48  
6 A. As I recall, the -- I believe the staff was 02:11:52  
7 recommending some cleanup. But when the hearing was 02:11:57  
8 held, the board decided no cleanup needed to be done. 02:11:59  
9 Q. Okay. Is the Shelter Island Boatyard Site 02:12:09  
10 another one of the Commercial Basin sites? 02:12:14  
11 A. Yes, it is. 02:12:16  
12 Q. And you worked on that matter, as well? 02:12:16  
13 A. Yes. 02:12:18  
14 Q. And you were involved in development of the 02:12:19  
15 order for that site? 02:12:21  
16 A. Yes. 02:12:22  
17 Q. We'll mark this as 1213. 02:12:22  
18 (Exhibit 1213 was marked.) 02:12:24  
19 BY MR. RICHARDSON: 02:12:37  
20 Q. And we'll refer back to these later. 02:12:38  
21 A. Okay. 02:12:41  
22 Q. So you know and keep them handy. 02:12:41  
23 So this is the order for the Shelter Island 02:12:46  
24 Boatyard dated -- or, sorry -- Order No. 91-91; correct? 02:12:49  
25 A. Yes. 02:12:54



1 Q. And again, what are the similarities between 02:13:16  
2 Shelter Island Boatyard and the NASSCO site? 02:13:18

3 A. Similar types of contaminants. Both are 02:13:27  
4 involved in vessel construction, although Shelter Island 02:13:36  
5 Boatyard is at a much smaller scale. 02:13:41

6 Q. Similar pollutants? 02:13:47

7 A. Yes, similar types of pollutants, metals, 02:13:50  
8 tributyltin. 02:13:54

9 Q. And the same water body? 02:13:56

10 A. In the same water body, San Diego Bay. 02:13:59

11 Q. Same receptors of concern? 02:14:02

12 A. Yes. 02:14:03

13 Q. Any other similarities? 02:14:05

14 A. I can't think of it. 02:14:08

15 Q. Any other differences you can think of? 02:14:10

16 A. Well, back, again, to the size of the facility. 02:14:13  
17 It's a much smaller facility. The complexity of the 02:14:18  
18 operation is much less at Shelter Island Boatyard than 02:14:24  
19 NASSCO and BAE. 02:14:29

20 Q. Okay. Is it correct that no remediation was 02:14:32  
21 required at the Shelter Island Boatyard? 02:14:35

22 A. Let me review. I -- yes. I recall that that is 02:14:38  
23 correct, yeah. 02:14:43

24 Q. Are you familiar with the Bay City Marine Site? 02:14:49

25 A. Yes. 02:14:53

1	Q.	Is this one of the Commercial Basin --	02:14:54
2	A.	Yes.	02:14:56
3	Q.	-- sites? And were you involved in the	02:14:56
4		development of the order for that site?	02:14:58
5	A.	Yes.	02:14:59
6	Q.	Can we mark this as 1214?	02:15:05
7		(Exhibit 1214 was marked.)	02:15:07
8		THE WITNESS: Let's see. Okay.	02:15:11
9		BY MR. RICHARDSON:	02:15:23
10	Q.	So what are the similarities between the Bay	02:15:23
11		City Marine Site and NASSCO?	02:15:25
12	A.	Both -- the similarities, both are involved in	02:15:30
13		vessel construction and maintenance. The types of	02:15:34
14		pollutants would be similar, metals, tributyltin.	02:15:42
15	Q.	Same water body?	02:16:00
16	A.	Excuse me. Yes. Both discharge into the same	02:16:01
17		water body.	02:16:04
18	Q.	Same receptors of concern?	02:16:05
19	A.	Same receptors of concern.	02:16:07
20	Q.	Same beneficial uses?	02:16:10
21	A.	Yes.	02:16:12
22	Q.	And the differences between Bay City Marine and	02:16:16
23		NASSCO?	02:16:20
24	A.	Again, back to the scale of the operation.	02:16:20
25		Bay City Marine is, again, a boatyard, smaller facility,	02:16:22

1 less complex. 02:16:29

2 Q. And what remedy was employed at Bay City Marine? 02:16:31

3 A. I believe -- let's see, the board required 02:16:36

4 cleanup there. And dredging was conducted. 02:16:41

5 Q. And what was the volume of dredged materials 02:16:47

6 from Bay City Marine? 02:16:49

7 A. Approximately, 17,000 cubic yards. 02:16:55

8 Q. Was cleanup to background evaluated? 02:17:02

9 A. Yes, it was. 02:17:04

10 Q. Was remediation to background required? 02:17:05

11 A. No. 02:17:08

12 Q. Are you familiar with the Driscoll Boatyard 02:17:13

13 Site? 02:17:15

14 A. Yes. 02:17:21

15 Q. Is this also one of the Commercial Basin sites? 02:17:22

16 A. Yes, it is. 02:17:24

17 Q. And you were involved in the development of the 02:17:25

18 order? 02:17:27

19 A. Yes, I was. 02:17:28

20 Q. Will you mark this as 1215? 02:17:34

21 (Exhibit 1215 was marked.) 02:17:36

22 BY MR. RICHARDSON: 02:17:37

23 Q. And how is the Driscoll site similar to the 02:17:45

24 NASSCO site? 02:17:48

25 A. Both are vessel repair and maintenance 02:17:49

1 facilities. Both discharge into San Diego Bay where the 02:17:55  
2 water body has similar beneficial uses. The receptors of 02:18:03  
3 concern would have been the same at both facilities. 02:18:08  
4 Q. And then any differences? 02:18:14  
5 A. Differences would have been the -- just the size 02:18:16  
6 and complexity of the facility at Driscoll Boats is much 02:18:23  
7 less than at NASSCO and BAE. 02:18:28  
8 Q. And what was the remedy selected at the Driscoll 02:18:35  
9 boatyard? 02:18:38  
10 A. Let's see here. Yes, dredging was conducted 02:18:39  
11 there. 02:18:43  
12 Q. And approximately, how much dredging occurred? 02:18:46  
13 A. 700 cubic yards. 02:18:53  
14 Q. And was cleanup to background evaluated? 02:18:56  
15 A. Yes. 02:18:59  
16 Q. Was cleanup to background required? 02:19:00  
17 A. No. 02:19:02  
18 Q. Are you familiar with the Kettenburg Marine 02:19:07  
19 Site? 02:19:10  
20 A. Yes. 02:19:10  
21 Q. Were you involved in the development of the 02:19:11  
22 order for the Kettenburg Marine Site? 02:19:13  
23 A. Yes. 02:19:16  
24 Q. Will you mark this as 1216? 02:19:18  
25 (Exhibit 1216 was marked.) 02:19:25

1 BY MR. RICHARDSON: 02:19:26

2 Q. You're seeing a pattern develop here; right? 02:19:28

3 Sorry. 02:19:31

4 Do you -- 02:19:33

5 MR. CARRIGAN: Do you want us to stipulate to 02:19:34

6 the facts that are set forth on our chart that we made? 02:19:35

7 MR. RICHARDSON: No. Unfortunately we have to 02:19:38

8 come back to some of this. So I just have some follow-up 02:19:40

9 questions. 02:19:43

10 MR. CARRIGAN: Oh. 02:19:45

11 BY MR. RICHARDSON: 02:19:45

12 Q. For the Kettenburg Marine Site, what are the 02:19:46

13 similarities with the NASSCO site? 02:19:48

14 A. Okay. They are both vessel construction and 02:19:50

15 repair facilities. The types of waste generated would 02:19:55

16 have been similar, similar types of pollutants, metals, 02:20:05

17 tributyltin. Both facilities discharge into 02:20:12

18 San Diego Bay which has similar beneficial uses present 02:20:20

19 at both sites. And the receptors of concern would have 02:20:28

20 been the same. 02:20:31

21 Q. And differences between the two sites? 02:20:35

22 A. The difference would be Kettenburg Marine was a 02:20:38

23 smaller, much smaller, less complex facility than NASSCO. 02:20:41

24 Q. What -- what was the remedy selected at the 02:20:45

25 Kettenburg Marine Site? 02:20:49

1 A. Let's see. Dredging. 02:20:52

2 Q. What volume of dredged materials were removed? 02:21:00

3 A. Approximately, 8,800 cubic yards. 02:21:04

4 Q. Are you familiar with the Koehler Kraft Site? 02:21:11

5 A. Yes. 02:21:15

6 Q. Is that also one of the Commercial Basin sites? 02:21:17

7 A. Yes, it is. 02:21:19

8 Q. Can you mark this as 1217? Sorry, 1218. 02:21:29

9 THE COURT REPORTER: 1217. 02:21:31

10 MR. RICHARDSON: 1217. 02:21:31

11 (Exhibit 1217 was marked.) 02:21:31

12 BY MR. RICHARDSON: 02:21:32

13 Q. Were you involved in development of this order? 02:21:34

14 A. Yes, I was. 02:21:37

15 Q. And what are the similarities between the 02:21:38

16 Koehler site and the NASSCO site? 02:21:40

17 A. Both are vessel repair yards. I don't believe 02:21:44

18 vessels were constructed at Koehler Kraft. But they are 02:21:54

19 maintained there. The types of waste generated would 02:21:58

20 have been similar, metals, TBT. Both discharged to the 02:22:08

21 same water body, San Diego Bay; have similar beneficial 02:22:17

22 uses present at both sites. And the receptors of concern 02:22:22

23 would have been the same at both sites. 02:22:27

24 Q. And any differences between the two sites? 02:22:31

25 A. The Koehler Kraft Site was much, much smaller in 02:22:34

1 scale and complexity. 02:22:38  
2 Q. And what was the remedy selected for the 02:22:42  
3 Koehler Kraft Site? 02:22:45  
4 A. Let me see if I -- yes. A minor amount of 02:22:46  
5 dredging. 02:22:55  
6 Q. That minor amount involved how many cubic yards? 02:22:57  
7 A. 300 cubic yards. 02:23:00  
8 Q. Was cleanup evaluated to background? 02:23:01  
9 A. Yes, it was. 02:23:04  
10 Q. Was the site required to cleanup the site to 02:23:05  
11 background? 02:23:08  
12 A. No, it was not. 02:23:08  
13 Q. Mark this as 1219 -- 1218. Sorry. 02:23:23  
14 MR. CARRIGAN: Mauricio and Sons? 02:23:32  
15 MR. RICHARDSON: Mauricio and Sons. 02:23:36  
16 MR. CARRIGAN: Good guess. 02:23:37  
17 (Exhibit 1218 was marked.) 02:23:37  
18 BY MR. RICHARDSON: 02:23:37  
19 Q. Were you familiar with this? 02:23:38  
20 A. Yes, I am. 02:23:39  
21 Q. Were you involved in the development of this 02:23:39  
22 order? 02:23:41  
23 A. Yes, I was. 02:23:41  
24 Q. What are the similars between the Mauricio and 02:23:42  
25 Sons site and the NASSCO site? Do you want to say same 02:23:46

1 as the other sites? 02:23:51

2 A. Yes, I do. 02:23:52

3 Q. Same as the other Commercial Basin sites? 02:23:52

4 A. Yes, it was the same. 02:23:53

5 Q. And what was the remedy selected at Mauricio and 02:23:55

6 Sons? 02:23:58

7 A. Dredging was selected as a remedy. 02:24:01

8 Q. And what was the volume of dredge material? 02:24:06

9 A. Approximately eight -- eight -- 1,845 cubic 02:24:12

10 yards. 02:24:19

11 Q. And was cleanup to background evaluated? 02:24:20

12 A. Yes, it was. 02:24:22

13 Q. Was the site required to remediate to background 02:24:23

14 conditions? 02:24:27

15 A. No, it was not. 02:24:27

16 Q. Would you agree that the difference between this 02:24:32

17 site and NASSCO is the same as the differences between 02:24:33

18 NASSCO and the Koehler site? 02:24:37

19 A. Yes, I would. This -- this site is a little bit 02:24:38

20 bigger than the Koehler Kraft site. 02:24:41

21 Q. Are you familiar with the Paco Terminal site? 02:24:49

22 A. Yes, I am. 02:25:04

23 Q. We'll mark this as 1219. 02:25:05

24 (Exhibit 1219 was marked.) 02:25:06

25



1 BY MR. RICHARDSON: 02:25:07

2 Q. Were you involved in the development of the 02:25:08

3 order for the Paco Terminal site? 02:25:09

4 A. Yes, I was. 02:25:11

5 Q. And what were the similarities with the 02:25:17

6 Paco Terminal site and the NASSCO site? 02:25:19

7 A. Similarities, well, it was a -- the Paco site, 02:25:29

8 ship movements were involved at that facility. It was 02:25:36

9 basically copper ore. Shipments were brought in and 02:25:39

10 deposited at the site and -- which is not what NASSCO and 02:25:53

11 BAE are engaged in. 02:26:02

12 But both -- they're both located on 02:26:05

13 San Diego Bay. Both had discharges to San Diego Bay. 02:26:06

14 Beneficial uses were similar. Although, the pollutant 02:26:15

15 copper is similar at both sites, the form of copper at -- 02:26:21

16 at Paco, it was like, I recall, a chalcopyrite copper 02:26:30

17 ore, which was very water insoluble ore. But the copper 02:26:39

18 levels in the sediment were much, much higher at 02:26:49

19 Paco Terminals than -- than at the shipyard sites. So 02:26:52

20 that was the difference. 02:26:58

21 Q. So same receptors? 02:27:02

22 A. Same receptors of concern, yes. 02:27:05

23 Q. Fairly close in proximity geographically? 02:27:07

24 A. Yeah, same -- same water body, maybe, what, a 02:27:12

25 couple of miles separation, maybe less. 02:27:18

1 Q. And what remedy was selected for Paco Terminals? 02:27:23  
2 A. Dredging. 02:27:32  
3 Q. And what volume of dredge materials were removed 02:27:32  
4 from Paco Terminals? 02:27:35  
5 A. 20,926 cubic yards, approximately. 02:27:37  
6 Q. Was cleanup to background evaluated for 02:27:47  
7 Paco Terminals? 02:27:51  
8 A. Yes, it was. 02:27:52  
9 Q. Was cleanup to background required at 02:27:53  
10 Paco Terminals? 02:27:55  
11 A. No. 02:27:56  
12 Q. Mr. Barker, we've looked at a handful of sites 02:27:59  
13 here that you've been involved with in San Diego Bay. 02:28:01  
14 And none of them appear to have required cleanup to 02:28:04  
15 background conditions. Would you agree? 02:28:07  
16 A. Yes. 02:28:08  
17 Q. Are you familiar with any site in San Diego Bay 02:28:10  
18 that's required cleanup to background conditions? 02:28:12  
19 A. No, I'm not. 02:28:23  
20 Q. Would you agree that that is because dredging to 02:28:25  
21 background conditions is not technologically feasible? 02:28:27  
22 MR. CARRIGAN: Calls for speculation. 02:28:31  
23 MR. BROWN: Overbroad. 02:28:32  
24 THE WITNESS: I -- I would care -- in the past, 02:28:33  
25 I -- we weighted not so much technologically infeasible 02:28:39

1 as economically infeasible. 02:28:44

2 BY MR. RICHARDSON: 02:28:48

3 Q. Okay. We'll -- we'll follow up on that shortly. 02:28:49

4 A. Okay. 02:28:53

5 Q. What factors do you generally take into 02:28:54

6 consideration when evaluating the technological 02:28:56

7 feasibility of a dredging project? 02:28:59

8 A. Available technology, is the -- is it feasible 02:29:08

9 to conduct dredging at the site. 02:29:15

10 Q. So is it important to look at the -- the nature 02:29:26

11 of the material that's to be dredged? 02:29:28

12 A. Yes. That would be a consideration, asking kind 02:29:33

13 of a broad based question, is address -- is the cure 02:29:42

14 worse than the disease? Is the dredging going to create 02:29:49

15 more havoc in the water body than the contaminants are 02:29:53

16 presenting, would be a consideration. 02:29:57

17 Q. What -- what are the types of havoc that could 02:30:01

18 be experienced if there's dredging of the wrong type of 02:30:03

19 materials? 02:30:07

20 A. Well, contaminants could spread to previously 02:30:07

21 uncontaminated areas. Any time dredging is conducted, 02:30:12

22 it's basically destroying the marine habitat in the area 02:30:19

23 where the dredging is being conducted. 02:30:24

24 Q. Is it likely that -- that the greater the amount 02:30:31

25 of fines are present, the greater likelihood there is 02:30:33

1 that you'll have that spreading effect? 02:30:36

2 MR. CARRIGAN: Incomplete hypothetical. You can 02:30:38

3 answer. 02:30:43

4 THE WITNESS: Yes. Yes, that -- that would be a 02:30:43

5 possibility, yes. 02:30:47

6 BY MR. RICHARDSON: 02:30:47

7 Q. Do you think it's -- I'm sorry. Go ahead. 02:30:49

8 A. I was just going to say if care was not -- 02:30:51

9 proper care was not implemented in the conduct of the 02:30:58

10 dredging operation and the right kind of BMPs installed 02:31:01

11 to limit that. 02:31:06

12 Q. Even with BMPs and with great care, you would 02:31:11

13 agree that dredging does destroy whatever benthic 02:31:17

14 community is in the dredge -- 02:31:21

15 A. Yes. 02:31:22

16 Q. -- for a remedial footprint; correct? 02:31:22

17 A. Yes, I would. 02:31:25

18 Q. I'm going to list a series of site conditions, 02:31:26

19 and I'd just like you to explain how each of these 02:31:29

20 conditions may affect the technological feasibility of 02:31:32

21 dredging. Okay? 02:31:36

22 A. Okay. 02:31:38

23 Q. The volume of sediments required to be dredged. 02:31:40

24 A. I mean, it's possible to dredge any volume of 02:31:54

25 sediments. But there's considerations with the -- the 02:31:56

1 mound of material that needs to be disposed of. And 02:32:03  
2 that -- I don't know if I'm complicating your question. 02:32:10  
3 But I'm just saying yeah, the volume could feed into 02:32:13  
4 dredging, dredging and removal not being a feasible 02:32:19  
5 alternative. 02:32:26  
6 Q. Okay. So something like our bridge to Hawaii. 02:32:26  
7 It's not -- it's not impossible to build a bridge, but 02:32:28  
8 it's not feasible to. 02:32:33  
9 A. Right. 02:32:34  
10 Q. So you want to take into account the total 02:32:34  
11 amount of sediment you have to manage -- 02:32:35  
12 A. Right. 02:32:37  
13 Q. -- in determining whether it's technologically 02:32:37  
14 feasible. 02:32:40  
15 A. Right, and whether there were alternatives that 02:32:41  
16 could be used in lieu of that. 02:32:43  
17 Q. Okay. For technological feasibility analysis, 02:32:44  
18 is it important to consider the current uses at a site? 02:32:48  
19 A. Yes, yes. 02:32:52  
20 Q. Future uses of the site? 02:32:57  
21 A. Now, we're talking about with respect to 02:32:59  
22 dredging? 02:33:00  
23 Q. Technological feasibility of dredging. 02:33:01  
24 A. Dredging. Okay. Current uses of the site, yes, 02:33:04  
25 that would be a consideration. I don't -- yeah. Future 02:33:07

1 uses could be a consideration. 02:33:19

2 Q. What about currents and tides? 02:33:21

3 A. Yes, could be consideration. 02:33:27

4 Q. How about depth to bedrock? 02:33:29

5 A. Possibly. I -- I don't have any direct personal 02:33:39

6 experience with that. So it's -- hypothetically 02:33:42

7 speaking, I guess it could be a consideration. 02:33:46

8 Q. How about the evenness of the bedrock 02:33:49

9 underlying the sediment? 02:33:51

10 A. It could be -- make dredging complicated. 02:33:58

11 Q. So in a technical feasibility analysis, you 02:34:01

12 would want to look at it to see if it was. 02:34:04

13 A. Yes. 02:34:07

14 Q. How about the sediment particle size 02:34:11

15 distribution? 02:34:15

16 A. I guess that could relate back to the fines and 02:34:16

17 the tendency of the material to be suspended, possibly 02:34:20

18 migrate to uncontaminated areas. So that would be a 02:34:25

19 consideration. 02:34:30

20 Q. How about sheer -- sheer strength? 02:34:32

21 A. Yes. I think that could be. 02:34:39

22 Q. The thickness or vertical delineation of the 02:34:45

23 contaminated portion of the sediment? 02:34:48

24 A. Yes. Dredging can -- there can be overdredging 02:34:52

25 that needs to be factored in. Sometimes it's not a very 02:35:05

1 surgically precise operation, to say the least. 02:35:10

2 Q. How about the distance between the dredging and 02:35:16

3 the disposal locations? 02:35:18

4 A. Yes, very much so. That would be a technical 02:35:21

5 consideration, the cost of transporting material to an 02:35:24

6 off-site location. 02:35:30

7 Q. What about in the -- in the technological 02:35:32

8 feasibility analysis, would you consider the presence and 02:35:34

9 the maintenance of structures? 02:35:38

10 A. Yes. Dredging could, under certain conditions, 02:35:48

11 undermine structural stability. And so it certainly 02:35:51

12 would be a consideration, yes. 02:35:58

13 Q. For -- for example, piers or pilings? 02:36:00

14 A. Yes. 02:36:03

15 Q. Okay. What about the land access to the water 02:36:04

16 body; is that a technical consideration? 02:36:10

17 A. Land access to the water body. In terms of 02:36:16

18 staging the stockpiling material for dewatering and for 02:36:21

19 transport off-site, yes, that would be a consideration. 02:36:29

20 Q. How about the bathymetry of the site? 02:36:35

21 A. Yes. 02:36:41

22 Q. How about the slope of the sediment surface? 02:36:45

23 A. Yes, yes. That. 02:36:51

24 Q. So would you -- would you agree that where 02:36:53

25 there's a significant slope, it may be technologically 02:36:56

1 infeasible to dredge? 02:36:59

2 A. Yes, it could be. It could be difficult to 02:37:06

3 dredge the material, yes. 02:37:09

4 Q. Is that because you may have instability of the 02:37:11

5 slope? 02:37:13

6 A. Yeah, exactly. 02:37:13

7 Q. Do you know if there's a certain grade at which 02:37:21

8 point it's -- it is technologically infeasible to dredge? 02:37:24

9 A. I suspect there is a grade, but I don't know it. 02:37:27

10 Q. Okay. Would you also take into account water 02:37:30

11 depth in determining whether it's technologically 02:37:33

12 feasible to dredge? 02:37:36

13 A. Yes. I -- that would be a consideration. If it 02:37:44

14 was a -- a barge, certainly, water depth would enter into 02:37:47

15 it, yes. 02:37:54

16 Q. So by "barge," you mean on the surface for 02:37:54

17 handling -- 02:37:57

18 A. Yes. 02:37:58

19 Q. -- the sediments? 02:37:59

20 A. Yes. 02:38:00

21 Q. Okay. Other than the 2001/2002 investigation 02:38:00

22 that we discussed previously, has the Cleanup Team 02:38:07

23 conducted or reviewed any other investigations of NASSCO 02:38:11

24 that would be useful in determining the technological 02:38:14

25 feasibility of the remedial alternatives? 02:38:19





1 geotechnical site investigations done? 02:39:37

2 A. No. 02:39:40

3 Q. Any other bathymetric surveys analyzed? 02:39:42

4 A. Not -- not by us, no. 02:39:48

5 Q. In establishing the DTR and cleanup and 02:39:54

6 abatement order, in particular the technological 02:39:55

7 feasibility sections, did you consider the factors that 02:39:58

8 we've been discussing? 02:40:03

9 A. Some of them, we did. Others in -- either not 02:40:08

10 at all or very superficially. 02:40:16

11 Q. Okay. I believe I gave you a courtesy copy of 02:40:23

12 Section 30 of the DTR. You may want to look at that. 02:40:27

13 A. Okay. 02:40:30

14 Q. Page 30-1, the DTR states that, "Although there 02:40:31

15 are complexities and difficulties that would need to be 02:40:36

16 addressed and overcome, e.g., removal and handling of 02:40:39

17 large volume of sediment, obstructions such as piers and 02:40:44

18 ongoing shipyard operations, transportation and disposal 02:40:48

19 of the waste, it is technologically feasible to cleanup 02:40:52

20 to the background sediment quality levels utilizing one 02:40:55

21 or more of the remedial disposal techniques." 02:40:58

22 Do you agree that removal and handling large 02:41:04

23 volumes of sediment is an impediment to cleanup to 02:41:07

24 background? 02:41:11

25 A. Could you refer to me just where you were just 02:41:14

1 reading a second ago? 02:41:16

2 Q. Yeah. Absolutely. At the top of page 30-1. 02:41:19

3 A. Thirty-one, oh, in the finding? 02:41:23

4 Q. In the finding, correct. 02:41:25

5 A. Okay. 02:41:27

6 Q. I'll give you a minute to refresh your 02:41:30

7 recollection. 02:41:31

8 A. Okay. Okay. And the question was? 02:41:32

9 Q. Do you agree that removal and handling large 02:41:43

10 volumes of sediment would be an impediment to cleanup to 02:41:46

11 background? 02:41:50

12 A. From a technological viewpoint, it -- it could 02:41:54

13 be, yes. 02:41:57

14 Q. Do you agree that obstruction such as piers and 02:41:59

15 ongoing ship operations are an impediment to cleanup to 02:42:02

16 background? 02:42:06

17 A. They are a consideration in it. I don't know 02:42:12

18 that they would -- yeah. There are complicating factors, 02:42:17

19 is how I would view it. 02:42:30

20 Q. Okay. A moment ago we talked about dredging 02:42:31

21 around piers and how that would be a -- 02:42:34

22 A. Oh, and undermine them? 02:42:36

23 Q. Right. 02:42:38

24 A. Yes. I guess a strict dredge to background 02:42:38

25 every square foot of a site could -- could undermine 02:42:42

1 onshore structures and piers, yes. 02:42:46

2 Q. What are the potential limits to the feasibility 02:42:58

3 of dredging to background? 02:43:01

4 A. Potential limits to the feasibility. 02:43:03

5 Q. And I'll refresh your recollection at DTR 02:43:06

6 Section 30-5. 02:43:08

7 A. Okay. You said -- oh. Page 30-5. 02:43:10

8 Q. Do you agree that this list is a list of 02:43:32

9 limitations on the feasibility of dredging to background? 02:43:34

10 MR. CARRIGAN: As set forth on page 30-5? 02:43:40

11 MR. RICHARDSON: In the bullet list set forth on 02:43:42

12 page 30-5, correct. 02:43:44

13 THE WITNESS: Yes. 02:43:49

14 BY MR. RICHARDSON: 02:43:51

15 Q. Other than this list, did you evaluate any other 02:43:57

16 difficulties or complexities associated with dredging to 02:44:01

17 background? 02:44:04

18 A. I -- I think yes, we -- the costs of cleanup to 02:44:11

19 background. I don't know that that's encompassed in the 02:44:22

20 list here. 02:44:25

21 Q. And the cost would go into the economic 02:44:30

22 feasibility analysis. 02:44:32

23 A. Yes. 02:44:34

24 Q. So for technological feasibility, this is the 02:44:34

25 list -- 02:44:37



1 record is 3:05 p.m. 03:05:10

2 BY MR. RICHARDSON: 03:05:12

3 Q. Mr. Barker, before we broke, we were talking 03:05:12

4 about the technological feasibility analysis under the 03:05:14

5 DTR and the CAO. And I want to refer you to Exhibit 1210 03:05:18

6 attachment. 03:05:24

7 If I understand this correctly, this indicates 03:05:24

8 that there would be 134,000 cubic yards roughly of 03:05:26

9 sediment that would be dredged from the shipyard site; is 03:05:31

10 that correct? 03:05:34

11 A. Yes. 03:05:35

12 Q. And none of the other sediment projects listed 03:05:36

13 on this page indicate any dredge volumes anywhere close 03:05:39

14 to that. 03:05:45

15 And so the question I have for you is, have 03:05:45

16 there been any other sediment projects in San Diego Bay 03:05:48

17 that have involved the dredging of anything on the order 03:05:51

18 of 143,000 cubic yards? 03:05:54

19 A. Okay. You mean -- was your question restricted 03:06:00

20 to sediment contamination dredging? There's maintenance 03:06:09

21 dredging that's done on the bay that may equal or exceed 03:06:13

22 that. 03:06:17

23 Q. Thank you. Thank you for that clarification. 03:06:17

24 It's very helpful. Yes. 03:06:18

25 So the question is, are you aware of any 03:06:20

1 contaminated sediment project involving dredging of 03:06:22  
2 anywhere near 143,000 cubic yards? 03:06:26  
3 A. No. On San Diego Bay, no. 03:06:30  
4 Q. In any of the San Diego Regional Board's 03:06:35  
5 jurisdiction? 03:06:38  
6 A. Same answer, no. 03:06:39  
7 Q. Do you think that the active use of a shipyard 03:06:42  
8 affects the feasibility of cleaning to background of the 03:06:45  
9 Shipyard Sediment Site? 03:06:49  
10 A. It -- the need to orchestrate that along with -- 03:07:06  
11 and allow the shipyard to continue to conduct its 03:07:13  
12 business and operations, I don't know that -- that that 03:07:16  
13 would -- it would be a consideration in the feasibility. 03:07:25  
14 I don't know if it would -- by in and of itself be enough 03:07:30  
15 to call it technically -- technologically infeasible. 03:07:38  
16 Q. Okay. So it affects the feasibility but may not 03:07:43  
17 make it entirely infeasible? 03:07:46  
18 A. Right. 03:07:48  
19 Q. Do you believe it's possible to completely avoid 03:07:51  
20 impacts on NASSCO's operations if dredging to background 03:07:56  
21 is implemented? 03:08:00  
22 A. It would -- I think the dredging would have to 03:08:03  
23 be staged in a way -- and coordinated in a way -- I'm 03:08:07  
24 sorry. I'm losing focus. Your -- your question was 03:08:18  
25 again? 03:08:22

1 Q. Yeah. I'm -- I'm just trying to figure out 03:08:23  
2 if -- if you agree that dredging to background conditions 03:08:25  
3 at the shipyard would impact the shipyard's operations. 03:08:28  
4 Correct? 03:08:32  
5 A. Yes, it would. 03:08:33  
6 Q. I'll introduce this as, what are we at, 1220? 03:09:02  
7 THE COURT REPORTER: Uh-huh. 03:09:06  
8 (Exhibit 1220 was marked.) 03:09:07  
9 BY MR. RICHARDSON: 03:09:14  
10 Q. Mr. Barker, I'm handing you a document diagram 03:09:15  
11 that's labeled "NASSCO" -- "NASSCO Whole Yard Bathymetry 03:09:18  
12 Survey." Do you see that? 03:09:24  
13 A. Yes, I do. 03:09:26  
14 Q. Have you seen this document before? 03:09:27  
15 A. I believe I have, similar documents, yes. 03:09:30  
16 Q. Did you consider this document or other similar 03:09:34  
17 surveys in developing your preferred remedial alternative 03:09:39  
18 in the DTR? 03:09:43  
19 A. Yes. 03:09:45  
20 Q. Can you explain what a bathymetry survey is? 03:09:51  
21 A. It would be a -- a survey to tell the -- the 03:09:56  
22 topography of the underlying -- of -- of the sea floor 03:10:00  
23 underlying the bay. 03:10:09  
24 Q. So this particular survey depicts the NASSCO 03:10:13  
25 underwater features; is that right? 03:10:17



1 A. Yes. 03:10:19  
2 Q. And what do the blue lines represent here? 03:10:21  
3 A. Changes in elevation of the sea floor. 03:10:24  
4 Q. So where the lines are very close together, that 03:10:33  
5 indicates a -- an area where there's a significant change 03:10:36  
6 in the elevations -- 03:10:40  
7 A. Yes. 03:10:42  
8 Q. -- underneath the water. We're talking about 03:10:42  
9 the sediment bay bottom; correct? 03:10:44  
10 A. Yes, the sediment bay bottom, yes. 03:10:48  
11 MR. CARRIGAN: Make sure you let him finish the 03:10:51  
12 question before you answer. 03:10:53  
13 THE WITNESS: Sorry. 03:10:54  
14 MR. CARRIGAN: That's all right. 03:10:54  
15 BY MR. RICHARDSON: 03:10:55  
16 Q. There are a few areas, Mr. Barker, where the 03:10:56  
17 elevation changes -- appears to change fairly 03:10:58  
18 dramatically. One is in the area of the dry dock sump. 03:11:02  
19 Do you see on the diagram? It's faint, but it says 03:11:10  
20 "Floating Dry Dock"? It's around NA27 and NA28. 03:11:13  
21 A. NA27, yes, I see it. Yes. 03:11:20  
22 Q. So let's take, for example, the polygon labeled 03:11:26  
23 as NA11. Do you see that? 03:11:30  
24 A. Yes. 03:11:32  
25 Q. That appears to be a fairly steep slope into the 03:11:37

1 floating dry dock sump; correct? 03:11:41

2 A. Yes. 03:11:41

3 Q. So would you agree that dredging these types of 03:11:42

4 slopes could weaken or undermine the structural integrity 03:11:45

5 of the slopes? 03:11:48

6 A. Yes. It's certainly a consideration, yes. 03:11:49

7 Q. So the dredging should be offset from that area 03:11:55

8 to avoid -- 03:11:59

9 A. Yes. 03:11:59

10 Q. -- those types of problems? 03:12:00

11 Would you agree that dredging these slopes would 03:12:05

12 be technologically infeasible? 03:12:08

13 A. I -- I would just say problematic is how I would 03:12:14

14 phrase it. 03:12:19

15 Q. Are you aware of any equipment that can dredge 03:12:21

16 these types of slopes without having stability problems? 03:12:24

17 A. No, I'm not aware. There could be, but not to 03:12:28

18 my knowledge. 03:12:32

19 Q. Are you aware of any other remediation in 03:12:36

20 San Diego Bay that has successfully dredged slopes of 03:12:38

21 this magnitude? 03:12:45

22 A. No, I'm not aware. 03:12:51

23 Q. Okay. Page 33-11, do you still have a copy of 03:12:55

24 that handy? I have a courtesy copy for you. 03:13:00

25 Take a moment and review it, and I'll ask you a 03:13:07

1 few questions. 03:13:09

2 A. 33-11. Okay. 03:13:20

3 Q. It states that, "For under pier areas and other 03:13:39

4 locations where significant impacts to infrastructure; 03:13:42

5 e.g., piers, wharves, and bulkheads, are likely, 03:13:44

6 alternatives to dredging are proposed." Do you see that? 03:13:51

7 A. Yes. Well, okay. We're on page 33-11, 03:13:56

8 paragraph -- 03:14:00

9 Q. The first paragraph. 03:14:01

10 A. Oh, first paragraph? 03:14:02

11 Q. Yeah. 03:14:03

12 A. Okay. 03:14:03

13 Q. The very last sentence there of the first 03:14:10

14 paragraph, "for under-pier areas." 03:14:12

15 A. Yes. I see that. 03:14:14

16 Q. Do you agree that's the approach that you've 03:14:18

17 taken in the DTR and CAO? 03:14:20

18 A. Yes. 03:14:22

19 Q. The DTR also indicates at page 33-10 that there 03:14:28

20 is approximately 13,700 square feet of under-pier areas 03:14:32

21 at the NASSCO site. Do you see that? 03:14:37

22 A. Yes. 03:14:45

23 Q. Would you agree that those areas underneath the 03:14:49

24 piers at NASSCO are inaccessible to dredging? 03:14:52

25 A. They could be. I -- I've done some reading 03:15:01

1 where sometimes dredges are used in under-pier areas but 03:15:08  
2 not often. But it does -- it's done sometimes. 03:15:11

3 Q. Are you aware of any time that's been done at a 03:15:14  
4 pier at an active shipyard? 03:15:17

5 A. No, I'm not. 03:15:19

6 Q. And I believe you testified earlier that the 03:15:22  
7 Cleanup Team recognizes there would be structural 03:15:25  
8 stability problems associated with dredging around piers 03:15:27  
9 and pilings; correct? 03:15:30

10 A. Yes. 03:15:32

11 Q. Would you agree that sediment along the walls at 03:15:32  
12 the shipyard are inaccessible to dredging? 03:15:35

13 A. Could be, the -- undermine the stability of the 03:15:40  
14 walls, yes. 03:15:45

15 Q. Similar structural concerns? 03:15:47

16 A. Yes. 03:15:48

17 Q. Were you involved in the analysis of the DTR 03:16:05  
18 concerning the potential impacts to the site from 03:16:09  
19 Chollas Creek? 03:16:12

20 A. Yes. 03:16:19

21 Q. And so you oversaw the development of that? 03:16:20

22 A. I'd have to see the section you have in mind, 03:16:25  
23 and -- and I could answer that more precisely. 03:16:29

24 Q. Okay. You previously testified, if I remember, 03:16:33  
25 that you were involved with the mouth of Chollas Creek 03:16:35

1 TMDL? 03:16:37

2 A. Yes. 03:16:38

3 Q. And you're aware of the TMDL for metals and 03:16:38

4 diazinon. 03:16:41

5 A. Yes, right, yes. 03:16:43

6 Q. I'm specifically referring to -- I'll give you a 03:16:55

7 courtesy copy here -- Section 1 -- Section 1 of the DTR. 03:16:59

8 A. Okay. 03:17:06

9 Q. Do you recognize this diagram on page 1-3? 03:17:14

10 A. Yes. 03:17:19

11 Q. And this is the Shipyard Sediment Site; correct? 03:17:21

12 A. Yes. 03:17:27

13 Q. You're familiar with the location of 03:17:27

14 Chollas Creek? 03:17:28

15 A. Yes. 03:17:29

16 Q. And that's immediately proximate to the 03:17:30

17 NASSCO shipyard; correct? 03:17:33

18 A. That's correct, yes. 03:17:35

19 Q. And it empties into San Diego Bay; correct? 03:17:39

20 A. Yes. 03:17:42

21 Q. And the mouth of Chollas Creek is this area 03:17:52

22 bounded between the southern edge of the NASSCO shipyard 03:17:55

23 and the northern edge of the Navy's facilities; correct? 03:17:58

24 A. Yes. 03:18:02

25 Q. I'm going to give you a courtesy copy of 03:18:06

1 Section 4 of the DTR. If you can look at 4-1 and refresh 03:18:09  
2 your recollection for a moment, and I'll ask you some 03:18:23  
3 questions about it, particularly the third full 03:18:27  
4 paragraph. 03:18:29  
5 A. Okay. 03:18:58  
6 Q. For Section 4 of the DTR, were you involved with 03:19:02  
7 overseeing the development of this language? 03:19:05  
8 A. Yes. 03:19:08  
9 Q. The language in that 3rd full paragraph states 03:19:12  
10 that, "During storm events, storm water plumes toxic to 03:19:14  
11 marine life emanate from Chollas Creek up to 03:19:17  
12 1.2 kilometers into San Diego Bay and contribute to 03:19:20  
13 pollutant levels at the Shipyard Sediment Site." 03:19:25  
14 Do you see that? 03:19:29  
15 A. Yes. 03:19:30  
16 Q. Do you agree that Chollas Creek is a continuing 03:19:30  
17 source of contamination to the Shipyard Sediment Site? 03:19:33  
18 Do you agree with the statement in the DTR? 03:19:37  
19 A. Yes. I agree with that, yes. 03:19:39  
20 Q. Do you know when Chollas Creek will no longer be 03:19:41  
21 a source of continuing pollution to the shipyard? 03:19:44  
22 A. The board has ever tightening source control 03:19:49  
23 regulations that we're incorporating into discharge 03:19:59  
24 permits in the Chollas Creek watershed. 03:20:03  
25 The board has two TMDL efforts underway to 03:20:06

1 control pollutant loading. So the hope is that after 03:20:12  
2 all -- all of those regulatory measures are implemented 03:20:18  
3 that the pollutant loading from Chollas Creek to the bay 03:20:24  
4 will be markedly reduced. 03:20:30

5 Q. For the Chollas Creek TMDL for metals, when is 03:20:32  
6 the final compliance date, do you know? 03:20:39

7 A. It was -- I'm just guessing -- it was probably a 03:20:42  
8 very lengthy schedule, maybe as long as 20 years. I -- I 03:20:48  
9 can't remember. It may have had some interim reduction 03:20:51  
10 targets at various intervals within that time span. 03:20:55

11 Q. But on the order of 20 years? 03:21:01

12 A. Yeah. I'm guessing. I would have to look at 03:21:04  
13 the document to see precisely. But typically, the 03:21:06  
14 compliance schedules for the TMDLs do have lengthy 03:21:10  
15 schedules. 03:21:13

16 Q. Can you name any other sources of pollution 03:21:16  
17 unrelated to NASSCO that affect the NASSCO site? 03:21:18

18 A. In Chollas Creek? 03:21:24

19 Q. Any other sources of pollution? 03:21:27

20 A. That affect? 03:21:29

21 Q. That could affect the NASSCO site. 03:21:29

22 A. Well, sources of pollution would be MS4 outfalls 03:21:39  
23 into the Chollas Creek watershed. 03:21:45

24 Q. Okay. 03:21:48

25 A. From the City of San Diego, MS4 outfalls from 03:21:50

1 the Naval Base San Diego. Let's see. I think that's it. 03:21:57

2 Q. Okay. Could there also be redistribution of 03:22:27

3 existing contaminated sediments in San Diego Bay that end 03:22:31

4 up at the NASSCO leasehold due to tidal movements or ship 03:22:34

5 movements? 03:22:38

6 A. Yes. The DTR, with respect to Naval Base 03:22:41

7 San Diego, alleged that there was some sediment 03:22:49

8 suspension from the naval base from vessel movements that 03:22:55

9 could have migrated to the shipyard site. 03:23:00

10 And there are other point sources that discharge 03:23:06

11 into the bay. And with the tidal fluctuations in and out 03:23:10

12 of the bay, some of that -- those pollutants could be 03:23:15

13 dispersed and end up at the shipyard site. 03:23:25

14 Q. Do we know when those sources will no longer be 03:23:28

15 affecting the shipyard site? 03:23:31

16 MR. CARRIGAN: Incomplete hypothetical. Assumes 03:23:36

17 facts not in evidence. 03:23:40

18 MS. PERSSON: Join. 03:23:44

19 THE WITNESS: It's kind of, to me, a 03:23:53

20 hypothetical question. I -- it's possible that other 03:23:54

21 sources could affect the site that influences -- I guess 03:23:57

22 I'll stop there. As that pathway exists. I don't know 03:24:12

23 when that pathway would stop. 03:24:18

24 BY MR. RICHARDSON: 03:24:19

25 Q. Okay. What is "urban runoff"? 03:24:20



1           A.    Urban runoff would be the run off both from           03:24:23  
2           during wet and dry weather periods that is discharged       03:24:30  
3           from what are called municipal storm drains.               03:24:33  
4           Q.    Those are also referred to as MS4s?               03:24:41  
5           A.    MS4s, yes.   03:24:45  
6           Q.    Okay.  And how do the characteristics of         03:24:46  
7           watershed affect that urban runoff?                   03:24:49  
8           A.    Well, the -- the -- where there's hard pavement,   03:24:58  
9           it results in increased runoff during storm events.  The   03:25:05  
10          fact that there is development in the watershed during    03:25:13  
11          dry weather periods.  There's all types of dry weather    03:25:17  
12          flows emanating from the development area, all of which    03:25:20  
13          is discharged into Chollas Creek, which would flow out    03:25:23  
14          into the bay.   03:25:28  
15          Q.    Okay.  And then I'll have you look at page 4-3    03:25:31  
16          of the DTR.  The bullet in the center of the page.        03:25:34  
17          A.    Okay.    03:25:38  
18          Q.    Can you take a moment and review that?            03:25:39  
19          A.    The bullet in the center of the page, okay.        03:25:47  
20          Q.    Yes.  Chollas Creek MS4 Storm Drains.            03:25:49  
21          A.    Okay.  Okay.                                        03:25:53  
22          Q.    So when this refers to the 816 MS4 storm drains,    03:26:02  
23          is that what you're referring to previously when you said   03:26:07  
24          that there were discharges into Chollas Creek that affect   03:26:09  
25          the water body?    03:26:12

1	A.	Yes.	03:26:13
2	Q.	And those would be both wet weather flows and	03:26:16
3		dry weather flows?	03:26:19
4	A.	Exactly, yes.	03:26:22
5	Q.	What pollutants are typically found in urban	03:26:27
6		runoff to Chollas Creek? Page 4-10 may help.	03:26:30
7	A.	Yeah. I recall we did some characterization.	03:26:41
8	Q.	Section 4.7.1.1.	03:26:49
9	A.	Okay. Yes. Okay. Yes. Zinc, copper, lead,	03:26:52
10		are present in urban runoff. Now, there's other	03:26:59
11		constituents present in urban runoff, as well;	03:27:09
12		pesticides, for one, could be present, other metals.	03:27:11
13	Q.	Is there also suspended solids in the sediment?	03:27:17
14	A.	Yes.	03:27:21
15	Q.	The top of page 4-6, there's a partial	03:27:33
16		paragraph. Do you see that?	03:27:36
17	A.	Top of page 4-6. Yes. Yeah. There's a more	03:27:39
18		complete description of pollutants found in urban runoff	03:27:49
19		in that paragraph, yeah.	03:27:52
20	Q.	So in addition to metals, there's -- and	03:27:53
21		suspended solids?	03:27:56
22	A.	Petroleum products, fertilizers, pesticides,	03:27:58
23		herbicides, animal waste, vegetation, trash.	03:28:03
24	Q.	PCBs?	03:28:10
25	A.	PCBs.	03:28:11

1 Q. Aromatic hydrocarbons? 03:28:12

2 A. Yes. 03:28:18

3 Q. Do you agree that urban runoff is the most 03:28:22

4 significant source of metals to Chollas Creek? 03:28:25

5 MR. CARRIGAN: Calls for speculation. Lacks 03:28:31

6 foundation. 03:28:32

7 MS. PERSSON: Join. 03:28:37

8 THE WITNESS: Yes. I believe that is the case. 03:28:41

9 MR. RICHARDSON: I'll introduce this as 1221. 03:28:51

10 (Exhibit 1221 was marked.) 03:28:52

11 MR. CARRIGAN: Thank you. 03:28:54

12 BY MR. RICHARDSON: 03:28:54

13 Q. So have you seen this document before? 03:28:55

14 A. Yes, uh-huh. 03:29:17

15 Q. Will you refer to page 2 of the document, 03:29:19

16 Section E3. 03:29:24

17 A. Uh-huh. 03:29:30

18 Q. Would you read that first paragraph of E3 and 03:29:30

19 then tell me when you're ready. 03:29:32

20 MR. CARRIGAN: Let's make a note for the record 03:29:40

21 that this is an incomplete document and only contains the 03:29:41

22 first two pages. 03:29:46

23 THE WITNESS: Yes. I've read the paragraph. 03:30:08

24 BY MR. RICHARDSON: 03:30:09

25 Q. Okay. Do you see the last sentence that begins 03:30:10

1 with "Because there"? 03:30:13

2 "Because there are no other known point sources, 03:30:15

3 urban runoff is considered the most significant source of 03:30:17

4 metals to Chollas Creek." 03:30:20

5 A. Yes. 03:30:22

6 MR. CARRIGAN: Document speaks for itself. 03:30:22

7 BY MR. RICHARDSON: 03:30:25

8 Q. Do you agree with that conclusion? 03:30:25

9 MS. PERSSON: Join the objection. 03:30:27

10 THE WITNESS: Yes, I do agree with that 03:30:28

11 conclusion. 03:30:29

12 BY MR. RICHARDSON: 03:30:29

13 Q. At the start of that paragraph, it says, "For 03:30:30

14 Chollas Creek, essentially all metal sources, point and 03:30:32

15 nonpoint, are discharged through MS4." 03:30:36

16 Do you see that? 03:30:38

17 A. Yes. 03:30:39

18 Q. Do you agree with that, as well? 03:30:39

19 A. Yes. 03:30:41

20 Q. Are you familiar with the term "source control"? 03:30:44

21 A. Yes. 03:30:46

22 Q. How would you define source control? 03:30:47

23 A. Source control would -- refers to the philosophy 03:30:51

24 of controlling pollutants at the source to limit or 03:31:00

25 prevent discharge into the environment. 03:31:08

1 Q. I'll introduce this as 1222. 03:31:20  
2 (Exhibit 1222 was marked.) 03:31:28  
3 BY MR. RICHARDSON: 03:31:42  
4 Q. Mr. Barker, I'm handing you EPA's "Contaminated 03:31:42  
5 Sediment Remediation Guidance for Hazardous Waste Sites." 03:31:46  
6 Do you see that on the cover? 03:31:49  
7 A. Yes. 03:31:50  
8 Q. Have you seen this document before? 03:31:50  
9 A. I -- I may -- I may have. 03:31:58  
10 Q. Okay. 03:31:59  
11 A. Yes. 03:32:00  
12 Q. And to be clear, these are excerpts from this 03:32:00  
13 document, not the entire document. 03:32:04  
14 MR. CARRIGAN: This seems to be selected pages 03:32:06  
15 of the U.S. EPA guidance contaminated sediment 03:32:08  
16 remediation guidance for hazardous waste sites. 03:32:13  
17 MR. RICHARDSON: Yeah. 03:32:17  
18 BY MR. RICHARDSON: 03:32:23  
19 Q. On page 220, there's a section on source 03:32:24  
20 control. 03:32:27  
21 A. Yes. I see that. 03:32:27  
22 Q. Page 220, it states, "Source control generally 03:32:28  
23 is defined for the purpose of this guidance as those 03:32:36  
24 efforts taken to eliminate or reduce to the extent 03:32:39  
25 practicable the release of contamination from direct and 03:32:41

1 indirect continuing sources to the water body under" -- 03:32:44  
2 "under investigation." 03:32:48  
3 Do you see that? 03:32:49  
4 A. Could you tell me the paragraph again? 03:32:51  
5 Q. The second -- the first paragraph under "Source 03:32:53  
6 Control," second sentence. 03:32:55  
7 A. Got it. Yes, I see it. 03:32:57  
8 Q. And do you agree with that definition of source 03:32:59  
9 control? 03:33:01  
10 A. Yes. 03:33:08  
11 Q. Is there anything that you would add or delete 03:33:10  
12 from that definition? 03:33:12  
13 A. No. 03:33:20  
14 Q. So what are some examples of source control 03:33:22  
15 measures? 03:33:24  
16 A. The term "best management practices" is -- is 03:33:30  
17 widely used in water pollution control. So these would 03:33:33  
18 be management practices on the handling of -- of waste 03:33:39  
19 products, waste streams, to reduce pollutant discharges 03:33:45  
20 to the environment, reduce or prevent them. 03:33:50  
21 Q. Are -- are TMDLs often used as a source control 03:33:55  
22 measure? 03:34:01  
23 MS. PERSSON: Objection. Overbroad. 03:34:03  
24 THE WITNESS: No. TMDLs are -- are -- they are 03:34:05  
25 a -- it refers to a regulatory standard that is adopted 03:34:15

1 to allocate different waste load allocations to sources 03:34:27  
2 of pollution to a water body that is impaired, that is 03:34:39  
3 not meeting water quality standards. 03:34:43  
4 And the imposition of these waste load 03:34:46  
5 allocations could -- could lead to source control 03:34:51  
6 measures being implemented in order to comply with the 03:34:56  
7 allocation that is assigned to a particular source. It's 03:35:00  
8 kind of a convoluted way of responding. 03:35:03  
9 BY MR. RICHARDSON: 03:35:06  
10 Q. No. It's very, very helpful. 03:35:07  
11 So a TMDL may require a waste load allocation 03:35:09  
12 that will result in source control to the point that that 03:35:12  
13 water body is no longer impaired for that reason; 03:35:14  
14 correct? 03:35:17  
15 A. Yes, yes. 03:35:17  
16 Q. In your experience working at the 03:35:21  
17 Regional Board, is source control a factor that the staff 03:35:22  
18 typically looks at in considering whether to implement a 03:35:26  
19 remediation project? 03:35:29  
20 A. Source control would be a consideration when 03:35:31  
21 cleanup is mandated. The ideal goal is to clean up once 03:35:38  
22 and not -- not to have to clean up a site again because 03:35:44  
23 of recontamination from sources discharging into it. So 03:35:49  
24 source control is -- is an important consideration. 03:35:54  
25 Q. Great. So if you don't do source control first, 03:35:56

1 you'll simply have to potentially remediate the site 03:36:00  
2 again, so you generally do the source control first? 03:36:02  
3 A. Right, potentially so. 03:36:05  
4 Q. Okay. Would you look at page 2-21 of 03:36:07  
5 Exhibit 1222, the EPA guidance document. 03:36:13  
6 A. Okay. 03:36:16  
7 Q. And the paragraph, last full paragraph beginning 03:36:17  
8 "generally significant." Do you see that? 03:36:20  
9 A. Yes. 03:36:22  
10 Q. That sentence reads, "Generally significant 03:36:23  
11 continuing upland sources should be controlled to the 03:36:26  
12 greatest extent possible before sediment cleanup." 03:36:29  
13 A. Yes. 03:36:32  
14 Q. Do you agree with that EPA guidance statement? 03:36:32  
15 A. Yes. Or I agree that it's -- it's -- it's a 03:36:40  
16 goal. That's the ideal goal, yes. 03:36:46  
17 Q. And then two sentences down, do you see 03:36:49  
18 beginning "in most cases"? 03:36:52  
19 A. Yes. 03:36:56  
20 Q. It says, "In most cases, before any sediment 03:36:57  
21 action is taken, project manner should consider the 03:36:59  
22 potential for recontamination and factor that potential 03:37:04  
23 into the remedy selection process." Do you see that? 03:37:06  
24 A. Yes. 03:37:10  
25 Q. Do you agree with that approach, as well? 03:37:10



1	A. Yes.	03:37:12
2	Q. Are you aware of any State or Regional Board	03:37:14
3	policy or guidance that is comparable to this EPA	03:37:17
4	guidance?	03:37:20
5	A. In -- for sediment cleanup investigations, no,	03:37:23
6	I'm not aware of it.	03:37:27
7	Q. Are you familiar with any State or	03:37:28
8	Regional Board policy or guidance that contradicts this	03:37:33
9	policy?	03:37:38
10	A. No.	03:37:39
11	Q. We'll mark this as 1223.	03:37:57
12	(Exhibit 1223 was marked.)	03:37:59
13	BY MR. RICHARDSON:	03:38:10
14	Q. I'll give you a moment to browse this before	03:38:10
15	asking questions, Mr. Barker.	03:38:13
16	A. Okay.	03:38:35
17	MR. CARRIGAN: And let's have the record reflect	03:38:36
18	that this is not a complete copy of the document.	03:38:37
19	BY MR. RICHARDSON:	03:38:41
20	Q. Mr. Barker, are you familiar with this document?	03:38:42
21	A. Yeah. I've seen it before, yes.	03:38:46
22	Q. This study was funded by the San Diego	03:38:47
23	Regional Board; correct?	03:38:50
24	A. Funded in part by us, yes. I believe the Navy	03:38:58
25	kicked in some funds, as well.	03:39:04

1 Q. Okay. 03:39:06

2 MR. CARRIGAN: The commander. 03:39:07

3 BY MR. RICHARDSON: 03:39:12

4 Q. If you would look at page 6. Take a moment and 03:39:15

5 review that, and I'll have a few questions. In 03:39:23

6 particular I'm interested in the discussion of the TMDL 03:39:31

7 implementation. 03:39:33

8 A. Yes. 03:39:45

9 Q. Okay. And this document was prepared in 03:39:46

10 connection with the mouth of Chollas Creek TMDL; correct? 03:39:48

11 A. Yes. 03:39:54

12 Q. And that mouth of Chollas Creek is immediately 03:39:55

13 adjacent and contains part of the Shipyard Sediment Site; 03:39:57

14 correct? 03:40:00

15 A. Yes. 03:40:01

16 Q. The TMDL implementation box on page 6 under this 03:40:02

17 document indicates that source control should be 03:40:06

18 implemented; correct? 03:40:12

19 A. Yes. 03:40:14

20 Q. And that that source reduction should be 03:40:16

21 verified. 03:40:18

22 A. Yes. 03:40:20

23 Q. And then the cleanup implementation should be 03:40:20

24 conducted; correct? 03:40:25

25 MR. CARRIGAN: Document speaks for itself. 03:40:26

1 MS. PERSSON: Join. 03:40:28  
2 THE WITNESS: Yes. 03:40:30  
3 BY MR. RICHARDSON: 03:40:31  
4 Q. So in light of the EPA policy and in this 03:40:37  
5 guidance document specifically related to the 03:40:40  
6 Chollas Creek mouth of TMDL, do you believe that 03:40:42  
7 Chollas Creek contamination of the Shipyard Sediment Site 03:40:48  
8 should be controlled before remediation occurs at NASSCO? 03:40:51  
9 MR. CARRIGAN: Misstates the document, the 03:40:55  
10 SCCWRP document. 03:41:00  
11 MS. PERSSON: Lacks foundation. Incomplete 03:41:02  
12 hypothetical. 03:41:04  
13 THE WITNESS: No. I don't agree with that. 03:41:05  
14 I -- I would agree that in -- in the case of 03:41:08  
15 Chollas Creek and the shipyard site that source control 03:41:17  
16 measures certainly need to be underway in Chollas Creek 03:41:24  
17 watershed. I don't know that they need to be completed 03:41:30  
18 before any cleanup occurs at the shipyard site. 03:41:35  
19 BY MR. RICHARDSON: 03:41:41  
20 Q. If source control of Chollas Creek is not 03:41:44  
21 achieved before cleanup is conducted, then is it possible 03:41:46  
22 that the remediated clean site will become 03:41:51  
23 recontaminated? 03:41:54  
24 MR. CARRIGAN: Incomplete hypothetical. 03:41:58  
25 MS. PERSSON: Join. 03:42:01

1           THE WITNESS: Yeah. I suppose over some period 03:42:06  
2 of time the loading might eventually lead to accumulation 03:42:08  
3 of contaminants over a long period of time if -- if the 03:42:13  
4 TMDL efforts were -- on the creek were waylaid or 03:42:21  
5 rescinded, that type of thing. But if they are 03:42:30  
6 implemented in accordance with the board's schedule to 03:42:33  
7 implement them, the -- the thought is that pollutant 03:42:39  
8 loading outflows from the creek into the bay will -- will 03:42:46  
9 be reduced. And the board is not in -- once those 03:42:50  
10 efforts are completed, we -- we don't think Chollas Creek 03:42:59  
11 will lead to the recontamination of the site to a level 03:43:05  
12 where dredging would have to be -- where the site would 03:43:10  
13 have to be re-dredged again. Kind of a long-winded 03:43:13  
14 explanation. 03:43:18  
15           Q. I think I understand that once the TMDL waste 03:43:18  
16 load allocations are implemented and Chollas Creek is 03:43:23  
17 meeting those TMDLs, that it's -- it's the Cleanup Team's 03:43:27  
18 position that it will not significantly recontaminate the 03:43:30  
19 site. 03:43:33  
20           A. Right. 03:43:33  
21           Q. My question, though, is before that is achieved, 03:43:34  
22 isn't it likely that they will -- the discharges from 03:43:36  
23 Chollas Creek as a continuing source of pollution 03:43:38  
24 immediately adjacent to the shipyard continue to impact 03:43:41  
25 the shipyard? 03:43:43

1           A.    It could influence contaminant levels in the           03:43:44  
2           sediment, yes.  I think one -- one of the functions of           03:43:49  
3           the post cleanup monitoring program is to -- is to get           03:43:53  
4           some warning that that is occurring.  So, you know, the           03:44:02  
5           potential is there for it.  I think --           03:44:13  
6           Q.    So there's some potential for recontamination?           03:44:18  
7           A.    Yeah.  And I think in the DTR, there is a           03:44:21  
8           section in there that -- that addresses pollutant           03:44:25  
9           outflows from the creek.  I think it's in the section           03:44:32  
10          that deals with the 303(d) listing of -- there's a           03:44:35  
11          finding or section in the DTR that talks about that.           03:44:43  
12          Q.    And do you recall the conclusions of that           03:44:47  
13          section?           03:44:48  
14          A.    I -- I could look it up here.           03:44:49  
15          Q.    Yeah.  If you can, that would be great.           03:44:51  
16          A.    This is volume -- is this Volume 1?  It may be           03:45:07  
17          in Volume 2.           03:45:11  
18                MR. CARRIGAN:  The volumes with tabs here.  So           03:45:12  
19          here's two.           03:45:14  
20                THE WITNESS:  I see.  Okay.           03:45:15  
21                MS. PERSSON:  Is it in Volume 2?           03:45:18  
22                MR. CARRIGAN:  Or three.  I'm not sure quite           03:45:19  
23          where he's looking.  I know it's not in one, though.           03:45:23  
24                THE WITNESS:  Okay.  It's in -- okay.           03:45:27  
25          Section 12.           03:45:27

1 MR. CARRIGAN: I lied. 03:45:30

2 THE WITNESS: Page 12-2. There's a listing of 03:45:49

3 five factors which explain why cleanup and abatement 03:45:53

4 order in lieu of a TMDL program is the appropriate 03:45:58

5 regulatory tool to use at the -- for correcting the 03:46:05

6 impairment at the shipyard site. 03:46:11

7 BY MR. RICHARDSON: 03:46:20

8 Q. Do those findings address the continuing source 03:46:21

9 of pollution from Chollas Creek and its potential impacts 03:46:23

10 on the shipyard site? 03:46:27

11 A. Just in the sense of it's, yeah, Factor No. 2 03:46:33

12 talks about that the pollutant contribution should be 03:46:39

13 gradually and significantly reduced over in the ten-year 03:46:43

14 period from 2008 to 2018 as a result of the 03:46:47

15 implementation of the Chollas Creek's TMDLs and future 03:46:53

16 planned TMDLs for the creek. And that other sources 03:46:59

17 within the vicinity of the shipyard site of -- sources of 03:47:07

18 contamination have been largely controlled. 03:47:20

19 Q. Mr. Barker, my understanding is the TMDL for 03:47:29

20 metals in Chollas Creek was originally scheduled to be a 03:47:33

21 ten-year compliance period. But isn't it true that it's 03:47:37

22 now a 20-year compliance period? 03:47:39

23 A. For -- well, yeah. I don't recall the exact 03:47:43

24 time period. It may have interim targets in it. Ten 03:47:48

25 years sounds too short. But without having the document 03:47:54

1 in front of me, I'm just speculating. 03:47:59  
2 MR. RICHARDSON: Okay. We've been back at it 03:48:06  
3 about an hour. Why don't we take five minutes and then 03:48:08  
4 go maybe one more hour today. Is that good? 03:48:11  
5 MR. CARRIGAN: Yeah. 03:48:14  
6 THE VIDEOGRAPHER: Off the record. Time is 03:48:14  
7 3:48 p.m. 03:48:16  
8 (A recess was taken.) 03:48:27  
9 THE VIDEOGRAPHER: Back on the record the time 04:05:23  
10 is 4:05 p.m. 04:05:24  
11 BY MR. RICHARDSON: 04:05:27  
12 Q. Mr. Barker, in paragraph 30 of the Tentative 04:05:27  
13 Order, this is exhibit -- Master Exhibit 1. But I'll 04:05:30  
14 give you a courtesy copy. There's a discussion of 04:05:33  
15 technological feasibility. Are you familiar with that 04:05:37  
16 finding? 04:05:43  
17 A. Yes. 04:05:45  
18 Q. The last sentence mentions confined aquatic 04:05:51  
19 disposal or near shore confined disposal facilities as 04:05:56  
20 alternatives that are being considered; correct? 04:06:00  
21 A. Yes. 04:06:03  
22 MS. PERSSON: I'm sorry. Is there a page 04:06:04  
23 number? 04:06:06  
24 MR. RICHARDSON: Yes. The page is page 14 of 04:06:06  
25 the order, paragraph 30. 04:06:08

1 MS. PERSSON: Thanks. 04:06:10  
2 BY MR. RICHARDSON: 04:06:16  
3 Q. And if I understand correctly, these 04:06:16  
4 alternatives are compared to removing the sediment from 04:06:18  
5 the site and shipping it to an upland facility; is that 04:06:21  
6 correct? 04:06:25  
7 A. You're -- 04:06:32  
8 MR. CARRIGAN: Yeah. 04:06:35  
9 THE WITNESS: Okay. 04:06:36  
10 BY MR. RICHARDSON: 04:06:37  
11 Q. I'm sorry. I should give you a second to read 04:06:38  
12 the last sentence of paragraph 30. 04:06:40  
13 A. Okay. I've read it. 04:06:42  
14 Q. It discusses confined aquatic disposal and near 04:06:43  
15 shore confined disposal facilities. Both of those 04:06:47  
16 involve placing sediment back in San Diego Bay; correct? 04:06:50  
17 A. Correct. 04:06:52  
18 Q. As compared to removing the sediment, dewatering 04:06:52  
19 it, and shipping it to some upland facility; correct? 04:06:55  
20 A. Yeah. A -- a slight qualification. The -- the 04:06:59  
21 near shore confined disposal would involve taking it out 04:07:03  
22 of the bay but putting it in a waste cell very close to 04:07:09  
23 the bay. 04:07:14  
24 Q. And often that's actually in -- in the water 04:07:14  
25 body itself; correct? 04:07:17





1 it to ensure that integrity is maintained, and it's not 04:09:36  
2 leaking contaminants and that type of thing. 04:09:40

3 Q. Okay. And we'll come back to that. 04:09:44

4 What -- what type of contaminants were being 04:09:46  
5 remediated at Campbell? 04:09:48

6 A. The -- there were some cleanup levels set for 04:09:52  
7 Campbell. I don't recall -- oh, excuse me. That's here 04:09:58  
8 on the chart, I believe. It's a little hard to read 04:10:04  
9 this. Copper, lead, zinc, total petroleum hydrocarbons, 04:10:13  
10 PCBs, HPAHs. 04:10:28

11 Q. And you said that a confined aquatic disposal 04:10:42  
12 facility was also constructed for the Convair Lagoon 04:10:46  
13 site. Can you describe that? 04:10:49

14 A. It's kind of similar to the Convair Lagoon. It 04:10:51  
15 was a -- a sand cap was placed over the -- over the PCB 04:10:56  
16 contamination, an engineered sand cap. 04:11:09

17 Q. And what were the contaminants at the 04:11:17  
18 Convair Lagoon site? 04:11:20

19 A. Let's see. PCBs was the primary contaminant of 04:11:22  
20 concern. 04:11:31

21 Q. Did the CAD at -- sorry. 04:11:36  
22 Did the -- was the confined disposal facility -- 04:11:40  
23 strike that. It's late in the day. 04:11:44

24 Is the confined aquatic disposal facility at 04:11:47  
25 Convair Lagoon closed? 04:11:50

1           A.    It's not receiving -- it's -- I mean, it's,           04:11:56  
2           yeah, it's a confined disposal facility that buried --       04:12:03  
3           that -- that was designed to contain PCB waste in the       04:12:09  
4           sediment of the bay.  And it's not -- there's -- it's not   04:12:16  
5           receiving waste like a normal --normal landfill would be.   04:12:28  
6           It's closed in that sense.                                   04:12:33  
7           Q.    Has the Regional Board issued any type of no       04:12:38  
8           further action letter regarding the Convair Lagoon site?   04:12:43  
9           A.    There's been a continuing controversy at that       04:12:49  
10          site.  Some years, a relatively few number of years after   04:12:53  
11          it was built, the -- the monitoring of the containment      04:12:59  
12          cap started detecting PCBs on the surface of the cap,       04:13:06  
13          which were later found to be emanating from the storm       04:13:10  
14          drain, discharging it into the area of the bay where it's   04:13:16  
15          located.   04:13:20  
16          Q.    Could the PCBs have been emanating from under       04:13:23  
17          the cap?   04:13:28  
18          A.    That's -- was a possibility.  But it's since       04:13:29  
19          been ruled out; that it's viewed as being -- the source      04:13:34  
20          was upland sources.   04:13:41  
21          Q.    So there was a failure of source control before       04:13:43  
22          the remediation occurred?                                   04:13:46  
23                MS. PERSSON:  Calls for speculation.               04:13:50  
24                THE WITNESS:  Yes.                                    04:13:51  
25                MR. CARRIGAN:  Vague.                                 04:13:52

1 THE WITNESS: Yes. Source control was thought 04:13:53  
2 to have been obtained. But over time, monitoring 04:13:57  
3 revealed that it had not been obtained. 04:14:01  
4 BY MR. RICHARDSON: 04:14:05  
5 Q. So had source control been obtained, there would 04:14:06  
6 not have been PCBs on top of the cap? 04:14:10  
7 MR. CARRIGAN: Calls for speculation. Lacks 04:14:13  
8 foundation. Incomplete hypothetical. 04:14:13  
9 MS. PERSSON: Join. 04:14:16  
10 THE WITNESS: Possibly so. The -- the sources 04:14:26  
11 of the cap contamination currently are the same two 04:14:29  
12 sources that were the focus of the original cleanup 04:14:37  
13 action which led to the construction of the cap. 04:14:41  
14 There are -- it is possible that other sources 04:14:44  
15 of PCBs could emerge, even if these other two sources 04:14:48  
16 were controlled. But so far, those are the only two 04:14:53  
17 sources that seem to be a continuing problem. 04:14:58  
18 BY MR. RICHARDSON: 04:15:05  
19 Q. If all sources are controlled, you would not 04:15:05  
20 expect to see PCBs on the cap; right? 04:15:08  
21 A. Yes. 04:15:11  
22 Q. Paragraph 30, Finding 30 of the CAO, indicates 04:15:15  
23 that it's a CAD, a confined aquatic disposal facility, is 04:15:21  
24 to be evaluated for use at the site. 04:15:27  
25 Has it been evaluated? 04:15:31

1	A. I'm finding 30.	04:15:36
2	Q. In the very last sentence, again, on	04:15:40
3	paragraph 30.	04:15:42
4	A. Okay. There's been some talk of -- it has not	04:15:43
5	been evaluated. But there's been discussions, recent	04:15:57
6	discussions, that have -- that may lead to its	04:16:04
7	evaluation.	04:16:10
8	Q. Is there anything in the record now related to	04:16:14
9	an evaluation of --	04:16:16
10	A. No.	04:16:18
11	Q. -- a confined aquatic disposal facility?	04:16:18
12	A. No.	04:16:21
13	Q. But paragraph 30 says it's technologically	04:16:30
14	feasible.	04:16:39
15	MR. CARRIGAN: Document speaks for itself.	04:16:40
16	BY MR. RICHARDSON:	04:16:41
17	Q. Did the Cleanup Team find that it's	04:16:42
18	technologically feasible for a confined aquatic disposal	04:16:43
19	facility?	04:16:48
20	MR. CARRIGAN: Document speaks for itself.	04:16:48
21	THE WITNESS: Yes. I think that finding	04:16:55
22	indicates that part of the solution to the	04:16:56
23	Shipyards Sediment Site might be a confined disposal	04:17:02
24	facility.	04:17:07
25	BY MR. RICHARDSON:	04:17:08

1 Q. But it hasn't been evaluated? 04:17:08  
2 A. Only in concept, not in detail. 04:17:11  
3 Q. So until it's evaluated in detail, we don't know 04:17:14  
4 if it's technologically feasible; right? 04:17:17  
5 A. Yeah. Later facts may come up that would rule 04:17:38  
6 that as being infeasible if a -- in a detailed 04:17:42  
7 investigation that might not be known at the present 04:17:48  
8 time. But there have been confined disposal facilities. 04:17:50  
9 The board has experience with the -- those facilities 04:17:59  
10 being successful in contaminated sediment situations. 04:18:03  
11 And so we would not want to rule it out as infeasible. 04:18:07  
12 Q. So it may be technologically feasible. 04:18:14  
13 A. Right. 04:18:16  
14 Q. Depending on further evaluation. 04:18:17  
15 A. Yes. 04:18:19  
16 Q. And the sites that you referred to that were 04:18:19  
17 successfully implemented as confined aquatic disposal 04:18:21  
18 facilities, what were those? 04:18:25  
19 A. Well, Teledyne Ryan -- 04:18:29  
20 Q. That's Convair Lagoon. 04:18:33  
21 A. Convair Lagoon, and Campbell Shipyard. 04:18:36  
22 Q. And Convair Lagoon, we just talked about had 04:18:42  
23 some source control problem and we are now experiencing 04:18:45  
24 PCBs on top of the cap; correct? 04:18:48  
25 A. Right, yes. 04:18:51

1 Q. Was the CAD at Campbell successful? 04:18:55

2 A. So far it's been successful. I'm not sure of 04:18:59

3 the year of completion of it or what the monitoring 04:19:03

4 reports are showing. But I haven't heard that it's -- 04:19:07

5 that there's any problem there. 04:19:12

6 Q. Okay. I'll refer you to paragraph -- or 04:19:18

7 Section 33-12, page 33-12. I think I gave you a courtesy 04:19:21

8 copy of Section 33, too. 04:19:27

9 A. Okay. 04:19:29

10 MS. PERSSON: This is of the DTR? 04:19:30

11 MR. RICHARDSON: This is of the DTR, right. 04:19:45

12 BY MR. RICHARDSON: 04:19:59

13 Q. The DTR states at page 33-12 that, "Confined 04:20:00

14 aquatic disposal has many challenges." 04:20:04

15 Do you see that in the first full paragraph? 04:20:06

16 A. Yes, I see that. 04:20:25

17 Q. What are those challenges? 04:20:26

18 MR. CARRIGAN: Overbroad. 04:20:31

19 THE WITNESS: Okay. Is the question referring 04:20:36

20 to confined aquatic disposal or near shore -- 04:20:37

21 MR. RICHARDSON: Confined aquatic disposal. 04:20:42

22 THE WITNESS: Okay. Okay. Well, those 04:20:45

23 challenges would be -- in this instance we're dealing 04:20:50

24 with two shipyards that are active shipyards that need to 04:20:57

25 conduct their business. There would be ship movements in 04:21:03

1 and out of the site. Normally, with confined aquatic 04:21:06  
2 disposal sites, the ideal location would be a quiescent 04:21:13  
3 location that -- where there's not a lot of ship traffic 04:21:21  
4 going back and forth. It might disturb the site, that 04:21:25  
5 type of thing. 04:21:32  
6 BY MR. RICHARDSON: 04:21:32  
7 Q. Are there issues related to the resuspension of 04:21:32  
8 contaminants during placement in the confined aquatic 04:21:36  
9 disposal facility? 04:21:40  
10 A. Yeah. Resuspension is always a possibility. 04:21:47  
11 If, for example, material is kind of dredged and shoved 04:21:49  
12 to one area to concentrate in a facility, that could 04:21:54  
13 cause resuspension, yes. 04:21:58  
14 Q. Are there also structural issues associated with 04:22:07  
15 a confined aquatic disposal facility? 04:22:11  
16 A. In -- do you have some examples that you're 04:22:25  
17 thinking of? Or... 04:22:27  
18 Q. No. 04:22:30  
19 A. Or just would that be a consideration? 04:22:31  
20 Q. One of the challenges to implementing a confined 04:22:33  
21 aquatic disposal facility. 04:22:36  
22 A. And again, the challenge is. 04:22:40  
23 Q. Structural issues related to a disposal 04:22:44  
24 facility. 04:22:48  
25 A. Yes. It needs to be a stable structure able to 04:22:49



1 contain the material it was engineered to contain. 04:22:51

2 Q. Section 30 of the DTR, page 30-1 and 30-2. 04:23:04

3 A. 30-1. 04:23:21

4 Q. Yeah. 30-1, the very last paragraph. 04:23:22

5 A. Okay. 30-1. 04:23:27

6 Q. If you can read the last full paragraph 04:23:33

7 beginning "the evaluation of." 04:23:37

8 A. Okay. Okay. 04:23:38

9 Q. Do you agree that a confined aquatic disposal 04:24:23

10 facility or a near shore confined disposal facility would 04:24:27

11 be less desirable than removal of the contaminated 04:24:30

12 sediment from San Diego Bay? 04:24:34

13 MR. CARRIGAN: Incomplete hypothetical. 04:24:36

14 Document speaks for itself. 04:24:38

15 THE WITNESS: They are less desirable in the 04:24:46

16 sense that the -- there's a continuing potential for the 04:24:50

17 contaminants to not be contained in the structure if it's 04:24:59

18 not properly engineered. The structure has to be 04:25:07

19 monitored and that type of thing. So depending on your 04:25:11

20 perspective, some might view that as less desirable than 04:25:20

21 removal. 04:25:23

22 BY MR. RICHARDSON: 04:25:25

23 Q. And in the DTR, natural recovery, subaqueous 04:25:28

24 capping, and dredging were the only alternatives 04:25:32

25 considered in any detail; correct? 04:25:36

1 A. Yes. I believe that's correct. 04:25:45

2 Q. Are you aware of any -- strike that. 04:25:52

3 Does a confined aquatic disposal facility 04:25:59

4 require ongoing maintenance following construction? 04:26:02

5 A. I would -- maintenance monitoring and possible 04:26:12

6 maintenance if there's been any erosion of the structure, 04:26:19

7 that type of thing, yes. 04:26:24

8 Q. And you mentioned monitoring. What types of 04:26:27

9 monitoring are often conducted for confined aquatic 04:26:29

10 disposal facilities. 04:26:32

11 A. Kind of monitoring the thickness of the cap to 04:26:33

12 see if there's any changes going on. Monitoring for 04:26:36

13 evidence of leakage of contaminants from the cap, that 04:26:42

14 type of thing. 04:26:46

15 Q. For how long must the CAD be monitored? 04:26:49

16 A. Well, I think the site is -- it's -- from a 04:26:56

17 regulatory perspective, it's viewed as a -- like an 04:27:01

18 underwater landfill. So there would be perpetual 04:27:05

19 regulation under waste discharge requirements. 04:27:09

20 The -- the -- the type of monitoring that might 04:27:13

21 be done and how comprehensive that is may start off in 04:27:20

22 a -- with a very comprehensive program but taper off as 04:27:27

23 time goes by. And if the results indicate that 04:27:32

24 there's -- that monitoring can be relaxed. 04:27:36

25 Q. What would happen -- strike that. 04:27:44



1 Q. And evaluation of possible breaches of the -- 04:28:53

2 A. Yes. 04:28:56

3 Q. -- disposal facility? 04:28:56

4 A. Yes, yes, a source investigation, yes. 04:28:58

5 Q. Has the Cleanup Team evaluated any sites for 04:29:05

6 implementation of a confined aquatic disposal facility or 04:29:07

7 a near shore disposal facility for the NASSCO sediment? 04:29:13

8 A. Have -- have we completed an evaluation? 04:29:18

9 Q. Have you done any evaluation, started any 04:29:20

10 evaluation? 04:29:24

11 A. Yes. We've started or are considering starting 04:29:27

12 an evaluation. I think, yes. 04:29:36

13 Q. And where are those sites located? 04:29:38

14 A. There's been discussion about possibly 04:29:42

15 constructing a confined facility at Convair Lagoon to 04:29:48

16 receive the shipyard sediment waste. 04:29:53

17 Q. That would involve removing contaminated 04:30:00

18 sediment from the shipyard site to the Convair Lagoon 04:30:03

19 site? 04:30:06

20 A. Yes. 04:30:07

21 Q. Any other sites? 04:30:08

22 A. No. 04:30:10

23 Q. As a sediment remediation expert, do you 04:30:16

24 generally think it's a good idea to remove contaminated 04:30:20

25 sediment from one part of San Diego Bay to a different 04:30:23

1 part of San Diego Bay? 04:30:26

2 MR. CARRIGAN: Calls for speculation. 04:30:27

3 Incomplete hypothetical. 04:30:28

4 THE WITNESS: It -- if the -- if cleanup levels 04:30:33

5 are assigned to a contaminated sediment site, then one 04:30:39

6 alternative of complying with those limits would be to 04:30:47

7 transport the sediment to a facility that could segregate 04:30:51

8 the waste from the beneficial uses of the bay. So yeah. 04:30:58

9 BY MR. RICHARDSON: 04:31:02

10 Q. Okay. So effectively, a confined aquatic 04:31:02

11 disposal facility removes the pathway -- 04:31:07

12 A. Yes. 04:31:10

13 Q. -- from the receptors -- 04:31:10

14 A. Yes. 04:31:11

15 Q. -- to the contaminated sediment? 04:31:11

16 A. Yes. 04:31:13

17 Q. So for sediment contamination that's buried deep 04:31:15

18 at the shipyard that there's no current exposure pathway 04:31:19

19 for, how is a confined aquatic disposal facility 04:31:22

20 different from that? 04:31:26

21 MR. CARRIGAN: Incomplete hypothetical. Assumes 04:31:27

22 facts not in evidence. 04:31:30

23 THE WITNESS: The -- how is aquatic disposal -- 04:31:41

24 well, in both situations, the waste is potentially -- one 04:31:54

25 is put in an engineered structure so -- so that the waste 04:32:02

1 is no longer bioavailable. Waste that is -- contaminants 04:32:05  
2 that are at depth at the shipyard site may not be 04:32:13  
3 bioavailable if left there. Yeah. 04:32:20  
4 BY MR. RICHARDSON: 04:32:23  
5 Q. So you'd need to monitor to see if they at some 04:32:24  
6 point become bioavailable. 04:32:26  
7 A. Right, yes. 04:32:29  
8 Q. Okay. Let's talk about near shore confined 04:32:37  
9 disposal facilities as compared to aquatic confined -- 04:32:40  
10 aquatic disposal facilities. 04:32:44  
11 A. Uh-huh. 04:32:47  
12 Q. Are you familiar with near shore confined 04:32:49  
13 disposal facilities? 04:32:52  
14 A. Yes. The -- the board, as part of the 04:33:01  
15 Paco Terminals cleanup, part of the solution to that 04:33:08  
16 project, a portion of the sediment was removed from the 04:33:15  
17 bay and -- and placed in a mono-waste landfill right next 04:33:18  
18 to the bay at the site. Sediment that wasn't at as high 04:33:27  
19 concentrations as other sediment that had to be shipped 04:33:35  
20 off the site. So that -- that is one area where we had 04:33:38  
21 some experience with that. 04:33:43  
22 Q. Are you familiar with any other confined 04:33:45  
23 disposal facilities constructed in San Diego Bay with 04:33:48  
24 contaminated sediment? 04:33:50  
25 A. Oh, the -- the Navy -- there was a large 04:33:57

1 dredging project done by the Navy over at North Island. 04:33:59  
2 I did not work on it directly. It -- it wasn't a 04:34:03  
3 sediment cleanup action. But the -- there probably were 04:34:07  
4 contaminants in the sediment. And the material was 04:34:14  
5 placed in a structure on the bay, a confined facility. 04:34:19  
6 But I -- I have -- was not involved in working on it, so 04:34:25  
7 I don't know too much of the details on it. 04:34:30  
8 Q. But from your recollection did it involve the 04:34:35  
9 placement of contaminated sediments above any thresholds? 04:34:37  
10 A. I don't remember that being part of that. 04:34:40  
11 Q. So as a -- it was a maintenance dredge activity? 04:34:44  
12 A. Yes, for the aircraft carriers. 04:34:46  
13 Q. Am I correct in understanding that a confined 04:34:51  
14 aquatic disposal facility is where you put sediment back 04:34:54  
15 into a water body below the surface level of that water 04:34:57  
16 body; whereas a confined disposal facility, near shore -- 04:35:01  
17 usually near shore confined disposal facility, water -- 04:35:05  
18 sediment is actually placed above the water level, such 04:35:09  
19 that new land is created where it does not currently 04:35:12  
20 exist? 04:35:15  
21 A. Yeah. Either that or, in my mind, where a near 04:35:15  
22 shore facility would be the example of the Paco near 04:35:21  
23 shore landfill that was basically right at the shoreline 04:35:30  
24 between the land and the bay, like putting sediment 04:35:35  
25 behind a wall, so to speak, segregating it from the bay. 04:35:40

1 Q. Are you familiar with any near shore confined 04:35:52  
2 disposal facility that's been constructed in 04:35:55  
3 San Diego Bay in the water? 04:35:59  
4 A. In the water. Okay. Well, the -- other than 04:36:01  
5 the Campbell cap and the Convair Lagoon cap, I mean, 04:36:17  
6 they're both near shore. No, not what you're describing, 04:36:21  
7 no. 04:36:26  
8 Q. My understanding is both Convair Lagoon and 04:36:27  
9 Campbell sites had subaqueous capping. 04:36:30  
10 A. Yes, that's right. 04:36:33  
11 Q. Neither involved the creation of land or land -- 04:36:35  
12 A. Yes. Right. Okay. 04:36:37  
13 Q. As I defined the near shore confined disposal 04:36:44  
14 facility, has that been evaluated at all by this Cleanup 04:36:47  
15 Team? 04:36:49  
16 A. No. Although, the discussion on the Convair -- 04:36:57  
17 or Convair Lagoon facility, if that were to be re-opened 04:37:07  
18 to accept the shipyard sediment waste, that would be a -- 04:37:14  
19 a landfill project of what you're describing, where land 04:37:20  
20 would be created as a result. 04:37:29  
21 Q. Okay. So a landfill would be constructed with 04:37:31  
22 contaminated sediment. 04:37:34  
23 A. Yes. 04:37:35  
24 Q. And then it would go above the water surface? 04:37:36  
25 A. Yes. 04:37:39



1 Q. Are you aware of any difficulties that may arise 04:37:46  
2 in the construction of a near shore confined disposal 04:37:48  
3 facility as we've defined it here? 04:37:52  
4 A. Just -- I have no direct experience on -- on 04:38:00  
5 that type of project. It's -- I think from an 04:38:07  
6 engineering viewpoint, as far as containing waste and 04:38:13  
7 segregating it from the bay receptors, it's a viable 04:38:19  
8 alternative. 04:38:23  
9 There are some issues with -- that would have -- 04:38:26  
10 have to be addressed in terms of, you know, it's 04:38:35  
11 basically filling in a part of the bay and removing a 04:38:40  
12 portion of the bay habitat, and turning it into land 04:38:44  
13 which would require some mitigation for that. 04:38:49  
14 Q. Okay. So it would -- when the contaminated 04:38:52  
15 sediment is placed in that area of the disposal facility 04:38:55  
16 in the bay, it would destroy whatever-- 04:38:58  
17 A. Right. 04:39:00  
18 Q. -- benthic community is there; correct? 04:39:00  
19 A. Yes. 04:39:02  
20 Q. It would create a potential risk of resuspension 04:39:03  
21 of contaminants while the placement is occurring? 04:39:05  
22 A. Possibly, if it's not engineered properly. 04:39:08  
23 Q. Does a CDF, confined disposal facility, have the 04:39:29  
24 same type of ongoing maintenance that we discussed with 04:39:32  
25 confined aquatic disposal? 04:39:36

1           A.    Confined disposal facility versus confined?           04:39:39

2           Q.    Aquatic disposal.                                   04:39:43

3           A.    Confined aquatic, I think they're similar.           04:39:45

4           Q.    Same type of monitoring requirements?               04:39:48

5           A.    Yes. I think so.                                       04:39:50

6           Q.    So for how long would the confined disposal           04:39:51

7           facility need to be monitored? Would that also be           04:39:54

8           perpetual?   04:39:57

9                   MR. CARRIGAN: Calls for speculation.               04:39:58

10           Incomplete hypothetical.                                   04:39:59

11                   THE WITNESS: Yeah. It would -- there would be           04:40:04

12           monitoring to determine leakage from the facility.           04:40:06

13           The -- it might be less complicated to monitor, simply           04:40:14

14           because you'd be maybe monitoring the perimeter but not           04:40:22

15           necessarily doing the same type of monitoring on the           04:40:29

16           surface of the cap that would be done as if it were           04:40:33

17           underwater. Different considerations would be involved,           04:40:37

18           I'm sure.   04:40:41

19           BY MR. RICHARDSON:   04:40:45

20           Q.    Does the Regional Board require land use               04:40:45

21           restrictions for any land that's created through a               04:40:48

22           confined disposal facility?                                   04:40:51

23           A.    We have no regulatory -- since we haven't               04:40:53

24           regulated that type of facility, the board's basic role           04:41:00

25           would be to issue waste discharge requirements to, you           04:41:08

1 know, to govern the integrity of the facility and the 04:41:14  
2 monitoring of it. I don't know that we would get into 04:41:18  
3 specifying land use restrictions for it. We possible -- 04:41:22  
4 possibly could because we wouldn't want the integrity of 04:41:30  
5 it compromised as a result of activities on it or 04:41:34  
6 whatever. 04:41:40  
7 Q. Okay. So it's effectively, it's a landfill in 04:41:40  
8 the water; right? 04:41:43  
9 A. Yes. 04:41:44  
10 Q. And the Regional Board regulates landfills 04:41:44  
11 through waste discharge requirements; correct? 04:41:47  
12 A. Yes. 04:41:49  
13 Q. So it would be some type of similar regulatory 04:41:51  
14 framework? 04:41:54  
15 A. Yes. 04:41:55  
16 Q. Okay. Let's talk about economic feasibility. 04:41:57  
17 As we discussed earlier today, you have been designated 04:42:12  
18 as the Cleanup Team's person most knowledgeable regarding 04:42:15  
19 the economic feasibility analysis; correct? 04:42:18  
20 A. Yes. 04:42:21  
21 Q. Do you believe that you are the Cleanup Team's 04:42:21  
22 person most knowledgeable regarding economic feasibility? 04:42:24  
23 A. Yes. 04:42:29  
24 Q. And why is that? 04:42:30  
25 A. Number one, I've been assigned that role. And 04:42:33

1 number two, I've had experience with those types of 04:42:36  
2 considerations at other cleanup sites. 04:42:41  
3 Q. You mentioned, I believe earlier, the 04:42:44  
4 Paco Terminal's economic feasibility was an issue as well 04:42:46  
5 as other sites you've worked on. 04:42:50  
6 A. Yes. 04:42:52  
7 Q. When I ask you questions regarding economic 04:42:53  
8 feasibility, I'm asking for your response in your 04:42:55  
9 capacity as the person most knowledgeable for the Cleanup 04:42:57  
10 Team on that subject area. 04:42:59  
11 A. Yes. 04:43:02  
12 Q. Do you understand? 04:43:03  
13 A. Yes. 04:43:03  
14 Q. And you were involved with the DTR's economic 04:43:04  
15 feasibility analysis; correct? 04:43:07  
16 A. Yes. 04:43:09  
17 Q. Was anyone else involved in that? 04:43:09  
18 A. On the staff, Julie Chan was involved. And the 04:43:14  
19 consultants, Anchor Marine, which worked for one of the 04:43:26  
20 responsible parties. I think BAE was involved. 04:43:31  
21 Q. Anyone else from the Cleanup Team involved? 04:43:39  
22 A. Oh, I'm sure other members. Craig Carlisle may 04:43:41  
23 have also had some involvement in the evaluation of it. 04:43:46  
24 Q. I believe I asked you earlier if you were 04:43:58  
25 familiar with Resolution 92-49. 04:44:01

1 A. Yes. 04:44:04  
2 Q. And you are; correct? 04:44:04  
3 A. Yes. 04:44:05  
4 Q. Did you consider it in drafting the economic 04:44:06  
5 feasibility analysis of the DTR? 04:44:08  
6 A. Yes. 04:44:10  
7 Q. And that was Section 31; correct? 04:44:13  
8 A. The economic feasibility section? 04:44:18  
9 Q. Yeah. 04:44:21  
10 A. Oh, I'm looking at the wrong document. 04:44:30  
11 Q. Here. I can actually give you excerpts. 04:44:32  
12 A. Okay. 04:44:36  
13 Q. So you supervised the development of this 04:44:42  
14 section of the DTR; correct? 04:44:45  
15 A. Yes. 04:44:47  
16 Q. Do you agree that alternative cleanup levels 04:44:53  
17 other than background may be imposed where the 04:44:56  
18 Regional Board finds that it is economically infeasible 04:44:59  
19 to achieve background? 04:45:03  
20 A. Yes. 04:45:04  
21 Q. Do you agree that economic feasibility is an -- 04:45:06  
22 is an objective balancing of the incremental benefit of 04:45:07  
23 attaining further reduction in the concentration of 04:45:13  
24 primary CoCs as compared with the incremental cost of 04:45:15  
25 achieving those reductions? 04:45:18

1 MR. CARRIGAN: Calls for a legal conclusion. 04:45:20  
2 You can answer. 04:45:22  
3 THE WITNESS: Let's see. A balancing of the 04:45:26  
4 incremental benefits of attaining cleanup levels as 04:45:29  
5 compared to the -- the cost of obtaining those levels, 04:45:34  
6 yes, I would agree, yeah. 04:45:39  
7 BY MR. RICHARDSON: 04:45:41  
8 Q. In general, how do you determine whether the 04:45:46  
9 incremental benefit, the results from a given remedial 04:45:49  
10 action, is justified by that incremental cost? Maybe I 04:45:53  
11 can help you by asking some specific questions. 04:46:15  
12 A. Okay. 04:46:18  
13 Q. Would -- would, for example, you look at the 04:46:18  
14 improvements to aquatic life impairment. 04:46:20  
15 A. Yeah. The net reduction -- excuse me. Let 04:46:24  
16 me -- yeah. Exposure reduction. 04:46:32  
17 Q. Okay. So in looking at the incremental benefit 04:46:36  
18 side of this cost benefit balancing. On the benefit 04:46:40  
19 side, we have the impacts that further reductions will 04:46:43  
20 have on aquatic life; correct? 04:46:46  
21 A. Right. 04:46:48  
22 Q. Aquatic dependent wildlife, human health? 04:46:49  
23 A. Yes. 04:46:52  
24 Q. So essentially, the beneficial uses of the water 04:46:52  
25 body. 04:46:55



1 to achieve the percent exposure reduction. Yeah. It 04:48:00  
2 wouldn't be just dredging costs. It would be the 04:48:14  
3 transportation of the material to a disposal site, the 04:48:16  
4 cost of the disposal site, et cetera. 04:48:20

5 Q. Permitting costs and -- 04:48:22

6 A. Right. 04:48:24

7 Q. -- related administrative costs? 04:48:25

8 A. Yes. 04:48:27

9 Q. If you look at Section 31, table -- sorry. 04:48:31

10 Page 31-1. I'm sorry. Page -- page 31-3, Figure 31-1. 04:48:37

11 Are you familiar with this chart? 04:48:53

12 A. Yes. 04:48:54

13 Q. And what does this chart show? 04:48:56

14 A. This chart shows basically -- it's a chart 04:48:58  
15 showing the percent exposure reduction and its 04:49:12  
16 relationship with the cost of achieving -- attaining 04:49:19  
17 cleanup levels that would achieve a certain percent 04:49:23  
18 reduction. 04:49:26

19 And it's done, as I recall, in increments of six 04:49:31  
20 polygons of the most contaminated -- that -- that contain 04:49:40  
21 the most contaminated material. And then -- so the first 04:49:45  
22 column would analyze the costs of cleaning those areas up 04:49:49  
23 to background levels, and then what was the resulting 04:49:56  
24 exposure reduction from that. And then moving on to the 04:50:01  
25 next six most contaminated polygons and doing the same 04:50:06



1 type of calculation. 04:50:10

2 Q. Okay. So in layman's terms, Figure 31-1 is 04:50:12

3 trying to look at the benefit that's achieved through 04:50:17

4 risks to beneficial uses. 04:50:23

5 A. Yes. 04:50:25

6 Q. Per dollar spent, sort of? 04:50:25

7 A. Right. 04:50:27

8 Q. Okay. If you'd look at page 31-1, the second 04:50:33

9 full paragraph beginning "the San Diego Water Board." 04:50:37

10 A. 31-1. Okay. 04:50:40

11 Q. I'll give you a moment to read that paragraph. 04:50:46

12 Then I'm going to focus on the very last two sentences. 04:50:48

13 A. Okay. Okay. 04:50:51

14 Q. Okay. Do you see where it -- 04:51:45

15 A. Yes. 04:51:47

16 Q. -- says that the -- "This comparison revealed 04:51:48

17 that the incremental benefit of cleanup diminishes 04:51:50

18 significantly with additional cost beyond a certain 04:51:53

19 cleanup level and asymptotically approaches zero as 04:51:56

20 remediation approaches background." Do you see that? 04:52:01

21 A. Yes. 04:52:04

22 Q. Do you agree with that statement in the -- 04:52:05

23 A. Yes. 04:52:07

24 Q. On page 313, the first paragraph beginning with 04:52:21

25 "cost benefit relationship." Do you see that? 04:52:25



1 best water quality. There's factors that enter into it 04:54:07  
2 that are -- are -- there are factors other than just the 04:54:14  
3 cost of cleanup that are involved. It talks about 04:54:23  
4 tangible and intangible social factors and that kind of 04:54:29  
5 thing. 04:54:34  
6 So while the benefits to cleaning up further to 04:54:37  
7 background may be expensive and not result in a lot of -- 04:54:41  
8 of exposure reduction, say, a decision maker on a board 04:54:54  
9 might make a policy decision for some social 04:54:59  
10 consideration that -- that consideration would weigh more 04:55:01  
11 than -- than an economic money type situation -- or 04:55:07  
12 factor in coming to a decision on a cleanup level. I 04:55:15  
13 think it's late in the day, and I'm -- I don't know if 04:55:21  
14 I'm explaining things. 04:55:24  
15 MR. CARRIGAN: No. It's not the time of day. 04:55:26  
16 It's the resolution. 04:55:27  
17 MR. RICHARDSON: It's a complicated resolution, 04:55:28  
18 isn't it? 04:55:31  
19 THE WITNESS: Yes. 04:55:32  
20 BY MR. RICHARDSON: 04:55:32  
21 Q. My understanding is that once you do the 04:55:32  
22 technological feasibility and economic feasibility 04:55:34  
23 analysis, then there's a further step to ensure that it 04:55:38  
24 meets water quality control plans is the maximum benefit 04:55:42  
25 for the people of the state and so on; correct? 04:55:46

1 A. Yes. 04:55:49

2 Q. But the first step, and the one I'm solely 04:55:49

3 asking about now, is the economic feasibility step. And 04:55:52

4 that truly is a balancing -- an objective balancing of 04:55:54

5 incremental benefit and incremental cost; correct? 04:55:58

6 A. Yes. 04:56:00

7 Q. So solely for that step of the equation, if you 04:56:01

8 have a negligible -- negligible benefit on one side, I 04:56:03

9 assume that there -- anything more than a negligible cost 04:56:09

10 would mean it's not economically feasible. 04:56:12

11 A. Right. 04:56:15

12 Q. Right? 04:56:15

13 A. Yes. 04:56:16

14 Q. And there's this further analysis you do to see 04:56:16

15 if that's the appropriate cleanup level; correct? 04:56:18

16 A. Yes. Right. 04:56:20

17 Q. So I guess I could take this to the extreme and 04:56:21

18 say if there's absolutely no benefit at all of a cleanup 04:56:22

19 measure, incremental cleanup measure -- 04:56:27

20 A. Yeah. 04:56:29

21 Q. Strike that. I'll start over. 04:56:29

22 If there's absolutely no benefit of an 04:56:30

23 incremental reduction in cleanup, then there's no cost 04:56:33

24 that would justify that; correct? 04:56:36

25 MR. CARRIGAN: Vague. Calls for a legal 04:56:40

1 conclusion. 04:56:47

2 THE WITNESS: Let me -- yeah. That type of 04:56:51

3 scenario would -- could support an alternative cleanup 04:56:52

4 level to background. I don't know if that's what you're 04:56:56

5 asking. But that is a point where the board could make a 04:57:03

6 decision that no further cleanup could be required. 04:57:09

7 MR. RICHARDSON: Understood. 04:57:14

8 You know, it's almost 5:00 o'clock. Now may be 04:57:22

9 a good stopping point for today. 04:57:25

10 MR. CARRIGAN: Okay. 04:57:26

11 MR. RICHARDSON: Okay. Go off the record. 04:57:28

12 THE VIDEOGRAPHER: This ends the videotaped 04:57:30

13 deposition of David Barker, Volume 1, Videotape No. 3. 04:57:32

14 Today's date is March 1st, 2011. The time is 4:57 p.m. 04:57:35

15 Off the record. 04:57:40

16 (Whereupon the deposition was adjourned at 04:57:40

17 4:57 p.m.) 04:57:41

18

19

20

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22

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24

25

1 I declare under penalty of perjury under the laws of the  
2 State of California that the foregoing is true and  
3 correct; that I have read my deposition and have made the  
4 necessary corrections, additions or changes to my answers  
5 I deem necessary.

6

7 Executed on this \_\_\_\_\_ day of \_\_\_\_\_,  
8 2011.

9

\_\_\_\_\_  
DAVID BARKER

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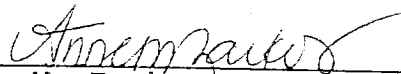
24

25

1 I, ANNE M. ZARKOS, Certified Shorthand  
2 Reporter for the State of California, do hereby certify:

3  
4 That the witness in the foregoing deposition was by me  
5 first duly sworn to testify to the truth, the whole  
6 truth and nothing but the truth in the foregoing cause;  
7 that the deposition was taken by me in machine shorthand  
8 and later transcribed into typewriting, under my  
9 direction, and that the foregoing contains a true record  
10 of the testimony of the witness.

11  
12 Dated: This 15<sup>th</sup> day of March, 2011  
13 at San Diego, California.

14  
15  
16   
17 Anne M. Zarkos RPR, CRR  
18 CSR No. 13095

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A				
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